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Implementing sustainability and Sustainable Development Goals in the cultural sector: the case of UNESCO World Heritage Sites

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A tutto ciò che Era

e a ciò che sarà

Abstract

The missing place of culture in the sustainability discourse has been claimed by many scholars. Culture is highlighted as a key factor for sustainable development. Despite this, little considerations develop the integration of Sustainable Development Goals in the cultural sector. Accordingly, theoretical developments have not encountered significant feedback in practical terms. Daily and long-term management of cultural institutions demonstrate concerns and difficulties in practicing sustainability and Sustainable Development Goals.

The research maps the implementation of sustainability and Sustainable Development Goals in the management system of UNESCO World Heritage Sites. Two main reasons detect UNESCO World Heritage Sites as the ideal institutions for exploring the effective integration of sustainability in the cultural sector. Firstly, inscription guidelines for potential UNESCO World Heritage Sites require the sustainable preservation and use of the heritage. Secondly, management plans of the Sites are updated regularly to maintain the entitlement. The periodic review provides possible exploration and expansion of sustainability discourse and Sustainable Development Goals in the cultural sector inspired by practice.

A literature review on the contemporary discourse on culture and sustainability introduces the main corpus of the research, focused exclusively on UNESCO World Heritage Sites. A quantitative and qualitative content analysis examinates management plans of UNESCO World Heritage Sites, inscribed in the List from 2017 to 2023.

The research discovers that the implementation between sustainability and culture is characterized by a wide range of levels of integration. The configuration of this relationship is strictly related to the context and culture of provenance of the cultural institution.

Keywords

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Introduction

Sustainable Development is one of the main challenges of contemporary age, discussed in different academic as well as daily life contexts. The benefits of culture in sustainable development have been explored by several scholars, because culture is perceived as a significant player in implementing sustainability and cultural institutions are conceived as a driver in raising awareness towards sustainable development (Throsby, 2008; Dessein & Soini, 2016). It is necessary and vital to integrate culture in sustainability discourse since many massive problems of the planet depend upon civilisation (Dessein, Fairclough, Horlings, & Soini, 2015). Achieving sustainability goals essentially depends on human accounts, actions and behaviours, which are culturally embedded (Clammer, 2014).

Despite this, many researchers claim an actual consistent place of culture in the sustainability discourses (Duxbury & Gillette, 2007; Duxbury & Jeannotte, 2010; Birkeland & Soini, 2014; Dessein & Soini, 2016). Theoretical developments have not encountered significant feedback in practical terms and Sustainable Development Goals did not assign a specific sustainability objective to culture (Wiktor-Mach, 2020; Miotto, Rodríguez, & Vila, 2021). Accordingly, daily and long-term management of cultural institutions demonstrate concerns and difficulties in practicing sustainability and Sustainable Development Goals (Boukas, Christodoulou-Yerali, & Stylianou-Lambert, 2014; Donelli, Lusiani, & Mio, 2023).

Adding to the scientific literature on culture and sustainable development, the research investigates the implementation of sustainability discourse and Sustainable Development Goals within the management system of UNESCO World Heritage Sites, which represent the ideal cultural institutions for exploring the effective integration and actualization of sustainable practices within the cultural sector (Donelli, Lusiani, & Mio, 2023).

Indeed, sustainability is considered an integral component of World Heritage Sites since the nomination guidelines requirements (Operational Guidelines for the Implementation of the World Heritage Convention, 2005; Loulanski, 2006; Donelli, Lusiani, & Mio, 2023). Secondly, Management Plans of the World Heritage Sites should be regularly updated, providing possible exploration and expansion of sustainability discourse and Sustainable

Development Goals (Operational Guidelines for the Implementation of the World Heritage Convention, 2005; Scimeni, 2013; Donelli, Lusiani, & Mio, 2023).

The theoretical framework introduces the exploration of the scientific discourse on culture and sustainability. A transdisciplinary literature review maps the development of the topic and identifies the several branches and approaches of the discourse. It works as a systematic attempt to sort and organize the researches and to increase the overall comprehension and accuracy of the research field, while leaving space for further interpretations or reorganizations.

Then, the World Heritage List and the managerial requirements of the World Heritage Sites are presented alongside an in-depth analysis of the conventions, projects and meetings, promoted by UNESCO, for fostering the role of culture in the world-wide sustainability discourse. A brief description of the Sustainable Development Goals and of concerns regarding the absence of culture within the objective conclude this first part of the research.

Subsequently, the practical research on the Management Plans of selected World Heritage Sites is undertaken with the content analysis method (Krippendorff, 2004). The analysis is text-driven and problem-driven (Krippendorff, 2004) because it pursues to create a systematic framework, that categorize the information regarding the involvement of sustainability and Sustainable Development Goals from a systematic reading of Management Plans. A sample of 102 UNESCO World Heritage Sites, inscribed in the List from 2017 to 2023, is quantitatively analysed. The year 2017 is chosen as representative for the possible effective integration of Sustainable Development Goals, adopted in 2015, within strategic planning of the UNESCO World Heritage Sites (Donelli, Lusiani, & Mio, 2023).

This former research tries to survey the relevance and the level of presence of sustainability discourse within the Management Plans. Despite this practical quantitative and qualitative analysis, the research still maintains a theoretical character and approach. Further implementation could verify the effective on-field application and implementation of the declared activities, programs and initiatives for sustainability. In addition, the sample can be further widened with updated Management Plans of World Heritage Sites inscribed in the List before 2017.

The research attested that vague and perfunctory attempts characterize the integration between sustainability and culture in the management system of World Heritage Sites. The integration of sustainability and culture still creates some bewilderments and difficulties (Wiktor-Mach, 2020; Leone, Lo Piccolo, & Pizzuto, 2012; Miotto, Rodríguez, & Vila, 2021). A wide range of levels of integration can be detected in the sample of Management Plans. A few excellent World Heritage Sites structurally interpret and actualize sustainable development, alongside several unfavorable Management Plans rarely referring to, or not even slightly considering, any discourse on sustainability, confirm the vague and limited understanding of culture's role within sustainable development framework (Birkeland & Soini, 2014; Boukas, Christodoulou-Yerali, & Stylianou-Lambert, 2014).

The World Heritage Sites result to deal mainly with the economic and environmental pillars of sustainability, perpetrating a narrow vision of sustainable development (Boukas, Christodoulou-Yerali, & Stylianou-Lambert, 2014) with the risk of subordinating the cultural mission (Loach, Griffiths, & Rowley, 2017). The analysis detected a higher level of attention towards sustainability in World Heritage Sites located in Asia and Europe, where significant developments of academic research have developed (Duxbury & Jeannotte, 2010). Interdisciplinary and cooperative methodology results to be successful in implementing the several themes of sustainability within the management system of cultural institutions (Badia & Donato, 2011). As a matter of fact, serial, transnational and landscape World Heritage Sites, more structurally predisposed to develop a co-joint action, significantly integrate the sustainability discourse.

Indicators dedicated to sustainability and the integration of Sustainable Development Goals are mainly absent in the Management Plans, although it is attested that they facilitate the monitoring system and the elaboration of coherent strategies (Operational Guidelines for the Implementation of the World Heritage Convention, 2005; Leone, Lo Piccolo, & Pizzuto, 2012; Scimeni, 2013). Only a few best practices structurally integrate the Goals in the Management Plan, attesting the UNESCO's efforts to integrated culture among the world-wide sustainability discourse and granting more relevance to cultural themes within Sustainable Development Goals (Wiktor-Mach, 2020).

Despite custom made approaches are not considerable the ultimate solution (Pedersen, 2002; Scimeni, 2013), UNESCO could publish an additional guideline document

addressing the practical implementation of sustainability within the Management Plans with some practical examples, explanatory activities, indicators and parameters. On the other hand, managerial personnel of World Heritage Sites should be involved in drafting this document advancing concerns, difficulties and needs regarding the integration of the sustainability discourse in the practice. Scholars and researchers can assume a fundamental role as mediating counsellor, between the several stakeholders of World Heritage Sites, and facilitating the encounter between needs, best practices and practical application of theoretical research.

PART I - THEORETICAL FRAMEWORK

1. Literature review

This literature review investigates how, to what extent and manner the relationship between culture and sustainability have been analysed among scholars. The overall aim is to tackle the challenge to clarify and organize the scientific discourse, by examining emerging concepts and contents. Indeed, many scholars have demonstrated a growing interest in considering culture within sustainable development and the advances made since the second half of the XXI century consolidate the acceptance of the role of culture in development (Throsby, 2008).

However, the attempts to organize the field of research in an overall discourse are a few and the theme risks to suffer from under-emphasised and under-theorization (Birkeland & Soini, 2014). Only few scholars offered a systematic review of the scientific literature around the relationship between culture and sustainability (Duxbury & Gillette, 2007; Duxbury & Jeannotte, 2010; Birkeland & Soini, 2014; Dessein & Soini, 2016). Duxbury and Gillette review the relationship between culture and sustainability in the context of sustainable community development and presents three models of sustainability including culture as a significant component (Duxbury & Gillette, 2007). Dessein and Soini shows different attempts and approaches, that reflects various disciplines and policy aims, to conceptualize the different conceptions of culture in sustainability (Dessein & Soini, 2016). Their interdisciplinary framework offers scientific articles explored through the three representations defined of cultural sustainability and eight dimensions. Birkeland and Soini stress the vagueness of the understanding of culture within sustainable development framework and investigate the scientific discourse on cultural sustainability by analysing the diverse meanings assigned (Birkeland & Soini, 2014). Their literature review is organized around seven storylines, partly interlinked and overlapping, that contextualize different aspects of cultural sustainability. Duxbury and Jeannotte clustered researches around different foci: culture and sustainable communities in Australia, New Zealand, Canada, and Europe; sustainable urbanization and culture in Asia; theorization on arts and sustainability in Europe; cultural economies and sustainable development in Brazil and cultural essentials of sustainable development in Africa and the Caribbean (Duxbury & Jeannotte, 2010). The following literature review

considers these frameworks as a guide, expanding and intersecting their structures and considerations.

The integration of culture in the sustainability debates is an arduous task (Dessein & Soini, 2016). First, the words 'culture', 'development' and 'sustainability' are complex, sometimes contested, multidisciplinary and normative concepts in definition, usage and interpretation (Geertz, 1973; Williams, 1985; Esteva, 1992; Robinson, 2004; Nurse, 2006; Barber, Goncz, Kleizen, & Skirke, 2007; Dessein, Fairclough, Horlings, & Soini, 2015). Secondly, this field of inquiry has been emerging recently and abruptly (Roders & Van Oers, 2011) probably due to the recent openness to wider geographical and cultural diversity of the world, alongside with globalization and localization at the same time (Birkeland & Soini, 2014). Third, the concepts of culture and sustainability are jointly interlinked: culture is indeed fundamental for sustainable development, at the same time any development depends among culture (Clammer, 2012). This complicates the distinction and explorations of their relationship. Fourth, sustainability developed as an integration of ecological, economic, and social dimensions (Nurse, 2006). Adding culture to the three dimensions means including human beings themselves, and so values, behaviour and ways of life in the analysis (Dessein & Soini, 2016).

The review discusses and selects scientific articles by asking the following questions: what is the object considered 'cultural'? To what extent culture contribute to sustainability? In what manner is culture embedded in sustainability?

A preliminary collection of scientific articles was conducted from the bibliography of the papers Darlow (1996), Birkeland and Soini (2014), Dessein, Fairclough, Horlings and Soini (2015) and Donelli, Lusiani and Mio (2023). A more thorough literature search was developed with the keywords 'cultural sustainability', 'culture and sustainability/sustainable development', 'sustainab* heritage' on electronic databases from autumn 2023 to spring 2024. Scientific articles dedicated to socio-cultural sustainability are included since they seem fundamental for understating the evolution of culture within sustainable development concept. The implementation of the bibliography database has been continuously implemented with the 'snowball technique' by selecting articles from the bibliographies of the ongoing read articles. The research was limited to articles written in English and Italian language. The final bibliography comprises publications from 1973 to 2024.

Aware that not all the scientific articles are included in this bibliography, this literature review should be considered as a sample of the overall scientific production dedicated to culture within sustainability. Indeed, at a point of saturation, it seems necessary not to add any additional articles. The proposed literature review should not be considered binding and used in a flexible way, reducing the risk of simplification of the complexity of the reality.

1.1 Methodology

An original approach, beyond boundaries, is required to pursue sustainability through the framework of culture (Dessein, Fairclough, Horlings, & Soini, 2015). Indeed, the literature review builds an interdisciplinary framework in order to go beyond sectoral approaches towards a cross-sectoral intersected discourse. Interdisciplinarity and transdisciplinary are the approaches employed to cope with the multifaceted aspects of culture in sustainable development and to outline, as much as possible, complete vision of cultural sustainability (Dessein & Soini, 2016). Combining different epistemological traditions concept has been already recognized and confirmed to be effective (Hopwood, Mellor, & O'Brien, 2005; Abson, et al., 2013). Cultural sustainability is not a singular discourse, because it does not belong to one specific field of research in a close universe. It moves beyond disciplines, in a different context and is multidisciplinary and transdisciplinary concept in itself (Birkeland & Soini, 2014). Transdisciplinary approach unfolds the combination of academic and non-academic knowledge, theoretical and empirical researches as well as artistic production and practices (Dessein & Soini, 2016).

The analytical framework is organized considering the historical evolution of the three different attempt to integrate culture in sustainability, defined by Dessein and Soini as representations (Dessein & Soini, 2016). These three roles of culture within the framework of sustainability are culture for sustainability, culture as sustainability and culture in sustainability. The three representations are then explored, in a systematic way, with the three historical pillars of sustainability: environmental, social and economic, with the addition of the field of culture itself.

At last, the literature review is enriched by the seven storylines outlined for cultural sustainability by Birkeland and Soini (2014) and defined as dimensions by Dessein and Soini (2016). These dimensions illustrate and underline differences or similarities

between the scientific articles. The resulting literature review, arranged around the combination of the three representations, the four pillars and the eight dimensions, constitutes a sort of kaleidoscopic framework (Dessein & Soini, 2016) that enlightens the complexity of the relationship between culture and sustainability.

1.1.1 The three pillars of sustainability

The concept of sustainability is historically depending among three pillars: environmental, social and economic (Brundtland, 1987). The combination of these three fields makes sustainability possible. The environmental pillar entails the planet, natural resources, their use, pollution prevention (Brundtland, 1987). The social pillar consists in the ways of life and community environment (Brundtland, 1987). The economic field means being able to be more efficient and effective while supporting and promoting innovation (Brundtland, 1987). Mirroring these three pillars, sustainable development consists in the achievement of the economic development, social justice and ecological responsibility principles in a dialectical tension (Robinson, 2004).

The field of culture misses its place in this conception of sustainability, although including it in sustainable development is claimed as a basic requirement to integrate the three pillars model with new governance paradigms and to create an effective healthy and sustainable society (Hawkes, 2001). Consequently, culture is implemented within sustainable development in three distinguishable representations (Birkeland & Soini, 2014). The three attempts of integration are never fully separate and independent. However, they function as a lens to understand what role culture covers in the relation with the three dimensions of sustainability. The following sections overview these three dimensions.
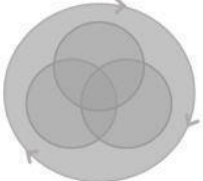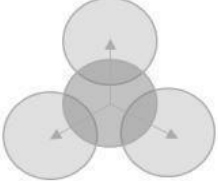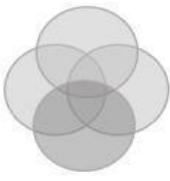
Culture as sustainability	Culture for sustainability	Culture in sustainability
Culture functions as the foundation and communicating ground for sustainable development.	Culture mediates and supports each of the three pillars.	Culture becomes the fourth pillar, alongside and separate from the other dimensions.

Table 1 - The three representations of culture and sustainability (Dessein & Soini, 2016)

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Culture for sustainable development places culture between the environmental, economic and social dimensions (Dessein, Fairclough, Horlings, & Soini, 2015) and culture is considered being the glue, which combines ecological, social and economic pillars (Throsby, 1997a). Culture, operating beyond itself, gains a mediating, intermediary and balancing role (Dessein & Soini, 2016) for achieving, framing and contextualising the aims of the three existing pillars (Dessein, Fairclough, Horlings, & Soini, 2015).

Culture for sustainable development considers both material and immaterial culture as an essential resource for economic development and regards cultural values and perceptions to achieve the aims of ecological and social sustainability (Dessein & Soini, 2016). In this case, a more functional understanding of culture in the sustainability context aims to find culturally sensitive and reformative approaches to sustainability (Dessein & Soini, 2016). As consequence, public policies shape more specifically and singularly each aspect of sustainability, influencing livelihood, industries, social or environmental well-being with culture (Dessein, Fairclough, Horlings, & Soini, 2015).

Culture as sustainable development consider culture as core of sustainability (Laine, 2016). Culture gains a fundamental role within sustainability, becoming a necessary foundation for achieving the aims of sustainable development (Dessein & Soini, 2016) and having the ability to generate sustainability (Laine, 2016). The overall sustainable development discourse takes advantage from giving to culture this central transformative role (Dessein, Fairclough, Horlings, & Soini, 2015) and becomes embedded in culture (Dessein & Soini, 2016). Culture gains a coordinating and guiding role for every aspect of sustainable actions and stimulate to consider sustainability and sustainable development as in-the-making and evolving processes (Dessein, Fairclough, Horlings, & Soini, 2015). Culture as sustainable development encloses the other sustainability pillars becoming an overarching dimension (Dessein & Soini, 2016). It interwinds culture and sustainability mutually and makes fading the distinctions between the economic, social and environmental dimensions of sustainability (Dessein, Fairclough, Horlings, & Soini, 2015).

Within this framework, policies promote broader transformations with a holistically vision of sustainable societies and a transition towards sustainable development in profound level of society (Dessein, Fairclough, Horlings, & Soini, 2015). In policymaking, the 'as' approach translates in listened and engaged citizens in discussions about decisions as basic premise of public policies (Dessein, Fairclough, Horlings, & Soini, 2015).

Indeed, culture is recognized as overarching concern and paradigm of human decisions and actions within sustainable development thinking (Dessein, Fairclough, Horlings, & Soini, 2015). Culture considers human role as a potential initiator of change and helps in redefining the human place in the world (Dessein, Fairclough, Horlings, & Soini, 2015) recognising humans as an inseparable part of the world (Dessein, Fairclough, Horlings, & Soini, 2015). Culture as sustainability goes beyond the descriptive and analytical tool, creates intentions, motivations, ethical, moral choices and new values, becomes the matrix for particular ways of life and even utopian visions of a sustainable society (Dessein, Fairclough, Horlings, & Soini, 2015).

In practical term, culture as sustainability insists on a co-thinking of how social life is embedded in particular places or situations, inviting to work with place-conscious and place-responsive teaching and to be engaged in discussions of what kind of world to live now and in the future (Dessein, Fairclough, Horlings, & Soini, 2015). Culture as sustainability develops also as community-based thinking process, where culture represents in some cases a problem and in other a possibility (Dessein, Fairclough, Horlings, & Soini, 2015). Culture is not a particular type of knowledge, but becomes a fundamental tool for nourishing and heling new processes of social learning (Dessein, Fairclough, Horlings, & Soini, 2015).

The third representation places culture in a separate and independent role: culture becomes the fourth pillar of sustainability (Hawkes, 2001). The fourth pillar entailing culture was suggested by some critics starting from the beginning of the XXI century (Hawkes, 2001; Nurse, 2006; Culture: Fourth Pillar of Sustainable Development, 2011; Boström, 2012; Sabatini, 2019). This approach enlarges the conventional ecological, social, and economic considerations by adding culture as a self-standing, separate and parallel pillar (Dessein, Fairclough, Horlings, & Soini, 2015). The aim is to grant a relevant, adequate and equal attention to the cultural aspects within the sustainable development discourse (Dessein & Soini, 2016). The fourth pillar overcomes the view of culture as marginal concern in sustainable development and asserts the many possibilities for relating culture to sustainability (Dessein, Fairclough, Horlings, & Soini, 2015). Culture, linked alongside separate from the other three imperative pillars, gains a supportive and self-promoting role (Dessein, Fairclough, Horlings, & Soini, 2015). Culture stands in a straightforward and practical approach (Hawkes, 2001). The 'in' approach limits culture

to a narrow definition and considers mainly the arts and creative-cultural sector (Dessein, Fairclough, Horlings, & Soini, 2015). Conservation, maintenance and preservation of cultural capital, considered as arts, heritage, knowledge and cultural diversity, for the next generations are a fundamental trait (Dessein & Soini, 2016). Indeed, policies focus mainly on the key intrinsic values of culture, creative activities, diversity of cultural and artistic expressions (Dessein, Fairclough, Horlings, & Soini, 2015). Artistic, cultural and aesthetic qualities become relevant in the form of judgmental criteria about how sustainable a particular policy is, or useful when developing indicators for measuring the impact of a particular practice or program (Dessein, Fairclough, Horlings, & Soini, 2015).

1.1.2 The seven dimensions of culture

The seven dimensions underlines various aspects of the dialogue between culture and sustainability with the aim of promoting the operationalization of culture in sustainability research (Dessein & Soini, 2016). Generate narratives, create and maintain meanings are the advantage of storylines, that are «devices for ordering meaning» (Birkeland & Soini, 2014, p. 215). Within cultural sustainability, Birkeland and Soini created storylines for constructing and framing particular problems that cultural sustainability address (Birkeland & Soini, 2014). The dimensions function as a buzzwords or metonyms embodying various meanings (Dessein & Soini, 2016).

The storylines outlined are cultural heritage, cultural vitality, economic viability, cultural diversity, locality, ecocultural resilience, and eco-cultural civilization. Inevitably, storylines interlink and overlap between each other, but the challenge is to contextualize in each storylines specific purpose of scholars (Birkeland & Soini, 2014). Cultural heritage storyline groups articles that associate cultural sustainability and tangible and intangible cultural capital inherited (Throsby, 2008). Cultural vitality entails cultural services and events, people participation to cultural life, culture-led development and asks what sustainable use of cultural capital means (Birkeland & Soini, 2014). The third storyline, economic viability, considers tangible heritage as resource of economic vitality and development, for example in form of tourism (Birkeland & Soini, 2014). Cultural diversity refers to the acknowledgement of various values, thoughts, attitudes, and manifestations in different communities (Birkeland & Soini, 2014). Linked to cultural diversity, locality recognizes and emphasizes the perceptions and rights of minorities groups, for example indigenous and marginalized people (Birkeland & Soini, 2014). Ecocultural resilience

focuses exclusively on environmental aspects and on the relationship between community and nature in different contexts (Birkeland & Soini, 2014). The last storyline, eco-cultural civilization, emphasizes an ecological turn of values and behaviour of people (Birkeland & Soini, 2014).

Storylines' names	Storylines' contents
1. Cultural heritage	Considers cultural heritage as capital inherited from the past to be transmitted to future generations.
2. Cultural vitality	Entails cultural services and the uses of heritage.
3. Economic viability	Culture is seen as a resource for economic vitality and development.
4. Cultural diversity	Recognizes values, perceptions and artistic diversity associated to culture.
5. Locality	Focuses on emphasizing cultural rights and on respecting cultural expression of minorities.
6. Eco-cultural resilience	Enhances the relationship between human and nature framed by culture.
7. Eco-cultural civilization	Aims at an ecological turn of the values and behaviour of people through cultural approaches.

Table 2 - The Seven storylines by Birkeland and Soini (2014) (Authoress' elaboration)

1.2 Culture as sustainability

Culture as sustainability requires transdisciplinary thinking, that connects different fields and contents for the development of new integrative and synthetic synergies (Robinson, 2004) between the three pillars of sustainability. The cultural field assumes a synergic role that contributes with added value to the economic, social and environmental pillars (Sacco & Tavano Blessi, 2005). Indeed, the structure of this part of literature review is sets up around the seven storylines, that disclose the contribution to each pillar.

1.2.1 Cultural heritage

Cultural heritage operates as a resource in overlapping contexts: socio-political, economic and environmental (Loulanski, 2006). Cultural heritage is identified as a political resource when supporting states at jurisdictional level or when legitimizing governing ideologies (Loulanski, 2006). The resource perspective of heritage leads to the construction of extensive activities or even actual industries (Loulanski, 2006). As consequence, the resource perspective influences mainly two pillars.

Firstly, culture gains relevance in the processes of social growth and territorial upgrading of urban areas (Sacco & Tavano Blessi, 2005). The development of activities and/or industries around culture enhance tangible and intangible assets, the relation between territory and community, the creation of common knowledge and experience and the safeguard of traditions and habits, considered0 an invaluable resource of the urban areas (Birkeland & Soini, 2014). Cultural heritage as resource generates an overall requalification and a process of social sustainable development of related urban areas (Sacco & Tavano Blessi, 2005). Museums, theatres and cultural events located in deteriorated areas generate infrastructural requalification and subsequent social improvement by providing collective experiences and moments of enjoyment and aggregation (Sacco & Tavano Blessi, 2005). Secondly, cultural heritage as resource influences likewise the economic pillar directly and indirectly (Loulanski, 2006). Indeed, cultural heritage contributes directly as an industry in itself, while influencing indirectly related economic activities and consumer preferences (Al-Hagla, 2005). Cultural heritage, as an economic and social resource, favours the most certain sustainable safeguard of its tangible and intangible value (Loulanski, 2006).

1.2.2 Cultural vitality

Cultural vitality storyline, within the framework of culture as sustainability, is developed by scholars in the context of city and urban sustainability. Cultural policies impact on the social, environmental and economic framework of cities and can guide urban sustainability (Darlow, 1996). In 21st-century society, cities are gaining relevance in guaranteeing people's rights and this challenge can be faced by the development of creative cities (Florida, 2014). Sustainable cities are inevitably creative cities because creativity is fundamental for sustainable development allowing cities to deal with changing environmental problems and producing pioneering answers (Darlow, 1996). The attitudes and abilities of citizenships depend directly on the level of creativity allowable to develop (Darlow, 1996). Creativity is a complex multifaceted force that stimulate to be unconventional, to image new solution, to have different vision and to be flexible (Brocchi, 2008; Dessein & Soini, 2016). In this sense creativity can deal with cities' issue with the aim of enhancing social cohesion, improving local image, promoting environmental interest and sensibility (Kačerauskas & Štreimikienė, 2020), developing self-confidence, building private-public partnerships, exploring identities, enhancing

organisational capacity, building confidence and independence, exploring visions of the future and enhancing the overall quality of life (Bianchini, Greene, Landry, & Matarasso, 1996). In addition, a tolerant, soft and not strictly hierarchical management is associated to creativity (Florida, 2014).

The arts, artist and cultural organizations are the major assets along the route to sustainable development. Urban street art represents a particular case in this discourse because it creates open-air galleries where urban cultures converge and characterize sharply urban spaces (Crespi-Vallbona & Mascarilla-Miró, 2020). It becomes an aesthetic opportunity arisen from creative buzz with a multiplier effect within the creative sector (Crespi-Vallbona & Mascarilla-Miró, 2020). Indeed, urban street art is widely analysed within the scientific discourse as a tourist's attraction in different cities (Perera, 2019) and as an institutionalised critique (Crespi-Vallbona & Mascarilla-Miró, 2020); as linked to the creative cities (McAuliffe, 2012); as a symptom of urban decay as well as urban cultural vitality (Crespi-Vallbona & Mascarilla-Miró, 2020).

The arts have contributed intrinsically to the vitality and characteristics of urban area, since the 1960s renewing the environment with artistic studios and, consequently, cultural quarters (Bianchini, Greene, Landry, & Matarasso, 1996). The notion of district was introduced by Marshall and then linked to culture and explored within sustainable development by (Santagata, 2006). Cultural districts relevance within sustainability discourse has a significant relevance since cultural districts are able to interconnect the three pillars of sustainability with the culture (Sabatini, 2019). Indeed, the economic and commercial outcomes of cultural quarters are intrinsically artistic and cultural and produced in an environmentally sustainable way, while transmitting the local culture and enhancing social capital in particular by inter-exchanged tacit knowledge (Sabatini, 2019).

1.2.3 Economic viability

Acknowledged that creativity empowers people encouraging innovation and sustainable development, the discourse polarizes the attention on the economic pillar of sustainability when interpreted as creative economy. The creative economy is considered one of the fastest and leading sectors in the global economy in term of income growth, job creation and export-income earnings (Florida, 2014). Being based on individual creativity and

attitudes, it is defined also as knowledge-intensive economy (Kačerauskas & Štreimikienė, 2020). It offers creative goods and services, deals with issue of sustainable urban development and sustainable development goals, catalyses innovation from completely different sectors while promoting innovative solutions in the related sectors (Sacco & Tavano Blessi, 2005). According to some scholars, this sector helps in facing challenges of globalisation and the digital advancement (Dessein, Fairclough, Horlings, & Soini, 2015). In European area, Estonia has been outlined as best practice in measuring creativity, assessing its creative economy and implementing Sustainable Development Goals (Kačerauskas & Štreimikienė, 2020). Evidence of creative economy are recurrent in everyday life (e.g. performing arts, cinema, theatre, music industry, publishing and fashion sector) and these creative industries are considered closely influential in sustainable development (Florida, 2014). However, creative economy contribution in social, environmental and economic sustainability is not always fully attested and appreciated (Kačerauskas & Štreimikienė, 2020), the benefits were officially recognized only recently probably because the link is not immediately apparent (Throsby, 2008). After the realization, developed and developing countries began to implement policies and economy with cultural industries paradigm, acknowledging their economic and cultural relevance (Throsby, 2008), and to mark a significant difference within the high competing political economies (Radavoi & Rayman-Bacchus, 2020).

Alongside creative economy, an increased sensibility around environmental and sustainability issues in western societies led to the bloom of new tourism approaches: adventure tourism, alternative tourism, green tourism, nature tourism, sustainable tourism, landscape tourism (Dorsey, Porras, & Steeves, 2004). All these different sorts of tourism are identified within the brand ecotourism, an «ecologically sensitive travel to remote areas to learn about ecosystems» (Dorsey, Porras, & Steeves, 2004, p. 753). Ecotourism fits within the evolution of western tourism from a predominantly effects on local economic to the attention on sustainable development (Dorsey, Porras, & Steeves, 2004). Indeed, ecotourism aims at preserving natural resources while benefitting from tourism (Dorsey, Porras, & Steeves, 2004). Many countries recognize ecotourism as a soft investment to implement sustainable development program in brief time (Robinson, 2004), allowing tourists to penetrate most remote cultures and isolated areas (Dorsey, Porras, & Steeves, 2004). Tourists, as well, look for environmental and cultural sustainable experiences in developing area (Dorsey, Porras, & Steeves, 2004). Conversely,

while increasing developing countries reliance on the global economy, ecotourism threatens the cultural bonds within the local communities (Dorsey, Porras, & Steeves, 2004).

A specific kind of ecotourism is cultural tourism focused on the people part of the environment (Jamal & Stronza, 2008). Planned cultural tourism appreciates traditional cultural products, makes folklore flourish and develops local communities' pride and strength to implement their own development (Dorsey, Porras, & Steeves, 2004). At the same time, the risk of degeneration is significant. Cultural tourism could present standardized and static culture, reduce traditional culture to consumption rituals and fetishized goods or expose tourists to constructed lifestyles (Dorsey, Porras, & Steeves, 2004).

The attitude of discovering distinct cultures from the inside and searching for innovative tourists' paths is fulfilled even within developed countries with the development of urban tourism (Crespi-Vallbona & Mascarilla-Miró, 2020).

In this case, while traditional tourism focuses on selected locations specifically restored and preserved by national and local authorities, urban tourism aims to reveal the specific characteristic and lifestyles of the locals (Crespi-Vallbona & Mascarilla-Miró, 2020).This approach satisfies the recent interest of tourists to seeks everydayness and ordinary aspects, to engage with the local identity and to play themselves the role of the locals (Füller & Michel, 2014). Indeed, local refers to the geographical location of a place as well as the space inhabited by its citizens with specific habits (Crespi-Vallbona & Mascarilla-Miró, 2020). Sustainability and sustainable development permeate even urban tourism: for experiencing the local lifestyles is fundamental to involve citizens within the governance (Hall, 2011). A network governance approach enhances public-private sectors collaboration for empowering successful economic and preserves the local environment, which stands at the core of visitor satisfaction (Hall, 2011).

1.2.4 Cultural diversity and locality

Safeguarding cultural diversity effects decisively the discussion on sustainability. Local cultures are explored as source of environmental sustainability and socio-cultural resistance against capitalism and globalization in rural area (Dalby, Doubleday, & Mackenzie, 2004). Specific knowledge of geographical and environmental setting is an

asset for the political ecology dealing with sustainability (Castree, 2001) and represents a tool for identity creation and articulation in new historical contexts (Dalby, Doubleday, & Mackenzie, 2004). Traditional knowledge has relevant implications in medicine, ecology and biological resources management, that are part of social and economic sustainability (Costa-Neto, 2008).

On the other hand, ignoring and disrespecting cultural diversity result in a loss of possible strategies of sustainable development (Ranjit-Daniels & Vencatesan, 1995). Community based management is considered the most effective device to include traditional knowledge and cultural diversity in governance models (Grinspoon & Von der Pahlen, 2002). Citizens' participation brigs a profound knowledge of the environment, natural resources, cultural characteristics (Costa-Neto, 2008) and specific information for economic sustainable development (Grinspoon & Von der Pahlen, 2002).

Cultural diversity is studied even associated to biological diversity. Indeed, specific biodiversity and connection to the environment has developed relative cultural attitudes (Jadgwiss, 2002). Local cultures generate the sustainable use of natural resources for agricultural and animal husbandry, which are valuable for the economic income and for the intrinsic social meaning (Jadgwiss, 2002). The reciprocal relationship has been attested as resource for production activities, natural species conservation and social framework preservation (Jadgwiss, 2002). A holistic and integrative management of biodiversity entails dealing even with cultural attitudes (Fell, Lynch, & McIntyre-Tamwoy, 2010). Indeed, straight scientific conservation approaches are criticized for neglecting the ecosystems interconnectedness with socio-cultural context and for resulting in loss of traditional knowledge important for biodiversity preservation (Fell, Lynch, & McIntyre-Tamwoy, 2010). Cultural diversity allows to sustainably manage, respect and preserve environmental resources and traditional culture for future generations (Costa-Neto, 2008).

1.2.5 Eco-cultural resilience

The preservation and enhancement of natural capital is usually considered as a source of sustainable social and economic development (Throsby, 1997b). The environment brings intrinsic values in certain cultures, which develops their economic activities around natural resources (Throsby, 1997b). Nevertheless, traditional land use patterns and

values are considered in some case by official governments unproductive and barrier to development (Loulanski, 2006) or even as a risk of environmental destruction and socio-cultural disintegration (Choy, 2004).

On the other hand, culture as sustainable development within eco-cultural resilience discourse develops also in the field of architecture. Housing preferences impact and are influenced by social, economic and environmental factors (Chiu, 2004). Buildings are designed for and shapes cultural habits and specific lifestyles (Chen, Fan, & Wu, 2016). Architecture as sustainability encompasses several cross-cultural issues, specific environmental behaviour and meanings of the surrounding context (Chiu, 2004; Memmott & Keys, 2015). Architectures fits within the context when reinforce cultural behaviours, are aligned with the physical environment and even ease the economic activity of the context (Memmott & Keys, 2015). In this sense, vernacular architecture significantly embodies sustainability discourse (Memmott & Keys, 2015). It relates to the context and other buildings, exploits available resources and traditional technologies, fulfils owners and community needs, is customized around economic and productive necessities (Memmott & Keys, 2015).

1.2.6 Eco-cultural civilization

Eco-cultural civilization within culture as sustainability is explored in two frameworks: geotourism and geopark. Usually, geoparks and geotourism develop in rural areas generating an opportunity for cultural sustainability and rural development (Coelho, Costa, & Torabi Farsani, 2011).

Geotourism enhances geographical, cultural, environmental characteristics of a place and the wellbeing of its community, while benefitting of the positive externalities of ecotourism previously described (Coelho, Costa, & Torabi Farsani, 2011).

Geoparks are developed in relation to or independently from geotourism. These innovative parks preserve the natural and cultural heritage of rural areas stimulating the social, economic and cultural development attracting tourists or visitors (Coelho, Costa, & Torabi Farsani, 2011). Local communities are encouraged in geoparks to cultural exchange, empowered by educational programs and their welfare is enhanced by specific activities (Coelho, Costa, & Torabi Farsani, 2011).

1.3 Culture for sustainability

In culture for sustainable development, the three dimensions of sustainability remains clearly distinguished. This characteristic influences this part of literature review, which is automatically developed focusing on the development of discourses towards culture in each pillar.

1.3.1 The social pillar

Within the analysis of culture for sustainability, the starting point is inevitably the social pillar. Indeed, the first attempts to introduce culture within sustainable development discourse has been come up with associating, and even overlapping, cultural and social issues (Chiu, 2004; Cuthill, 2009; Dixon, Perkins, & Vallace, 2011). Birkeland and Soini's analysis reveals that there are a few attempts to discern cultural sustainability from social sustainability, although many meanings and contexts are assigned to culture (Birkeland & Soini, 2014). Rarely, the researches enhance the specific features and abilities of culture, whose involvement is sometime perceived almost wasteful (Duxbury & Jeannotte, 2010). Social and cultural sustainability are two key dimensions of sustainable development and remarkably close within everyday life (Chen, Fan, & Wu, 2016). Cultural factors, values and customs influence social norms and habits, that can limit or enhance sustainable development and the improvement of wellbeing of present and future generations (Chen, Fan, & Wu, 2016). It is important to assess the tight relationship as well as to underline the distinction and the breach between the issues of cultural sustainability and of social sustainability. For example, social justice and equity, social infrastructure, participation and engaged governance, social cohesion, social capital, awareness, needs and issues of goods distribution connect, but do not blend, cultural sustainability to social sustainability (Boström, 2012). Stren and Polèse define social sustainability as:

> fostering an environment conducive to the compatible cohabitation of culturally and socially diverse groups while at the same time encouraging social integration, with improvements in the quality of life for all segments of the population (Polèse & Stren, 2000, p. 35-36).

Within the storyline of cultural vitality, a gradual recognition of the role of culture in the city have changed since 1980s (Lovatt & O' Connor, 1995). During the 1980s an increasing number of local authorities adopted public art policies (Darlow, 1996). A new local

authority policy area was born characterized by policies for sustainable development implemented by cultural policies (Darlow, 1996). The new idea of sustainable city was a «a beautiful city where art, architecture and landscape move the spirit» (Darlow, 1996, p. 291) as Richard Rogers outlined. Cultural policies and sustainable city linked together in practice for enhancing social cohesion and organisational capacity, improving local image, building private and public partnerships (Bianchini, Greene, Landry, & Matarasso, 1996). The practice of developing public art policies was defined by Selwood as burgeoning of public art and has the aim of investing in areas of deprivation (Selwood, 1995), incentivizing private sector investments and promoting a renovated attitudes towards the arts (Darlow, 1996). Cultural policies asked a new approach in relation to new objectives and needs within state and local subsidy (Lovatt & O' Connor, 1995), a rethink of the approach to work for those involved in the field of culture and new competences of those implied in urban design theory, planning and practice (Thorpe, 2007), and in local development (Lovatt & O' Connor, 1995). A new general perspective for local authorities and managers of urban areas emerged (Darlow, 1996) and that was often exploited with opportunism (Lovatt & O' Connor, 1995).

The access of culture in public policy was complex because many city authorities had little knowledge of the cultural sector, whose workers faced new demands and indices of success (Lovatt & O' Connor, 1995). This process moves to a new-urbanism and the that re-invention of urbanity, characterized by the shift from the city of production to the city of consumption (Lovatt & O' Connor, 1995). Cultural facilities and vibrancy of cities focused mainly on city centre, promoting a new urban way of life (Lovatt & O' Connor, 1995). The management and care of the local image became crucial in an increasingly globalised marketplace and in a growing city-to-city competitiveness at a national and supranational level (Lovatt & O' Connor, 1995). The re-imaging of city emerged equally from local government, arts organisations, businesspeople, companies, community groups and local artists in a formal and informal elaboration (Lovatt & O' Connor, 1995). The regenerations of city centre opened spaces for cultural creations, entrepreneurial activity and improved the built environment (Lovatt & O' Connor, 1995). Since the 1980s, authorities improved the physical local environment through the installation of public art (Bianchini, Greene, Landry, & Matarasso, 1996) and the awareness and consciousness of these practice were promoted among citizenship (Roberts, 1995).

Cultural policies in sustainable urban development enhanced the core aim of improving quality of life (Darlow, 1996) and of revitalizing the socio-cultural community revitalization (Fry, 2009). Local citizenship is the principal asset in cultural regeneration strategies and arts programmes demonstrated to be influential in a wide range of social policy objectives (Bianchini, Greene, Landry, & Matarasso, 1996) as the improvement of social cohesion and capital and the equal distribution of environmental goods (Boström, 2012).

The link between cultural policy and sustainable development in practice was historically emphasised by arts and crafts movement, that focussed on the relationship between art and the environment and aimed at bringing art and crafts back into the everyday life (Darlow, 1996). Indeed, artists and art practitioners can be considered the main actors able to transmit and reframe socio-cultural capital (Van den Bosch, 2009). Equally, festivals are used as a mean of bringing people back into the city, implementing cultural facilities of the centre, attracting citizenship and non-citizenship (Lovatt & O' Connor, 1995). Their benefits come from sustained strategy commitment and long-term planning and provided to local people a renewed self-esteem and pride (Bianchini, Greene, Landry, & Matarasso, 1996).

A few recent authors analysed also the practice of revitalizing urban night-life. Using cultural policies for the night-time promotes the after-work hours as a moment of socialisation and experience (Bianchini, 1995). A new planning regime with exciting cultural event calendars and longer opening hours is able to promote the 24 Hour city, bringing people back into the city and increasing public demand creating a more sustainable and civilised city (Bianchini, 1995; Lovatt & O' Connor, 1995). Specific strategies facilitate the participation of young children to appropriate night-time activities and implement childcare facilities and longer opening hours of parks enriched by ad-hoc cultural entertainment calendar (Bianchini, 1995). The evening economy means also revitalising city centres' infrastructure (e.g. gas and electricity installation (Dessein, Fairclough, Horlings, & Soini, 2015), cheaper and more frequent public transport services running late, public illuminations (Bianchini, 1995) , while increasing the level of safety and natural surveillance (Darlow, 1996). The 24 Hour City attests to generate a more positive division between day-time and night-life activities (Bianchini, 1995) .

On the other hand, cultural policy for the cultural vitality presents some risks. First of all, the tendency could be to polarize the interest on city centre while the suggestion is to create a polycentric city, that decentralize activities and benefits even on neighbourhood level (Darlow, 1996). The issue of equity is as well critical: while improving the quality of life of the locals the risk is to also attract gentrification (Darlow, 1996). Cultural vitality regeneration can become also very costly, taking long time for results and not always connecting with the needs of citizenship (Bianchini, Greene, Landry, & Matarasso, 1996).

The storyline of cultural diversity is analysed considering culture and sustainability involved and influential in everyday life, social arrangements and living practices (Dalby, Doubleday, & Mackenzie, 2004). In this context, culture for sustainability investigate life and livelihood in specific places as repository of specific knowledge (Dalby, Doubleday, & Mackenzie, 2004) and as a medium of resistance against capitalism and massification processes (Dalby, Doubleday, & Mackenzie, 2004). Local cultures are incorporated within a wider political ecology (Castree, 2001; Gibson-Graham, 2003) and have the ability to create identity in artistic terms (Dalby, Doubleday, & Mackenzie, 2004). Duxbury and Gillette shed light also on the necessity of protection local culture and diversity from globalization and cultural massification (Duxbury & Gillette, 2007). Native cultural communities are threatened by the risk of loos or discrimination of their local traditions and languages (Duxbury & Gillette, 2007). As defence to these dangers, Duxbury and Gillette underlined the relevance of sustainability discourse focused on education of community pride, on implementation of locally embedded policies and on promotion of programs to deepen the cultural diversity (Duxbury & Gillette, 2007).

Cultural diversity discourse is strictly linked to locality, structured, in culture for development, mainly as community development. Arts projects indeed stimulate specific benefits and revitalize the life of rural areas and towns, not invested by larger programs of development (Al-Hindawi, 2003; Gerhardinger, Godoy, & Jones, 2009).

Culture for sustainability foster also social equity and engaged participation within human and nature relationship (Boström, 2012), traceable in the storyline of eco-cultural resilience. Engaging local knowledge in natural resources management empowers people and promote responsibility (Rodríguez-Martínez, 2008) and increases the participation of local stakeholder in a sustainable long-term management process (Gerhardinger, Godoy, & Jones, 2009).

1.3.2 The economic pillar

The second pillar of culture for sustainability begins with stressing the importance of cultural heritage. The economic benefits of cultural heritage is assessed by effective economic value through the promotion of local development and tourism related to build heritage (Ulibarri & Ulibarri, 2009) and by its preservation generating many economic benefits (e.g. job creation, specialized skills development, income generation and historic areas rehabilitation) (Vileniske, 2008). In spite of this measurable results, the majority of arts organizations lack business development vision and do not produce profitable results, creating a gap and difficulties in dialogue with economic development organizations (Al-Hindawi, 2003). This blank space effects economic viability of cultural resources (Bianchini, Greene, Landry, & Matarasso, 1996). Cultural investments prefer to enhance major tourist attraction, rather than support sustainable products (Bianchini, Greene, Landry, & Matarasso, 1996).

On the other hand, a well-planned economic and cultural development can have many sustainable benefits. It can be an important asset in diversifying local economies, in flourishing endogenous micro economic domains (Al-Hagla, 2005) and in creating even informal employment (e.g. street vendors, rickshaw drivers), that generate a direct multiplier effect on local economy (Al-Hagla, 2005). Enhancing territorial economic development and improving local assets are retraced practically in benefits as:

> developing new businesses, job growth, increased income, product development, improved infrastructure, and special opportunities [and the improvement of] local transportation and communications infrastructure (Al-Hagla, 2005, p. 4).

Tourism development has been the most widespread policy practice for achieve the benefit of culture in economic pillar. Many authors noted also that the development of tourism and the contact between different nationalities diminish prejudice, which is only possible when people od similar status meets (Aberdeen, Dyer, & Schuler, 2003). Tourism development does not come without risk and ask for a careful management. The creation of major tourist attractions could generate resentment and exclusion of locals on an economic or social levels (Bianchini, Greene, Landry, & Matarasso, 1996). Cross-cultural appreciations rarely happen due to the little knowledge of visitors (Moowforth & Munt, 2003). Instrumentalization of local people and culture and cost–benefit analyses of

tourism development are very easily undertaken especially in market-based approach (Jamal & Stronza, 2008). A careful overall management of local and tourist relations and a participatory and communal involvement of the citizenship (Jamal & Stronza, 2008) helps in avoiding these risks. The concept of economic and culture are especially intersected in cultural tourism (Al-Hagla, 2005). Cultural tourism depends deeply on cultural assets (Bennett, Petocz, & Reid, 2014). As consequence, it is particularly important to conserve the physical preconditions and the territorial cultural personality (Al-Hagla, 2005). Local and tourist group can equally gain advantage in exploring cultural features as well as make culture a mere commodity with an economic return (Bennett, Petocz, & Reid, 2014).

Cultural industries are another asset of culture for development, due to their economic potential and to the possible contextualization within the economic development agenda (Throsby, 2008). The challenge is to be able to deliver and to report, cultural benefits, and economic income (Throsby, 2008).

City centre and environment regenerations through cultural policies also contribute to economic development attracting businesspeople, training organisations, enterprises and new jobs and, in general, enhancing production as well as consumption (Lovatt & O' Connor, 1995). The opportunity is also to double the economy of the city by incentivizing urban nightlife with cultural programmes alongside consumption opportunities (e.g. longer opening hours of shops) (Bianchini, 1995). Economic development is complexly intersected with the cultural policies (Harvey, 2008), but it must be carefully managed and analysed to avoid the unsustainable massification of production and consumption (Lovatt & O' Connor, 1995).

Another important aspect of culture for sustainability in the economic pillar stands in the cultural diversity and locality storylines. The economic globalization should not thread cultural characterization (Al-Hagla, 2005). Local assets support and shape local economy, that depends deeply on territorial cultural distinguished personality (Al-Hagla, 2005). The 'ecodevelopment' concept promotes an economic development sustainable because bases its perspective on a clear definition of fundamental local values and distinguish territorial cultural personality (Al-Hagla, 2005).

1.3.3 The environmental pillar

Culture for sustainability in the environmental pillar attempts to go beyond the dichotomy between culture and nature (Castree, 2001) and develops since cultural heritage storyline. Indeed, the concept of landscape is interconnected to the concept of cultural heritage (Vileniske, 2008). Cultural heritage is inevitably inserted in and influences a certain landscape (Vileniske, 2008). The landscape itself can be considered as cultural heritage (Vileniske, 2008). This interrelationship introduces to culture for environmentally sustainable development. Indeed, designers, planners and authorities have to consider public values and informal management decisions when managing territories (Vileniske, 2008). Cultural expectations are embedded in landscape and landscape preservation depends upon the cultural field (Darlow, 1996). The landscape ecology should be supported by cultural sustainability for ensuring to landscape human care, becoming also ground for the development of new customs for environmental preservation (Nassauer, 1997).

Architecture is crucial within modern landscape. The acceptance of tall modern buildings creation depends upon the ability to complete and integrate the cultural and environmental sustainability, reaching a fundamental importance in urban design practice (Tavenor, 2007). Green architecture, ecological architecture and slow architecture account these issues while trying to use as much as possible recycled materials or to build energy efficient constructions (Chen, Fan, & Wu, 2016).

The discourse of environment is much effected by cultural diversity storyline. Cultural diversity is studied under the light of traditional knowledge for the sustainable management of natural resources (Costa-Neto, 2008). In this discourse, culture includes and influences decisions on how to act with biological resources and ecosystems (Caballero, Martinez-Ballaste, & Martorell, 2006; Costa-Neto, 2008). Traditional indigenous culture and knowledge of natural resources resulted to be the most sustainable approach to natural resources management (Akhtar & Morin-Labatut, 1992; Johannes, 1993; Brokensha, Slikkerveer, & Warren, 1995), to promote traditional values and pride (Grinspoon & Von der Pahlen, 2002), to valorise a detailed knowledge about ecosystems, that account human–plant–animal relationships (Ranjit-Daniels & Vencatesan, 1995). Traditional knowledge is defined also as a precious corpus of data for environmental assessment studies (Johannes, 1993). Indeed, disrespect for diverse

cultural approaches loses multiple possibilities of ecological sustainable development (Costa-Neto, 2008).

Several scholars presets case studies where traditional knowledge supported natural resources management: artisanal fishermen from Siribinha, in the north-eastern Brazil is fundamental for studying the behaviour, typologies and characteristic of fishes and helped the national government in create protected ecological zonation (Costa-Neto, 2008); modern technologies were integrated with traditional small-scale water management in Tunisia (Hill & Woodland, 2003); Mayas, in the Yucatan peninsula, knowledge of gardens conservation resulted to be the most ecological sustainable management system (Pascual, 2009) and in Ukraine, the viability of forest landscape is maintained by local traditional village system (Angelstam, Axelsson, Elbakidze, & Sandström, 2010).

Safeguarding local knowledge and empowering future generations to thrive ecological patterns depend upon place-based Indigenous teachings, which is embedded within the natural context and stimulate the observation of homelands cycles (Brandt & Semken, 2010). The process of balancing the natural and human systems and the framework created between biodiversity and cultural diversity are gathered by the concept of bio-cultural diversity (Blanc & Soini, 2015)

> defined as the diversity of life in all its manifestations (biological and cultural forms) which are all inter-related within a complex socio-ecological adaptive system (Harmon, Loh, & Woodley, 2010, p. 41).

This concept underlines the importance of mediating between scientific knowledge and local cultural practice in the management and preservation of natural resources (Blanc & Soini, 2015).

Traditional knowledge is intersected with the concepts of awareness and sense of place (Darlow, 1996), included in the storyline of eco-cultural resilience. Indeed, the awareness of the context of living depends upon the sense of place with the surrounding environment (Darlow, 1996). Cultural sustainability, intended as human-environment relationship, is an important assumption for a sustainable development (Johannes, 1993). Cultural and public values influence the perception and the relationship with the environment (Nassauer, 2004). Consequently, sustainable practices and development

depend directly on cultural habits and customs of the society (Paliwal, 2005; Tiwari, 2007; Ding, Duan, Yan, & Zhang, 2008).

Urban planning, aiming at sustainable development, should consider the cultural embeddedness, which facilitates the acceptance of environmentally sustainable policies by the communities (Burton & Paragahawewa, 2011). To make an environmental improvement, policymakers should create policies that focuses on local ethos, beliefs and values (Burton & Paragahawewa, 2011) and takes into account the broader cultural context with its informal public value (Nassauer, 2004). These reach a long-term voluntary impact (Burton & Paragahawewa, 2011). Indeed, the expectations and sensations of citizenship can directly affect ecosystems (Nassauer, 2004). Cultural sustainability supporting the natural environment recognizes the influence of values and takes advantage of popular habits (Nassauer, 2004).

The community is also a powerful driver for designing effective governance model (Burton & Paragahawewa, 2011). Community management of natural resources increase the responsibility towards the nature and facilitate the acceptance of cultural policies for the environment (Trimarchi, 2004). Community-base management promotes more accepted and effective ecological and cultural sustainability management system (Trimarchi, 2004). Collective management is enforced by customs and values (Hill & Woodland, 2003) and addresses easily perceptions and expectations of the locals as well as ecological function of the environment (Nassauer, 2004). Involving locals in sustainable policy making for the environment informally engage encoded social behaviour around the ecosystems (Caballero, Martinez-Ballaste, & Martorell, 2006) and generates processes of cultural transformation (Freeman, 2002).

The storyline of eco-cultural civilization is studied with the introduction of the concept of ecological restructuring (Birkeland, 2008). Birkeland refers this approach to processes that change dynamics between natural and cultural environments (Birkeland, 2008). These changing dynamics depends on aesthetic qualities and traditional knowledge. Indeed, ecological health have direct implications on the aesthetic conventions of the environment (Nassauer, 1997). Cultural aesthetic necessity can cause problems to the ecological health of landscape as well as be used to raise awareness on the use and protection of natural contexts (Nassauer, 1997). A more admired and attracting landscape has more possibility to be safeguarded (Nassauer, 2004). Ecologically sustainable context

that evoke enjoyment and pleasure is keener to human improvement and attention (Nassauer, 2004). Perception and expectations, depending on cultural sensibility, effects ecosystems recovery and ecological preservation (Nassauer, 2004). Aligning aesthetic appearance, socio-cultural expectations and ecological health implement recovery and safeguard of natural environments in the long term (Nassauer, 1997).

Create a more attractive environment means also considering small-scale traditional structures, which are appreciated by the citizens in favour of an overall sustainable development (Hill & Woodland, 2003). Sustainable lifestyle and customs are the future challenge for a sustainable environmental development, supported by emotional and aesthetic knowledge and collaborative problem solving (Throsby, 2019). Preserving the environmental and cultural sustainability for the future generations gains a paramount importance during the global age (Throsby, 2019), placed-based education vehiculates cultural viability by implementing the knowledge of learners about their physical and cultural surrounding (Brandt & Semken, 2010).

The scientific discourse provides practical application of culture for sustainability. Urban parks are seen as a potential area of development for cultural public policy (Darlow, 1996). Public parks can contribute to enhance the social life and generate environmental benefits as preserving green area and wildlife habitat and diminishing pollution, while becoming spaces for cultural activities and generating qualitative leisure time (Darlow, 1996). Artist and artworks can strengthen the behavioural commitments to environmental sustainability. Creativity can help in recreating and innovating the relationship between human and nature (Shrivastava, Ivanaj, & Ivanaj, 2012). Many artists vehiculate the awareness and understanding of the environment with performances and plays, often designed for children (Darlow, 1996). Partnerships between many arts fields and environment were encouraged in 1988 by the project 'Environment and the Arts' in the Yorkshire (Shrivastava, Ivanaj, & Ivanaj, 2012). The Silkstone countryside was embellished, in the 1980s, by small-scale sculptures, evoking the characteristic of the landscape, and the Kirklees Waymarkers project involved the local communities to develop artworks for promoting civic pride and awareness (Darlow, 1996). The surrounding environment can be promoted through festivals strengthening the sense of place. An ancient festival revival decorates trees within the city to underline their presence and relevance (Darlow, 1996). Restoration activities has to consider

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environmental necessity as well as cultural expectations. A monitoring project od wetlands in Minnesota (USA) started the planning phase with analysing the public perception and ecological needs before recovering the ecosystem (Nassauer, 2004) and resulted that wetlands are more keen to be environmentally sustainable in the long term if their appearance and value for the community are accounted (Nassauer, 1997; Hull, Robertson, & Kendra, 2001). Design decisions for restoring these wetlands had to match cultural values and expectations to facilitate the citizens appreciation (Nassauer, 2004). Similarly, tall modern buildings should consider their impact on the visual and cultural environment to be accepted by the community (Tavenor, 2007).

1.4 Culture in sustainability

In the second half of the 1980s, the three dimensions of sustainable development were developed (Brundtland, 1987), but many institutions and scholars claimed the inclusion of culture within the model in the late 1990s (Wilkinson & Yencken, 2000; Hawkes, 2001). In 2001, the Cultural Development Network entrust Jon Hawkes to renovate the sustainability model with four interdependent pillars: environmental responsibility, economic health, social equity, and cultural vitality (Hawkes, 2001). Since *The Fourth Pillar of Sustainability: Culture's Essential Role in Public Planning*, culture started to be understood as an invaluable tool to foster the cultural meaning of sustainable development for the societies (Hawkes, 2001; Macbeth, 2005). Cultural pillar provide a holistic approach to sustainable development of societies by dual means (Macbeth, 2005). Firstly, cultural pillar fosters the cultural sector itself as a critical component of sustainable development (Culture: Fourth Pillar of Sustainable Development, 2011). Secondly, the cultural pillar ensures the rightful place of culture in all public policies (e.g. education, economy, science, communication, environment, social cohesion and international cooperation) (Culture: Fourth Pillar of Sustainable Development, 2011). Meanwhile analysing the 'in' approach, it is worth reminding that culture acts in a wider environment and is time and context related (Boukas, Christodoulou-Yerali, & Stylianou-Lambert, 2014).

The scholars have developed the discourse on the fourth pillar considering the various aspects of its benefits and can be organized around the seven storylines previously introduced.

1.4.1 Cultural heritage

The fourth pillar of sustainability adopts the resource perspective of heritage (Loulanski, 2006). In this perspective, culture is a resource of empowerment, identity building and skill development for the society and of values inheritance for assembly, preservation and transmission to future generations (Loulanski, 2006). Culture as resource is interpreted as a framework where discussing the future, evaluating the past and acting in the present (Hawkes, 2001). Culture gains crucial symbolic aspects and explains collective senses (Al-Hindawi, 2003) of a community and from which developing public interventions (Hawkes, 2001). The values embodied by culture are expressed or concur in reaching environmental responsibility, social justice, and economic development (Borza, Buiga, Ighian, Pop, & Toader, 2019). The disintegration of the culture of a community led to the disintegration of all the components of a society (Borza, Buiga, Ighian, Pop, & Toader, 2019). A specific set of core universal values associated with culture are:

> participation, engagement and democracy; tolerance, compassion and inclusion; freedom, justice and equality; peace, safety and security; health, wellbeing and vitality; creativity, imagination and innovation; love and respect for the environment (Hawkes, 2001, p. 7).

The development arising from these core values results in a creation of symbolic as well material richness (Al-Hindawi, 2003). Cultural heritage and associated values play a significant role in the discourse of conservation. A major issue of contemporary times is the appropriate methods and interventions of preservation (Matero & Teutonico, 2003). Indeed, the interpretation of cultural heritage determines its safeguarding for the future and entails critical decision depending on contemporary values and relationship in relation to the past (Matero & Teutonico, 2003). Globalization represents a major challenge for conservation of cultural heritage, core values and distinctiveness (Hickey, 2004). Cultural heritage preservation allows the community to deal with and impact positively on the globalized context, resisting against the glocalization of culture and, at the same time, taking advantage from globalization as a vehicle for sustainable development (Loulanski, 2006).

Museums, libraries and digitization of heritage play a unique role in preserving the cultural heritage. They not only preserve, but also enhance the understanding and

appreciation of heritage fundamental for its survival (Amberg, 2010). Despite this, cultural institutions lack in support for their mere cultural mission and are obliged to develop business models based upon the Triple Bottom Line (TBL) approach, which evaluates their contribution even to the social, economic, and environmental sustainable development (Loach, Griffiths, & Rowley, 2017). Indeed, the Triple Bottom Line represented a turning point for corporate accounting and was introduced as a «sustainability framework that examines a company's social, environment, and economic impact» (Elkington, 2018, p. 2) alongside the other performance measurements. Consequently, the risk is the pressure to meet these other targets and to subordinate the cultural mission (Loach, Griffiths, & Rowley, 2017). In addition, the Triple Bottom Line framework itself is criticized for being interpreted by companies solely as an accounting system, advancing only two of the three dimensions of sustainability (Elkington, 2018). Consequently, companies do not look at the effective goal of the Triple Bottom Line: changing the capitalism system by examining their success not only in term of profit and loss, but also in term of social, environmental and economic impact (Elkington, 2018). If non-cultural institutions struggle in implementing the three sustainable dimensions together in their managing and accounting systems (Elkington, 2018), even more hardly the cultural institutions will perform the Triple Bottom Line alongside their cultural mission, that implies the implementation of an additional sustainability pillar, the cultural one (Loach, Griffiths, & Rowley, 2017).

On the other hand, some scholars support the idea that the influence between cultural sustainability and the other three pillars of sustainability is mutual (Borza, Buiga, Ighian, Pop, & Toader, 2019). The measures for becoming economically, socially, and environmentally sustainable can contribute to the cultural mission and to sustainability (Loach, Griffiths, & Rowley, 2017; Cerquetti & Montella, 2021). While collecting resources for surviving, cultural institutions develop management strategies maximizing the economic, social, and cultural value for users and gains a competitive advantage from different stakeholders (e.g. Tourists, authorities, locals) (Borza, Buiga, Ighian, Pop, & Toader, 2019). This result in an activation of mutual positive consequences.

Libraries play a fundamental role in sustaining the cultural values and identity of a community, while enhancing cultural vitality especially in rural areas (Amberg, 2010). Rural libraries face the challenge to be sustainable while trying to survive with diminished

resources and providing a shared meaning, education and identity recognition to the community (Amberg, 2010). Digitisation of cultural heritage is recognized and accredited as a practical solution to preserve collective memories and social values, while extending the access to the collections (Borza, Buiga, Ighian, Pop, & Toader, 2019). However, digitisation process is still limited and dependent upon singular countries and institutions' decision (Borza, Buiga, Ighian, Pop, & Toader, 2019). The Council of the European Union have contributed significantly to this purpose through the European Digital Library 'Europeana' which aims at increasing the access to cultural heritage (Borza, Buiga, Ighian, Pop, & Toader, 2019).

Museums have gained a key role in shaping sustainable future due to their mission of collecting, preserving and researching cultural heritage and to use that heritage for social purposes (e.g. Education, study, enjoyment) (Borza, Buiga, Ighian, Pop, & Toader, 2019). Indeed, the fundamental task of museum is to preserve tangible and intangible heritage (Borza, Buiga, Ighian, Pop, & Toader, 2019). Museums honour in this sense the legacy of collections and of the past (Boukas, Christodoulou-Yerali, & Stylianou-Lambert, 2014). This narrow approach to cultural sustainability by museums ensures the transmission, safeguard and access to material and immaterial heritage for present and future generations (Boukas, Christodoulou-Yerali, & Stylianou-Lambert, 2014). Despite this bright interconnection of culture, sustainability and museums, researches focused on the actual aspects of museums in cultural sustainability are still limited (Boukas, Christodoulou-Yerali, & Stylianou-Lambert, 2014). A shared framework on the interaction between museum and sustainability is still missing (Boukas, Christodoulou-Yerali, & Stylianou-Lambert, 2014). Researches on cultural sustainability in museums still consider only auxiliary benefits (Loach, Griffiths, & Rowley, 2017) and museum management do not account for sustainable behaviours (Cerquetti & Montella, 2021). The cultural dimension in museums entails considerations regarding what is worth preserving and transmitting to future generations, which influence the future vision of the present (Boukas, Christodoulou-Yerali, & Stylianou-Lambert, 2014). Cultural sustainability asks to comprehend the heritage in an inclusive manner involving new audiences and promoting diversity and dialogue (Boukas, Christodoulou-Yerali, & Stylianou-Lambert, 2014). This former approach is defined as 'museum for sustainability' and entails how museum can influence the three pillars of sustainability being culturally sustainable (Borza & Pop, 2015). In this view, museum management promote sustainable

development with cultural sustainability and is linked to the influence of museums in quality of life and economic growth (Boukas, Christodoulou-Yerali, & Stylianou-Lambert, 2014).

While the effective cultural sustainability in museum should be reached with the approach of sustainability in museums (Boukas, Christodoulou-Yerali, & Stylianou-Lambert, 2014). This second approach investigates how social, economic and environmental sustainable measures, undergone by museums, contribute to their cultural mission and sustainability (Loach, Griffiths, & Rowley, 2017; Cerquetti & Montella, 2021). The three pillars of sustainability support the cultural sustainable development of museum and how museum management deals and contributes to cultural sustainable development (Borza & Pop, 2015). An econometric models discovered, for example, that the ability of museum to perform effectively, to be opened to the public, and to enhance heritage concur positively in achieving cultural sustainability within the institution (Gaio, Rosewall, & Wróblewski, 2019).

The two visions are not mutually exclusive and contradictory but should be seen as a framework generating mutual benefits in achieving cultural sustainability (Cerquetti & Montella, 2021).

Sustainability requires a long-term heritage management approach that understand the vulnerability and contextualize the heritage with values and experiences (Matero & Teutonico, 2003). Indeed, culture is considered context-specific, in spatial-temporal terms, and dynamic, in relation to perceptions and needs of the context of development (Hickey, 2004). The relevance given to localness of cultural heritage helps in maintaining coherence and continuity along the sustainable development trajectory (Al-Hindawi, 2003). At the same time, conservation of heritage should recognize the socio-economic developments and the evolutionary process of culture (Chiu, 2004). Indeed, heritage preservation deals with the effects of globalization and human mobility, which modify and make encounters between people and cultures (Hickey, 2004). The mobility of people and globalization effect the continuation and dynamicity of culture (Hickey, 2004). Art, in particular, is recognized as the most dynamic component of culture (Al-Hindawi, 2003). In addition, the dynamicity of culture expands the knowledge of cultural processes and explain easily artistic and conservation processes (Al-Hindawi, 2003). It permits the creation of material and symbolic richness (Al-Hindawi, 2003). Even though, related

economic growth guarantees the sustainability of cultural resources, more relevance should be given to non-economic achievements (Pilotti & Rinaldin, 2004). Non-economic results of cultural sustainability add new dimension to life quality bridging the past cultural heritage to the future (Pilotti & Rinaldin, 2004). This empowerment of cultural resources enriches nations and communities, strengthen sense of place and creativity and embedded knowledge (Pilotti & Rinaldin, 2004).

1.4.2 Cultural vitality

Even though cultural heritage preservation and conservation have a fundamental role in the fourth pillar of sustainability, cultural vitality is as well relevant (Borza, Buiga, Ighian, Pop, & Toader, 2019). Indeed, Hawkes considers cultural vitality as a fundamental dimension of the fourth pillar model concurring in creating a sustainable society based on social equity, environmental responsibility and economic viability (Hawkes, 2001). Cultural vitality gains an essential role in:

> providing a sense of belonging, shared meaning of recognition of identity, respect for society, creativity and education (Birkeland & Soini, 2014, p. 216).

Integrating cultural vitality in public program management creates a favourable framework for cultural priorities and expression (Hawkes, 2001). A set of core universal values in contemporary society derives from cultural vitality: participation, engagement, democracy, vitality, creativity, imagination and innovation (Hawkes, 2001). Artistic work and cultural vitality also play an essential role in reflecting on the current society, reinterpreting culture and developing a vision of the future (Bennett, Petocz, & Reid, 2014). Resulting from this, cultural vitality celebrates the past and motivate future generations to understand present cultural heritage (Bennett, Petocz, & Reid, 2014). Despite this, the majority of public initiatives still lack of incentivising public structures and programs that stimulates cultural vitality, but they persist in the critical exploitation of culture for socioeconomic aims (Hawkes, 2001).

Cultural vitality is express mainly by cultural activity usually actualized by vertical integration between diverse cultural production (Trimarchi, 2004). First, cultural heritage is itself a ground for a continual process of cultural remaking, in contrast to its static nature and solely purpose of protection (Auclair & Fairclough, 2015; Härkönen, Huhmarniemi, & Jokela, 2018). Built heritage became an input and a stage for live

performances and cultural activities, without violating its nature and identity (Trimarchi, 2004). This generates several cultural and financial benefits, a shift towards an active enjoyment and rielaboration of heritage in harmony with cultural sustainable development (Birkeland & Soini, 2014). The assurance of heritage preservation has to be certainly guaranteed for the transmission of heritage to future generation as well as for the appreciation of the cultural initiatives' context (Trimarchi, 2004). Live performances and artistic activities are studied also as reactivator of cultural vitality and support to sustainable development in remote regions (Härkönen, Huhmarniemi, & Jokela, 2018). A key role in cultural vitality of remote and rural areas is attributed by libraries (Amberg, 2010). Amberg discusses the relevance of libraries in strengthening the cultural vitality of rural communities and in supporting and promoting educational activities in a sustainable way (Amberg, 2010). The educational aspect of cultural vitality is much relevant and attributed mainly to educators (Härkönen, Huhmarniemi, & Jokela, 2018). In particular, much attention is given to informal manners of education embedded intrinsically and unintentionally in cultural vitality (e.g. when experiencing traditional skills vehiculated by contemporary art practices) (Härkönen, Huhmarniemi, & Jokela, 2018). Museum as well concur in advancing education and encouraging creativity as well as artistic vitality (Boukas, Christodoulou-Yerali, & Stylianou-Lambert, 2014). Indeed, the theoretical model by Boukas, Christodoulou-Yerali and Stylianou-Lambert the contributions of museum to a wider cultural sustainability framework, indicates creativity, innovation and artistic vitality as fundamental parameters for and responsibilities of museums (Boukas, Christodoulou-Yerali, & Stylianou-Lambert, 2014). Therefore, cultural sustainability in museums involves the preservation of cultural heritage and the promotion of cultural activities, which foster cultural vitality (Loach, Griffiths, & Rowley, 2017; Borza, Buiga, Ighian, Pop, & Toader, 2019).

Cultural vitality is explored also as embedded in creative processes. Not all artists address sustainability issues, although it is suggested to realize sustainable artistic performances and products (Polivtseva, 2024). Scholars suggest creating performances with longer lifespan, adaptable in different contexts, exploiting even transfer moments (e.g. performances during the time spent on boat or train) for engaging unexpected audiences (Polivtseva, 2024). Funding programs help in conveying a long-term sustainable vision and in designing a sustainable approach to the overall production of cultural performances or products (Polivtseva, 2024). Urban-based musicians implement this

approach through the encountering of different musical culture for developing a unique creative musical voice (Hess, 2010). Musical creolization refers to this hybridization of different musical cultures for actively shaping identities and influencing cultural vitality (Bennett, Petocz, & Reid, 2014). This hybridization of musical cultures is interpreted as a bridge between past and future musical cultures (Hess, 2010; Bennett, Petocz, & Reid, 2014). Similarly, street art expresses the artists' characteristics and critical view on contemporary issues providing to the locals a permanent cultural artistic activity (Crespi-Vallbona & Mascarilla-Miró, 2020). The aim of street art is not the enjoyment of tourists, but the characterization and embellishment of places and the stimulation of participation and vitality of the local population (Crespi-Vallbona & Mascarilla-Miró, 2020). In Barcelona and Naples, the open-air art marks a significant example of local renovation, identity and common spaces re-appropriation, which return to be contexts of exchange and inspiration in the everydayness of the population (Iovino, 2019; Crespi-Vallbona & Mascarilla-Miró, 2020).

1.4.3 Economic viability

Cultural sustainable development is linked to the concept of cultural capital (Throsby, 2017). Tangible and intangible cultural heritage are associated to cultural and economic values (Throsby, 2017). In economics, cultural heritage inherited from the past as well as cultural products created in the present contribute to the tangible and intangible cultural capital stock of a nation or community and interpreted as a valuable resource to be sustainably managed (Throsby, 2017). This valuable resource is considered relevant to be managed sustainably by the nation or the community because of its contribution to the overall economic development (Radavoi & Rayman-Bacchus, 2020). On the other hand, a Spanish survey revealed that the cultural sustainability of contemporary art galleries depends on economic environment conditions, which effects the international demand and stimulates to update business models for adapting the sustainable management (Gaio, Rosewall, & Wróblewski, 2019).

1.4.4 Cultural diversity

The fourth pillar of sustainability is explored also as the preservation of identities and cultural diversity. Some scholars propose an alternative sustainable development approach that priorities the preservation of cultural identity (Nurse, 2006). The preservation of diverse cultural identities became prominent in the discourse of cultural

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sustainable development predominantly in the developing countries (Kavaliku, 2005; Sahlins, 2005). Local traditional knowledge and culture are recognized as distinctive in the contemporary culture (Härkönen, Huhmarniemi, & Jokela, 2018). Cultural sustainable education highlights the framework of cultural diversity and local culture preservation (Laine, 2016). Indeed, art educators shall take into consideration individual cultural identity as central for the development of students (Clammer, 2014). Cultural sustainable education pursues to support societal cultural diversification and to create a framework for dialogue between different individual identities (Laine, 2016). This type of education is developed usually informal (e.g. rural villages, small communities) (Laine, 2016), in form of place-based or community-related education (Robinson, 2004; Laine, 2016).

While the preservation local cultural identity is considered fundamental for the enhancement of cultural diversity (Culture: Fourth Pillar of Sustainable Development, 2011), the dialogue between traditional and new cultures is gaining relevance within the sustainable cultural development (Robinson, 2004). The intercultural dialogue challenges the preservation of cultural diversity (Culture: Fourth Pillar of Sustainable Development, 2011). Local identities have to deal with homogenizing forces of globalization (Duxbury & Jeannotte, 2010). The perception of imbalances between different culture is the main risk encountered while preserving cultural diversity (Nurse, 2006). From decolonization process, there is still the perception that certain cultures are more valuable than others. Indeed, non-western cultures are still romanticized by western approaches, generating imbalances in the global cultural context (Nurse, 2006). On the other hand, a prosperous encounter between diverse cultures results in a process of constructiveness, which allow a respectful dialogue and diversity expression (Robinson, 2004). The process of constructiveness allows sociocultural evolution (Duxbury & Jeannotte, 2010), to live together without losing or being ashamed for personal identity and advance the development of different cultures (Duxbury & Jeannotte, 2012). Cultural diversity in the fourth pillar of sustainability is interpreted as a continual remaking process enhancing the transformative nature of cultures (Auclair & Fairclough, 2015). Some authors underline the relevance of the linguistic framework in this remaking process. Storytellers, creators and artists, creating cultural narratives and structures, support in shaping metaphors, understanding cultural diversity and enhancing dialogue between cultures (Duxbury & Jeannotte, 2012).

The safeguard effected by the remaking process of cultural diversity gains critical role when dealing with Indigenous cultures. Cultural sustainability supports the development of traditional Indigenous cultures and local idioms, embedded even in cultural products for tourism enhancement, as a reinforcement of local identity against homogenizing forces (Kong, 2009). The safeguard of cultural diversity should not generate a rejection of new external influences (Kong, 2009). The involvement of Indigenous communities within the management of cultural heritage safeguard cultural diversity, but can as well fade traditional culture (Aberdeen, Dyer, & Schuler, 2003) adding new elements and influences from the outside (Moowforth & Munt, 2003). Indigenous artists embodied a concrete example of safeguard and renovation of cultural diversity (Härkönen, Huhmarniemi, & Jokela, 2018). They are able to obtain relevant role in international artistic framework by adapting 'globalized' method or artistic practices (e.g. photography and video art) to their Indigenous and multi-ethnic contents (Härkönen, Huhmarniemi, & Jokela, 2018). They can enlighten traditional cultural diversity influenced by international forces, without losing its essence (Härkönen, Huhmarniemi, & Jokela, 2018).

Creative and cultural spaces concur in the safeguard and enhancement of cultural diversity. Museum, first, due to their educational function, transmit traditional values and encourages the development of cultures (Borza, Buiga, Ighian, Pop, & Toader, 2019). Top-down creation of creative spaces promote the projection of local populations towards a global citizenship (Kong, 2009). On the other hand, the risk of alienation and displacement of local cultural diversity is remarkably high and need to be sustainably managed (Kong, 2009). These concerns occurred in the state-led edifices of Shanghai Grand Theatre and Singapore's Esplanade-Theatres. After the emergence of the discouragement of cultural diversity development, these two institutions started to develop a more socially inclusive program and space for celebrating inclusion, differences and exchanges between cultures (Kong, 2009).

1.4.5 Locality

Culture in sustainability places the cultural perspective at the centre of international, national, regional and local development (Culture: Fourth Pillar of Sustainable Development, 2011). Culture is interpreted as the structuring background of society (Williams, 1985) shaping the behaviour of people and sustainable development (Nurse, 2006). Inevitably, considering culture at the core of sustainable development generate a

wide diversity in policy creation, which has stimulated the interest of many scholars (Nurse, 2006). Sustainability became fundamental in policy context in the late nineties, accompanied by concerns and critiques regarding the negligence and not considerations of the cultural field (Duxbury & Jeannotte, 2010). The movement 'culturally oriented sustainable urbanization' provided a valuable context of conversation and debates regarding the implementation of culture in sustainable urban development (Nadarajah & Yamamoto, 2007). Culture started to be interpreted as the tool of expression and production of values, meaning, aspiration and social purposes (Hawkes, 2001; Bianchini, 1995; Birkeland, 2007; 2008; Gleeson, 2008). This interpretation of culture clarified the connection between culture and planning, helped governments to evaluate the past and plan the future (Hawkes, 2001) and permitted a diversification of policy choices (Nurse, 2006). A wide range of potential benefits and issues radiate from considering cultural sustainability in policy creation and public planning discourse: «wellbeing, cohesion, capacity, engagement, belonging, distinctiveness» (Hawkes, 2001, p. 1). The theoretical model to address cultural sustainability in public planning suggests creating a comprehensive, accessible and flexible framework, to clarify objectives and strategic operations (Hawkes, 2001). Cultural sustainability in public planning has been traditionally approached through Cultural Policy development (Hawkes, 2001). Cultural policies developed in an overarching cultural framework, which does not collide against the development of specific cultural policies for singular area (e.g. performing art, heritage, education, libraries) (Hawkes, 2001).

Cultural planning paradigm, based on cultural sustainability, has gained a leading independent role in public governing and development (Kong, 2000; Mills, 2003). Cultural planning appeared, for the first time, in the United States in the late 1970s (Birkeland, 2008), and then in England in the late 1980s as a response to the weakness of traditional cultural policies (e.g. urban renewal, local economic development) (Birkeland, 2008). Practicing disconnected cultural policies revealed ruinous in many cases: cultural mega-projects on one hand attracted tourists and re-branded cities, on the other hand marginalized many districts and assigned few resources to cultural filed (Birkeland, 2008). Top-down approaches revealed to be insufficient in developing strategic local sustainable development (Barber, Goncz, Kleizen, & Skirke, 2007). While cultural planning framework started to address a sustainable development on the long-term by incorporating cultural sustainability in planning process, linking the global and local

contexts and stimulating the promotion of bottom-up initiatives (Barber, Goncz, Kleizen, & Skirke, 2007). The Kanazawa Initiative, an Asian research project, after reviewing the absence of cultural sustainability in city-planning literature, researched the place of culture in Asian cities sustainable development (Nadarajah & Yamamoto, 2007). Similarly, development policies of Small Island Developing States were analysed by applying the fourth pillar model looking for cultural sustainability (Nurse, 2006).

Some practical initiatives can be mentioned. In England, the Thames Gateway North Kent region promoted the Sustainable Culture, Sustainable Communities toolkit that gave suggestions to apply cultural sustainability into public planning (Duxbury & Jeannotte, 2010). In Canada, the federal government encouraged local authorities to integrate the fourth pillar approach into long-term planning when editing the Integrated Community Sustainability Plans (ICSPs) (Duxbury & Jeannotte, 2010; 2012). Liverpool European Capital of Culture 2008 was studied as an explanatory positive case to integrate mega cultural events into a long-term cultural sustainable development of cities and communities (Gaio, Rosewall, & Wróblewski, 2019).

Australian cultural experts and scholars, attesting the role of culture in people well-being, claimed for its inclusion in sustainable development in communities and cities (Duxbury & Jeannotte, 2010; 2012). In New Zealand, local authorities are responsible of cultural well-being of communities due to a Government's Act (Duxbury & Jeannotte, 2012). Parallel in Western countries, the role of cultural sustainability has been studied in term of culture-led regeneration (Bianchini, Greene, Landry, & Matarasso, 1996; Mercer, 2006; Young, 2008) community development and social cohesion (Chiu, 2004). A neighbourhood in Palermo in Italy welcomed theatre's opera project, which was located in restored building and composed by local inhabitants (Sabatini, 2019). Few cooperatives of young inhabitants have restored and re-opened churches, cultural places and museums in Rione Sanità, a degraded and, in the past, one of the most dangerous districts of Naples, generating a sustainable development of their own neighbourhood (Loffredo, 2013).

Cultural sustainable attest the fundamental need of people to participate and active cultural activity to save the past and create a sustainable future (Bennett, Petocz, & Reid, 2014). It became an asset for developing sustainable community (Bennett, Petocz, & Reid, 2014) recognizing the striving role of culture in community (Birkeland, 2008) and locally

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based sustainable development (Dalby, Doubleday, & Mackenzie, 2004). The active participation and the democratic recognition of aspirations of the communities (Birkeland, 2008) empower decisively the cultural sustainable actions more than top-down states' practices (Hawkes, 2001). Hawkes himself in outlining the Forth Pillar theory gave a significant role to community creativity and imagination in empowering culture in sustainable development (Hawkes, 2001; Birkeland, 2008). A critical and constructive listening and engagement of communities concur in generate cultural planning policies more effective and sustainable (Duxbury & Gillette, 2007; Birkeland, 2008). This approach enables to understand and express the deep personal connections and perspectives between individuals, communities and specific culture in artistic and cultural productions (Al-Hindawi, 2003). The localness and local capacity cultivation and enhancement become essential for cultural sustainable planning and development (Al-Hindawi, 2003; Gibson-Graham, 2003). Contextually variable cultural practices reversed the fictional participatory approaches that managed cultural resources without listening to local communities (Rhoades, 2006). An active and effective way to involve the human dimensions in cultural sustainability is to develop systems of deliberation and decision making, engaging and depending upon the expression and desires of communities (Robinson, 2004), and the interest to create a long-term relationship between the actors involved as investment for the future (Gaio, Rosewall, & Wróblewski, 2019). This approach permits a dynamic and evolving understanding of cultural dynamics (Duxbury & Gillette, 2007) in specific communities and geographical spaces (Dalby, Doubleday, & Mackenzie, 2004), transcending globalization or geopolitical changes (Dalby, Doubleday, & Mackenzie, 2004). Indeed, a continuous dialogue with communities allows the emergence of new discourses and expressions of needs (Duxbury & Jeannotte, 2012). Cultural sustainability automatically produces a sustainable community development (Duxbury & Gillette, 2007).

Indeed, some authors define the process directly as community sustainable cultural development. This process is considered a:

> community-building tool that promotes a sense of place, empowerment, and public participation [...] common values, principals, key elements, and dynamics, and can help inform emerging cultural sustainability models (Duxbury & Gillette, 2007, p. 8).

Community cultural development can be expressed by a significant range of activities that empowers communities by using artistic and cultural tools through a collaborative approach (Duxbury & Gillette, 2007). A list of key aspects of community cultural development is offered by Duxbury and Gillette:

> Focusing on arts-based solutions, [...] Involving policymakers in CCD planning, Forming and maintaining new social networks with organizations, groups, artists, and government, Creating and maintaining public spaces that draw people together, Supporting multiculturalism, Integrating local customs, crafts, and practices into education, Using arts and culture as a tool for regeneration and sustainability, Enhancing residents' ability to work and communicate with others, Building community identity and pride, Supporting positive community norms, such as cultural understanding and free expression, Improving human capital, skills, and creative abilities in communities, Increasing opportunities for individuals to become more involved in the arts, Contributing to the resiliency and sustainability of a community or people, Reducing delinquency in high-risk youth, Integrating the community into community art projects, Fostering trust between community residents (Duxbury & Gillette, 2007, p. 8).

1.4.6 Eco-cultural resilience and civilization

The last two storylines seem far culture in sustainability. However, some scholars identify meeting point between culture in sustainability and the relationship with the environment.

First, built heritage and landscape are interpreted as the environmental physical manifestations where a specific culture has developed (Vileniske, 2008). Therefore, the sustainable preservation and development of built heritage and landscape contributes to the physical, visual, social and cultural sustainability of the environment (Vileniske, 2008). In this perspective, cultural built heritage embodies a precious and unique resource (Lowenthal, 2006). Its cultural sustainable development preserves and enhances local identity and cohesion, cultural diversity, social viability, traditional values and mitigates the effects of cultural globalization (Vileniske, 2008). This cultural and environmental re-socialization (Dalby, Doubleday, & Mackenzie, 2004) emphasises the cultivation of local capacity and the re-interpretation of the local (Gibson-Graham, 2003).

Not simply because cultural sustainability reflects the identity of the place, but because it permits a renovated connection between lifestyles and environment (Rogoff, 2000). This approach results in contextually variable cultural practices, which allows to rethink new possibilities of context-related cultural sustainability (Dalby, Doubleday, & Mackenzie, 2004). Culturally diverse perspectives of the environment are not romanticised anymore but influences active processes of cultural local resources sustainability (Dalby, Doubleday, & Mackenzie, 2004). Sustainable eco-culture is understood as related to social learning and place-consciousness (Härkönen, Huhmarniemi, & Jokela, 2018).

A fundamental aspect of culture in sustainable development is the geo-cultural construct of development (Duxbury & Jeannotte, 2012). Geo-cultural construct supports the idea that culture effects the ecological context (Nurse, 2006). It is outlined as a key element of culture in sustainable development for reshaping the growth-oriented and profit-driven industrialization and for dealing with the loss of meaning, the alienation, the anxiety and the environmental destruction derived from the unscrupulous control and modification of nature (Nurse, 2006). Indeed, geo-cultural approach prioritizes ecological balance values and the utilization of environmental resources in awareness of the sustainable ecosystems use (Nurse, 2006).

1.5 Final considerations

The three roles of culture within sustainable development are presented as separate and independent one from each other. However, in practical term the distinction is not so definite (Dessein & Soini, 2016). The three integration ways of culture within sustainable development depends on circumstances and objectives and each one is relevant in particular contexts (Dessein, Fairclough, Horlings, & Soini, 2015). The three roles should not necessarily be considered in the sequence presented, and they do not follow a strict evolutionary path. Indeed, creating a connection between culture as, for and in sustainable development is apparently a tough challenge, even though it can be worthwhile for a better understating of the scientific discourse.

The literature review, first, suggests an historical evolution of the three approaches. When the concept of sustainability was introduced, culture started to be integrated as culture as sustainable development. The explanation of the emergence of this approach can be explained by the fact that the concept of sustainability itself, and the three starting pillars,

was barely created and, probably, in need of better clarification and understanding. Put even culture within sustainability could have created some bewilderment and much more difficulties, being also culture a concept sometimes difficult to be defined (Geertz, 1973; Williams, 1985). Culture for sustainability has been the second attempt to integrate culture, even though this approach, sometimes, resulted in a blurring of culture itself in favour of the other three aspects of sustainability contemporarily. As a reaction, culture in sustainability emerged and can also be seen as a claim of the power and values of culture in itself, standing and operating independently from other pillars.

A framework offering a jointly comprehension of and dialogue between the three representations is proposed by Dessein and Soini (2016). This framework identifies gradients related to the axes of inertia/dynamics and human/nature interface. Inertia/dynamics indicates a more stable to a more dynamic state of using culture within sustainability. The human/nature refers to the level of anthropocentric or ecological centric gradient condition (Dessein & Soini, 2016). Indeed, culture in the first two representations has to address certain specific goals as part of a specific role of sustainability. Otherwise, culture as sustainable development presents a constantly transformative ecological and holistic evolving process. The complexity is also reflected in the scientific articles, which extend from narrow towards transdisciplinary based research approaches (Dessein & Soini, 2016).
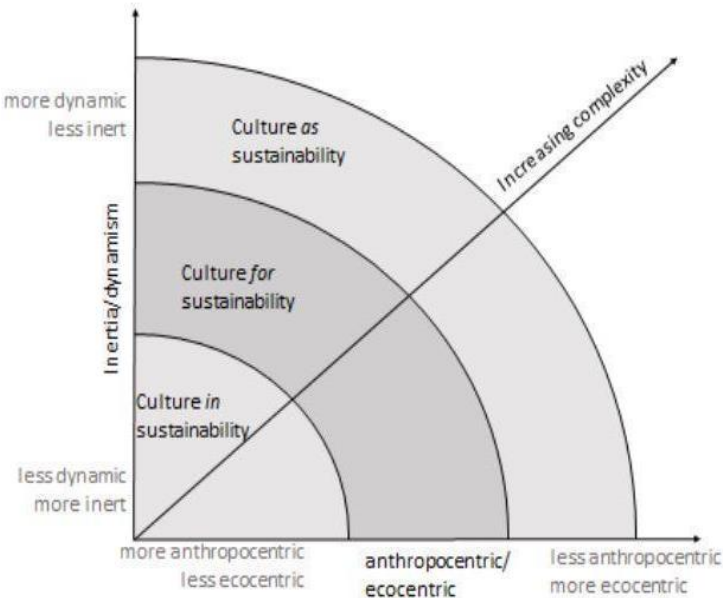

Figure 1 - Gradient framework for the three representations of culture in sustainability by Dessein and Soini (2016)

2. UNESCO and Sustainability

2.1 UNESCO initiatives on sustainability

Culture was explicitly mentioned for ensuring peace and justice in the post-World War II (Battaglini, Dessein, & Horlings, 2016). Alongside education and science, culture gained a fundamental role in a new emerging world, first in sense of safeguarding cultural expressions and human creativity (Battaglini, Dessein, & Horlings, 2016). UNESCO has been a fundamental actor in considering culture as an enabler and a prerequisite of sustainability (Roders & Van Oers, 2011) and in stimulating international public debates on sustainable development (Duxbury & Jeannotte, 2010). UNESCO has stressed in particular the importance of culture in developing context-related initiatives, in facing contemporary challenges, in developing effective policies and in managing the human-environment relationship for a sustainable development (Culture for the 2030 Agenda, 2018). As an integral part of its several normative tools for cultural heritage management, UNESCO has discussed and elaborated some conventions, guidelines, reports and operational guidelines to foster the sustainable conservation, use and impact of heritage in contemporary times (Van Oers, 2009).

UNESCO can be considered unquestionably a pioneer of sustainability discourse in global debates (Wiktor-Mach, 2020). In 1968, UNESCO organized the first conference regarding sustainable development and promoted in the 1970s the programme 'Man and the Biosphere' aiming at exploring the relationship between the humans and the environment (Wiktor-Mach, 2020). During this decade, during the General Conference of UNESCO in Paris in 1972, a fundamental revolutionary convention was adopted: the Convention concerning the protection of the world Cultural and Natural Heritage (1972). The art. 4 of the Convention attests:

> the duty of ensuring the identification, protection, conservation, presentation and transmission to future generations of the cultural and natural heritage (Convention concerning the protection of the world Cultural and Natural Heritage, 1972, p. 3).

UNESCO underlined the relevance of preserving the legacy of the past to be transmitted to future generations (Frey & Pamini, 2009), which is a fundamental aspect of sustainability definition. Indeed, the Brundtland Commission in 1987 asserted that sustainable development "meets the needs of the present without compromising the

ability of future generations to meet their own needs'' (Brundtland, 1987, p. 43). A key principle of the 1972 Convention is the active caretaking of outstanding interest heritage for the explicit aim of transmission to future generations (Roders & Van Oers, 2011). The World Heritage Conventions was the first international document to stress the sustainable preservation and transmission of cultural and natural heritage (Roders & Van Oers, 2011). Ten years after this Convention, in 1982 UNESCO decided to promoted the World Decade for Cultural Development (Piracha & Rana, 2007) starting in 1988 until 1997 (Vlassis, 2015; Throsby, 2017) for stimulating the debated around the role of culture in sustainable development (Duxbury & Jeannotte, 2010). During this decade, the World Commission on Culture and Development (WCCD), leaded by Javier Pérez de Cuéllar, was instituted (Wiktor-Mach, 2020). The WCCD believes firmly that «development without culture is growth without souls» (Our Creative Diversity, 1995, p. 15). The Commission published the report *Our Creative Diversity* in 1995 promoting the concept of a holistic human development, grounded on culture, with the desire of inserting more predominantly culture within the mainstream sustainable development debate (Throsby, 2017).

At the end of the World Decade for Cultural Development, the Director-General of UNESCO convoked the Stockholm Intergovernmental Conference on Cultural Policies on Development in 1998 (Wiktor-Mach, 2020). The Stockholm Conference claimed for a major effort in including culture in sustainable development and gave relevance on the importance of creating innovative cultural policies that deal with sustainable development strategies (Intergovernmental Conference on Cultural Policies for Development: final report, 1998). During the same year, the World Bank associated to UNESCO for reinforcing the inclusion of culture in in sustainable development (Culture in Sustainable Development: Investing in Cultural and Natural Endowments, 1998).

Despite the meaningful developments in the 1990s, the UNESCO Johannesburg summit in 2002 did not produce significant advances regarding the values brough by culture for a sustainable society (Duxbury & Jeannotte, 2010). Despite this summit, the beginning of the new millennium was inaugurated by three significant Conventions: the Universal Declaration on Cultural Diversity in 2001, Convention for the Safeguarding of the Intangible Cultural Heritage in 2003 and the Convention on the Protection and Promotion of the Diversity of Cultural Expressions in 2005. The Intangible Heritage Convention of

2003 is a cornerstone in attesting the relevance of intangible cultural heritage in the conservation and management discourse and in sustainable development global debates (Roders & Van Oers, 2011).

Global acknowledgment was granted to cultural diversity since the UNESCO Conventions of 2001 and 2005 (Universal Declaration on Cultural Diversity, 2001; Convention on the Protection and Promotion of the Diversity of Cultural Expressions, 2005). Since these two Conventions, cultural diversity and cultural equality has been emphasised in contemporary discourse (Roders & Van Oers, 2011). In particular, these Conventions have influenced cultural institutions and actors when dealing with globalizations' effects and sustainable development (Wiktor-Mach, 2020). The 2005 Convention addresses explicitly the role of culture in sustainable development (Roders & Van Oers, 2011). Subsequently, many other normative instruments have been published with the same focus by the International Council on Monuments and Sites (ICOMOS), governmental and non-governmental organisations harmonically (Roders & Van Oers, 2011).

Since the Stockholm summit in 1998, the International Congress *Culture: Key to Sustainable Development*, held in Hangzhou in 2013, was the first congress discussing exclusively the relationship between culture and sustainable development and inaugurated the UNESCO's Culture for Development Agenda (The Hangzhou Declaration: Placing Culture at the Heart of Sustainable Development Policies, 2013). The congress was significantly participated (500 participants from 82 countries), despite the absence of representatives from some key developed nations and the unsuccessful participation of the Global developed North in the Agenda (Vlassis, 2016), The congress published the *Hangzhou Declaration: Placing Culture at the Heart of Sustainable Development Policies* (2013) underling the aim of involving culture in sustainable development agenda and discussion. The 2013 Hangzhou Declaration detected culture's influence in economic development, social cohesion, poverty reduction and environmental protection (The Hangzhou Declaration: Placing Culture at the Heart of Sustainable Development Policies, 2013). The Hangzhou Congress stressed the importance of context and culture related sustainable development and claimed for innovative approaches that consider culture:

> as an 'enabler' (source of meanings, creativity) and as a 'driver' (as knowledge capital or a sector of activity) of sustainable development (Wiktor-Mach, 2020, p. 318).

In the same year, the Creative Economy Report, edited by Yudhishthir Raj Isar and co-published by UNESCO and UNDP, implemented the discourse on culture related to sustainable socio-economic development (Wiktor-Mach, 2020). The Creative Economy Report focused specifically on giving an economic point of view on the cultural discussion, considering especially the cultural and creative sector, for global and national policymakers (Wiktor-Mach, 2020). In 2014, the Florence Declaration on Culture, Creativity and Sustainable Development implemented the recommendations for the complete integration of culture within the UN Sustainable Development Agenda and strategies, claiming a socio-economic sustainable developed arising from people's needs and cultures (Florence Declaration: Culture, Creativity and Sustainable Development: Research, Innovation, Opportunities, 2014).
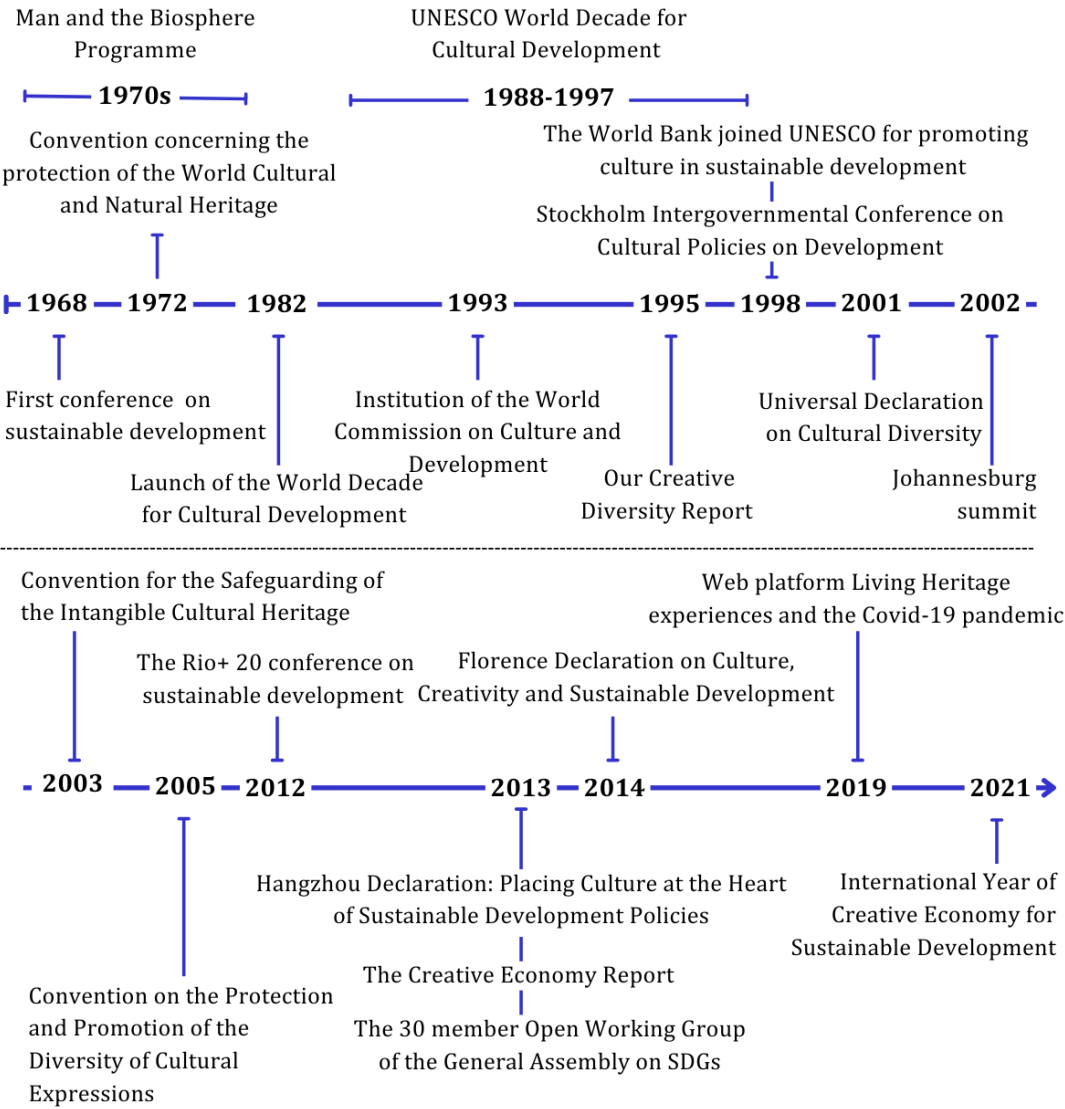

Figure 2 - Timeline of UNESCO initiatives on sustainability (Authoress' elaboration)

The Covid-19 pandemic decelerated UNESCO's efforts, which responded to the pandemic launching the web platform *Living Heritage experiences and the Covid-19 pandemic* for collecting experiences of resilience and recovery by cultural means (Living Heritage and the Covid-19 Pandemic: responding, recovering and building back for a better future, 2020). The trends revealed an increase attention towards environmental studies and related heritage and cultural production and towards traditional medicinal solutions (Ubertazzi, 2020).

A more recent initiatives by UNESCO was the announcement of the International Year of Creative Economy for Sustainable Development for enhancing the link between the economization of culture and sustainability (Building on the 2021 International Year of Creative Economy for Sustainable Development through consolidated action, 2021; Huttunen, 2024).

Despite the efforts and key role of UNESCO in promoting the inclusion of culture in the sustainability and sustainable development international discourses (Duxbury & Jeannotte, 2010), culture is still considered irrelevant in some international development contexts (Nurse, 2006).

The United Nations system did not give much consideration and space to culture in its major global conferences regarding sustainable development during the 1990s (e.g. Rio de Janeiro, Barbados, Cairo, Beijing, Copenhagen, Harare) (Duxbury & Jeannotte, 2010). And despite that it started to become clear that «the interrelationship between culture and sustainable development seems to be a matter of common sense» (Kavaliku, 2005, p. 24), mainly thanks to the subsequent efforts of UNESCO, at the Rio+20 Conference on Sustainable Development in 2012, the benefits, that cultural factors could have brought, were not even considered (Wiktor-Mach, 2020). The following year, the Open Working Group of the General Assembly on Sustainable Development Goals, participated by relevant stakeholders and experts in 2013, gave a slightly relevance to culture within Sustainable Development Goals formulation (Wiktor-Mach, 2020).

2.2 The World Heritage List

During the 1920s, several discussions were held and reports drafted concerning the increase of threat against the cultural and natural heritage (Frey & Steiner, 2011) . Despite

the growing awareness, the League of Nations did not undertake any concrete action (Frey, Pamini, & Steiner, 2011).

In 1959, UNESCO waged an international campaign of success for preserving the Abu Simbel temples in the Nile Valley (Frey & Pamini, 2009). Afterwards, in 1966, a similar operation was adopted to cope with the disastrous floods in Venice (Frey, Pamini, & Steiner, 2011; Frey & Steiner, 2011). As a result from these two international campaigns, the 17th session of the UNESCO General Conference, in Paris in November 1972, ratified the *Convention concerning the Protection of the World Cultural and Natural heritage* (1972). The UNESCO Convention became effective in 1977 ratified by twenty countries (Frey & Pamini, 2010; Frey & Steiner, 2011). Indeed, the intention is to represent equitably of the world's regions and cultures, even though no explicit means for this goal are cited (Frey, Pamini, & Steiner, 2011).

It is considered a pioneering convention for three fundamental reasons. Firstly, it was interpreted as truly universal treaty for heritage protection due to the large acceptance encountered since its introduction (Francioni, 2020). Secondly, the Convention was directed simultaneously to cultural and natural sites subjected to the same international targets of identification and protection (Francioni, 2020). Third, the concept of 'cultural property' was reconceptualized in the more dynamic, evolutionary and comprehensive notion of 'cultural heritage', that included intangible goods, living cultures and traditions in relation to the context of provenance and environment (Leone, Lo Piccolo, & Pizzuto, 2012; Francioni, 2020).

This ground-breaking Convention

> seeks to encourage the identification, protection and preservation of cultural and natural heritage around the world considered to be of outstanding value to humanity (Frey & Pamini, 2009, p. 1).

The Convention confirmed the innovative noble criterion of outstanding value to humanity (Convention concerning the protection of the world Cultural and Natural Heritage, 1972), that had emerged in the 1960 (Francioni, 2020), generating difficulties in understanding and defining (Frey & Pamini, 2010). The outstanding universal value underscores the preservation of heritage, representing an inheritance of the past, to transmit it to future generations (Frey & Pamini, 2009).

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The purpose of the Convention is addressed to the entire world to preserve and transmit a global common good that «reflects the wealth and diversity of the Earth's cultural and natural heritage» (Frey & Pamini, 2009, p. 1). In pursuing this aim, UNESCO provides expertise, knowledge and scientific support (Frey & Pamini, 2009). Beyond the preservation of the heritage, the Convention promotes also international peace, security and the quality-of-life improvement (Convention concerning the protection of the world Cultural and Natural Heritage, 1972). These objectives are pursued by the adoption of a unique international instrument, recognizing and protecting the heritage of outstanding universal value: the World Heritage List (Leone, Lo Piccolo, & Pizzuto, 2012).

The World Heritage List have become significantly popular and widespread (Frey, Pamini, & Steiner, 2011). It is considered «the most effective international legal instrument for the protection of the cultural and natural heritage» (Strasser, 2002, p. 215). The List not only represents a significant advancement in the preservation of heritage sites from an international and supra-government approach (Frey & Steiner, 2011), but also invests heritage sites as representatives of national identity and as attractions for cultural tourism (Frey, Pamini, & Steiner, 2011).

The number of Sites inscribed in the List has been steadily increasing. The World Heritage List in 2023 comprised 1199 Sites, 77% relate to culture, 19% to nature, and 3% mixed (World Heritage List Statistics).

At the beginning, it regarded only cultural heritage sites, but since 1968 natural heritage sites were included (Frey & Pamini, 2009). Then, since 1992, it felt necessary to safeguard even the signs of significant interactions between people and the natural environment under the category of cultural landscape (Operational Guidelines for the Implementation of the World Heritage Convention, 2008). Ten standard criteria for the management, presentation and promotion of World Heritage Sites were introduced especially because the difficulties often encountered in clearly proving the noble concept of outstanding value to humanity (Frey, Pamini, & Steiner, 2011). Six criteria refer to Cultural and the remaining four to Natural Heritage Sites (Frey & Pamini, 2010). In addition, a Site is defined 'mixed' when at least one cultural and one natural criterion are (Operational Guidelines for the Implementation of the World Heritage Convention, 2005). The first six criteria were introduced during in 1994 during the 18th session of the World Heritage Committee (Francioni, 2020). Then, some revisions occurred entailing a shift from artistic

criterion achievement to a more anthropological approach, which allows a significant consideration of human values, living cultures and cultural and natural heritage interaction (Francioni, 2020). The revisions consent the inclusion of new cultural properties not considered before (e.g. Cultural landscapes, ingenious waterways, water management systems, modern architecture, technological achievements, industrial heritage sites) (Francioni, 2020).[1]

Heritage sites can be included in the List if at least one criterion is met and the three comprehensive aspects are respected: uniqueness, historical authenticity and integrity (Frey & Steiner, 2011).

Three different bodies asses the inclusion in the List: the State Parties, two Advisory Boards and the World Heritage Committee (Frey, Pamini, & Steiner, 2011). The Sites to be included are proposed by each state party (Frey & Steiner, 2011), that proposes the 'tentative List', a cultural properties inventory that can potentially met the outstanding universal value (Francioni, 2020). Heritage experts, scholars and local authorities can make proposal for the tentative List (Frey, Pamini, & Steiner, 2011). Then, potential world heritage sites are officially candidates if the State submits the complete nomination document (Frey & Steiner, 2011). Article 3 of the Convention states that each State Party is responsible for identifying the properties and excludes any eventual ex-officio recognition by different territorial Sates or by UNESCO's department (Francioni, 2020). Even a plurality of Sates can submit a joined or shared nomination, when the site of interest entails more than one territory (Francioni, 2020).

The two Advisory Boards evaluate and propose the Sites for the inscription in the List (Frey & Steiner, 2011). The World Heritage Committee decides effectively for the inscription in the List, consulting the advisory boards (Francioni, 2020). The World Heritage Committee meets once a year and is composed of twenty-one representatives of member countries (Frey, Pamini, & Steiner, 2011). The General Assembly of the Convention's members elects the representatives every six years (Frey & Steiner, 2011). ensuring the fairest representation of different world regions, countries and culture (Francioni, 2020). This is a characteristic of the World Heritage Convention: the Committee are invested by all substantive powers, generally assigned to General

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[1] The ten criteria for the inscription in the World Heritage List are reported in Appendix I.

Assembly (Frey & Steiner, 2011). The International Council on Museums and Sites (ICOMOS) for Cultural sites, the International Union for Conservation of Nature (IUCN) for Natural sites and the International Centre for the Study of the Preservation and Restoration of Cultural Property (ICCROM) advise the Committee (Frey, Pamini, & Steiner, 2011). Specifically, ICOMOS counsels for Cultural sites and IUCN for Natural sites (Frey & Steiner, 2011).

The World Heritage Committee decides on the inscription in the List when at least two-thirds members majority are present and vote (Francioni, 2020). The result address four situation: the effective inscription of the nominated site, the non-inscription without the possibility of representation except few circumstances, the referral to the states for additional information re-evaluated and the deferral, which asks more profound evaluation or a complete nomination text (Operational Guidelines for the Implementation of the World Heritage Convention, 2005).

The Committee also administers formally the World Heritage List, the List of World Heritage in Danger and the World Heritage Fund, dedicated to eventual financial assistance to World Heritage Sites (Frey & Steiner, 2011). The World Heritage List in Danger the World Heritage in Danger includes properties, comprised in the List, requiring an implementation of safeguarding measures because of dangerous factors and events faced (e.g. accelerated deterioration, rapid urban or tourist development projects, destruction from change in use or ownership, eventual abandonment, armed conflict, calamities and cataclysms as fires, earthquakes or volcanic eruptions) (Francioni, 2020).

Administering the List means also that the Committee can realize positive or negative modification: the Committee decides upon new entries in as well as deletions from the List (Francioni, 2020). Indeed, the removal from the List is justified when the outstanding universal value and the criteria of uniqueness, historical authenticity and integrity are irreversibly ruined (Francioni, 2020).

In 2023, for example, the World Heritage List in Danger welcomed few sites due to armed conflicts: the Saint-Sophia Cathedral and Related Monastic Building in Kiev, Ukraine, the L'viv - Ensemble of the Historic Centre in Lviv Oblast, Ukraine, the Landmarks of the Ancient Kingdom of Saba on Marib, Yemen, the Rachid Karami International Fair in Tripoli, Libya, and the Historic Centre of Odes, Ukraine (World Heritage List Statistics).

While the Tombs of Buganda Kings at Kasubi in Uganda were removed from the World Heritage in Danger List thanks to the successful restoration of the Site, ruined by a violent fire in 2010 (Uganda's Tombs of the Kings of Buganda at Kasubi removed from the List of World Heritage in Danger, 2023).

2.3.1 The management of the World Heritage Sites

The World Heritage Committee, when considering the nominations, carefully evaluates the application of the management required for the Sites by the Operational Guidelines for the Implementation of the World Heritage Convention of 2005 (Badia & Donato, 2011). The Operational Guidelines state that:

> each nominated property should have an appropriate management plan or other documented management system which should specify how the outstanding universal value of a property should be preserved (Operational Guidelines for the Implementation of the World Heritage Convention, 2005, p. 26).

UNESCO requested initially the Management Plan only to the new candidates starting from the introduction of the Guidelines onwards and then make it compulsory even for the sites already inscribed (Badia & Donato, 2011). At the same time the World Heritage Committee have begun to emphasise the relevance of Management Plan as a requisite for the correct management and conservation of Sites and countermanded candidates without a serious Management Plan editing (Leone, Lo Piccolo, & Pizzuto, 2012).

Yet in 2002, the World Heritage Committee advocated for a proper and effective balance between a sustainable protection, preservation, management and development of the Sites, within the Budapest Declaration on World Heritage (The Budapest Declaration on World Heritage, 2002; Leone, Lo Piccolo, & Pizzuto, 2012). Indeed, the steadily development and implementation of the List (Badia & Donato, 2011), arising conflicts between Sites' preservation and development and negative practices derived from a lack of adequate management systems required a specific solution on management systems of the Sites (Leone, Lo Piccolo, & Pizzuto, 2012).

The Operational Guidelines supplied to this necessity and underlined that the Management Plan is the crucial document to «specify how the outstanding universal value of a property should be preserved» (Operational Guidelines for the Implementation of the World Heritage Convention, 2005, p. 26).

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Management Plans are based on the joined conservation and management of listed sites for their transmission to future generations (Leone, Lo Piccolo, & Pizzuto, 2012). As consequence, these documents should automatically apply the sustainability principle (Leone, Lo Piccolo, & Pizzuto, 2012). The managerial aspects are critically explored in relation to the management of the Site itself and to some recurrent arguments related to the Site (e.g. Urban centre management and planning, sustainable tourism enhancement) (Scimeni, 2013). The Management Plan has to meet specific requirements such as reconciling multiple stakeholders' needs, dealing with the processes of change, considering context-related values, balancing heritage conservation, accessibility, local community's interest and sustainable economic development (Scimeni, 2013). It is clear that Management Plan aims at preserving the heritage and integrate the protected goods within the relative socio-economic community (Solar, 2003).

Management Plans are composed generally by strategic aspects and operating features (Leone, Lo Piccolo, & Pizzuto, 2012). Indeed, a specific integrated analysis of the good is preliminary conducted to survey the current status, detect possible changes and foresee possible scenarios and relative interventions and impact on the related context (Leone, Lo Piccolo, & Pizzuto, 2012). The strategic contents facilitate the formulation of coherent action, to be incorporated within the annual work plan (Lyon, 2007).

The Operational Guidelines of 2005 outlines the specific contents and key element of the Management Plan:

> a) a thorough shared understanding of the property by all stakeholders; b) a cycle of planning, implementation, monitoring, evaluation and feedback; c) the involvement of partners and stakeholders; d) the allocation of necessary resources; e) capacity-building; and f) an accountable, transparent description of how the management system functions (Operational Guidelines for the Implementation of the World Heritage Convention, 2005, p. 26).

The Management Plan should be able to predict possible conflicts and related resolutory actions (Leone, Lo Piccolo, & Pizzuto, 2012). An interdisciplinary methodology is advanced to deal with topics complexity and to integrate the several subjects involved beyond the mere management (e.g. urban studies, architecture, restoration, archaeology, engineering, landscape studies, sociology, art history) (Badia & Donato, 2011). The

neglect of applications of the accorded management of the Site could led to the possibility of being removed from the List and deprived of the title by the Committee (Badia & Donato, 2011).

The specific requirements for drafting the Management Plan include even the disposal of a monitoring system on a regular basis for eventual update and modification (Scimeni, 2013). The monitoring ascertains the congruence and coherence between the actions envisaged in the Management Plan and the characteristic of the Site (Scimeni, 2013). A significant relevance should be given to the monitoring phase, which does not consist only in a data recording, but actively integrate the plan with possible corrective measures of eventual faults resulting from the complexity of phenomena and subjects related to the site (Scimeni, 2013).

The monitoring is based on indicators and goals, which facilitate the elaboration of coherent strategies and activities (Leone, Lo Piccolo, & Pizzuto, 2012). The system of goals and indicators supports the decision-making process by identifying optimization standards and suitable policies to be considered (Scimeni, 2013). They facilitate even the periodical valuative actions and reports, which are mandatory requested to all World Heritage Sites on the provisions of the Operational Guidelines (Operational Guidelines for the Implementation of the World Heritage Convention, 2005; Scimeni, 2013).

The UNESCO 2005 Operational Guidelines interchange the term 'management plan' and 'management system' (Operational Guidelines for the Implementation of the World Heritage Convention, 2005). Although, the two terms have two distinct and specific meanings and do not coincide. While the Management Plan is the documentary tool stating the management and monitoring approach to the Site (Ripp & Rodwell, 2017), with a formal definition of objectives (Badia & Donato, 2011), the management system is the continuous and dynamic processes dealing with the needs and opportunities from the related community and context (Ripp & Rodwell, 2017). It is a mechanism combining planning approach and operational perspective and determining the actions to undertake to pursue the objectives (Badia & Donato, 2011).

The Management Plan is integral part of the Nomination Text. The Nomination Dossier is a wider document depending on which the World Heritage Committee evaluated the candidate and composed by several chapters: identification and description of the site,

justification for registration, state of conservation and factors affecting the site, preservation, management and monitoring tools, eventual supplementary documentation and contact details of responsible authorities enrich by maps and context surveys (Scimeni, 2013). The Nomination Text has to be able to demonstrate the outstanding universal value of the property and the requirements of uniqueness, historical authenticity and integrity (Frey & Steiner, 2011).

Management Plans should establish an effective and impacting management model of natural and cultural heritage and address urban and economic planning sustainably developing the wider related area (Leone, Lo Piccolo, & Pizzuto, 2012). Consequently, a Management Plan enters in relation with several and different planning instruments and policies to preserve the values integrity of the World Heritage Sites, to enhance local communities and to involve many actors and stakeholders (Leone, Lo Piccolo, & Pizzuto, 2012). Each Management Plan depends on different planning systems and is developed by each country in the most coherent configuration for itself (Scimeni, 2013), which explains why the World Heritage Committee does not publish a specific documentary model (Pedersen, 2002). On an opposite view, the different and even contrasting configuration of Management Plan generates difficulties in eventual confrontation (Leone, Lo Piccolo, & Pizzuto, 2012).

2.3 Sustainable Development Goals

The 17 Sustainable Development Goals (SDGs), and the relative 169 targets, are considered «a major breakthrough in the mainstream international development» (Wiktor-Mach, 2020, p. 312).

The Millennium Development Goals (MDGs) were about to end in 2015 and in 2012 the United Nations decided to begin the development of a new agenda to replace and extend the former (Wiktor-Mach, 2020). Indeed, dealing with global issues has become more challenger than before and matters of a sustainable production and consumption have become predominant (Wiktor-Mach, 2020). After three years of negotiations and discussions between international, national and regional players, intergovernmental and governmental stakeholders, regional institutions, private and public sectors, and civil society (Mikalauskiene, Kiausiene, & Streimikiene, 2019), during the Sustainable Development Summit *Transforming our world* in 2015, the United Nations published

Transforming Our World: the 2030 Agenda for Sustainable Development (2015). The 2030 Agenda was adopted by the UN General Assembly and signed by the President of the Republic of Lithuania and 192 Heads of States and became operational in 2016 (Mikalauskiene, Kiausiene, & Streimikiene, 2019).

The United Nations described the 2030 Agenda as an action plan for people, planet and prosperity addressed to all world countries, regardless the level of development, for eradicating poverty, protecting the planet, strengthening universal peace and access to justice (Transforming our world: the 2030 Agenda for Sustainable Development, 2015). The 2030 Agenda advances an inclusive and ambitious sustainable development perspective, implementing the former human development paradigm (Wiktor-Mach, 2020), and asks to all the United Nations member to collaborate for a better and more equitable world (Transforming our world: the 2030 Agenda for Sustainable Development, 2015). The main objective is improving all the dimensions of sustainability in all world countries regardless the current development level (Miotto, Rodríguez, & Vila, 2021). Indeed, the objective is to rebalance a sustainable relationship between the economic development, natural resources and society well-being and to resolve poverty and to implement environmental protection (Miotto, Rodríguez, & Vila, 2021). These ambitious goals are achievable only by involving a wide stakeholder group, identified in territorial actors, local and regional governments, private and financial sector, knowledge and education system and the whole civil society (Miotto, Rodríguez, & Vila, 2021).

The 2030 Agenda is considered more ambitious than the Millennium Development Goals and encompasses more issues (Mikalauskiene, Kiausiene, & Streimikiene, 2019). Despite this, it outlined 17 Sustainable Development Goals inspired by the success of Millennium Development Goals and addressed further issues like climate change, sustainable urban transformations or growing inequalities resolutions (Wiktor-Mach, 2020).

The 17 Sustainable Development Goals (SDGs) are organized around five dimensions: People, Planet, Prosperity, Partnership and Peace (Transforming our world: the 2030 Agenda for Sustainable Development, 2015). The first three (People, Planet, Prosperity) are identified as the Triple Bottom Line or 3Ps delineated for sustainable development pillars (Miotto, Rodríguez, & Vila, 2021). Then, the last two dimensions (Partnership, Peace) were integrated: Partnership strengthens stakeholders' collaboration, Peace enlarges the Triple Bottom Line (Miotto, Rodríguez, & Vila, 2021).

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The seventeen development trends are also associated to 169 specific and integrated goals and 230 indicators covering the economic, social and environmental dimensions of Sustainable Development (Mikalauskiene, Kiausiene, & Streimikiene, 2019; Miotto, Rodríguez, & Vila, 2021).

Figure 3 - The 17 Sustainable Development Goals from the Agenda 2030

The system of Sustainable Development Goals and relative indicators aimed at effectively and materially reversing contemporary negative development global trends (Managi, Kanie, Kauffman, Saito, & Takeuchi, 2017). They have several potentialities: fostering the multidimensionality of development, supplying integrated contents to sustainable development, proposing a universal strategy, stimulating citizenship political conscience (Miotto, Rodríguez, & Vila, 2021). Some risks occur as well: the risk of a reductionist sectorial vision towards a more complex reality, of difficulties in evaluating the contribution of each country and of considering only quantitative aspects of development (Managi, Kanie, Kauffman, Saito, & Takeuchi, 2017).

2.3.1 The missing place of culture

Millenium Development Goals neither cited culture and, from UNESCO and several other actors, culture still missed its place even in 2030 Agenda (Wiktor-Mach, 2020). Several scholars have underlined the loss of opportunities in giving a limited space to culture in Sustainable Development Goals (Miotto, Rodríguez, & Vila, 2021). Indeed, Sustainable Development Goals focuses mainly on the environmental and economic dimensions of sustainable development while avoiding the possible benefits associated to culture (Throsby, 2017).

As a result, some crucial initiatives were undertaken. For example, between 2013 and 2015, the global campaign *The Future We Want includes Culture* was promoted by a wide cultural network (IFACCA, IFCCD, United Cities and Local Governments, UCLG, Culture Action Europe, Arterial Network, IMC – International Music Council, ICOMOS, IFLA and Red Latinoamericana de Arte para la Transformación Social) (Wiktor-Mach, 2020). This initiative published the *Declaration on the Inclusion of Culture in the Sustainable Development Goals* signed by nine hundred organisations and around 2500 individuals (Wiktor-Mach, 2020). The Declaration was conceived as a manifesto for including culture within the 2030 Agenda, proposed some possible indicators to be implemented in the Sustainable Development Goals and provided case studies of culture effecting the objectives of the 2030 Agenda (Declaration on the inclusion of culture in the Sustainable Development Goals, 2014). In parallel, UNESCO defined the *Culture and Development Indicators Suite*, composed by twenty-two thematic indicators, to monitor and examine the implementation course of culture in the Sustainable Development Goals (Thematic Indicators for Culture in the 2030 Agenda, 2019). As a matter of fact, from UNESCO perspective:

> the 2030 Agenda has opened up new avenues to integrate culture into policies for social and economic inclusion and environmental sustainability with innovative solutions (Culture for the 2030 Agenda, 2018).

But, at the same time, UNESCO recognized the need to ensure a more predominant role of culture in the Post-2015 Development Agenda, prompted a wider reconcilement and effective operationalization of culture in the development agendas (Culture and Sustainable Development in the Post-2015 Development Agenda, 2014).

Although none of the Sustainable Development Goals are exclusively focused on culture, culture is introduced within more generalized concepts among distinguished Goals (e.g. as component of education, as heritage and locality protection) and in a fragmented way (Mikalauskiene, Kiausiene, & Streimikiene, 2019). Culture can be retraced in Goal 2 - Food security in term of employment of traditional knowledge and practices that generates benefits by preserving seeds genetic diversity (The 17 Goals, 2015). Goal 4 – Education aims at implementing education for fostering the culture of peace and the respect of cultural diversity (The 17 Goals, 2015). Goal 8 - economic growth promotes policies on creativity and innovation and on job creation in the tourism industry, which promotes

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local cultures and products, which is underlined even in Goal 12 - Sustainable consumption and production patterns in term of monitoring the impacts of sustainable tourism (The 17 Goals, 2015). Goal 11 – Sustainable cities put efforts on cultural and natural heritage protection (The 17 Goals, 2015).
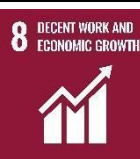
Goal	Target
2 ZERO HUNGER	5. By 2020, maintain the genetic diversity of seeds, cultivated plants and farmed and domesticated animals and their related wild species, including through soundly managed and diversified seed and plant banks at the national, regional and international levels, and promote access to and fair and equitable sharing of benefits arising from the utilization of genetic resources and associated traditional knowledge, as internationally agreed.
4 QUALITY EDUCATION	7. By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture's contribution to sustainable development.
8 DECENT WORK AND ECONOMIC GROWTH	3. Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalization and growth of micro-, small- and medium-sized enterprises, including through access to financial services.
11 SUSTAINABLE CITIES AND COMMUNITIES	4. Strengthen efforts to protect and safeguard the world's cultural and natural heritage.
12 RESPONSIBLE CONSUMPTION AND PRODUCTION	b. Develop and implement tools to monitor sustainable development impacts for sustainable tourism that creates jobs and promotes local culture and products.

Table 3 - Sustainable Development Goals and Targets relatable to culture (The 17 Goals, 2015; authoress' elaboration)

PART II - PRACTICAL RESEARCH

3. Sustainability reporting in UNESCO World Heritage Sites' Management Plans

3.1 Research framework

3.1.1 Purpose

This report investigates how and to what extent the sustainability discourse, in the form of Sustainable Development Goals, is currently included in the Management Plans of UNESCO World Heritage Sites. Acknowledged the missing link of the contribution of cultural institutions to sustainable development, understanding the involvement of Sustainable Development Goals within World Heritage Sites' Management Plan seems the proper starting context for two main reasons (Donelli, Lusiani, & Mio, 2023).

Firstly, the nomination to be inscribed in the List requires the site to be used, preserved, and implemented sustainably (Loulanski, 2006; Donelli, Lusiani, & Mio, 2023). Indeed, the governance has to involve the local community in the management system and to preserve the structure of the site and the local knowledge for future generations (Policy for the integration of a sustainable development perspective into the processes of the World Heritage Convention, 2015; Donelli, Lusiani, & Mio, 2023). The 1972 Convention on the Protection of the World Cultural and Natural Heritage is interpreted as one of the first international conventions to address the UNESCO's aspiration to foster sustainable development (Policy for the integration of a sustainable development perspective into the processes of the World Heritage Convention, 2015). Indeed, article 4 of the Convention attests

> the duty of ensuring the identification, protection, conservation, presentation and transmission to future generations of the cultural and natural heritage (Convention concerning the protection of the world Cultural and Natural Heritage, 1972, p. 3).

The World Heritage List is generally detected as an excellent tool for preserving heritage (Frey, Pamini, & Steiner, 2011). The preservation of heritage has the sided aim of transmitting inheritance from the past to future generations, which is a fundamental definitional aspect of sustainability (Brundtland, 1987). The protection and transmission

of cultural and natural heritage concur in strengthening sustainability for the World Heritage Sites itself but, by appropriate means, should incorporate even the sustainable development of the related community and context (Policy for the integration of a sustainable development perspective into the processes of the World Heritage Convention, 2015). Indeed, Sites' management systems, able to integrate economic, social, environmental and cultural sustainability, attest to be more successful (Ripp & Rodwell, 2017). Implementing sustainability in World Heritage Sites has been further disclosed. In 2002, the Budapest Declaration stressed that:

> States Parties should [...] ensure an appropriate and equitable balance between conservation, sustainability and development, so that World Heritage properties can be protected while the quality of life of our communities is improved, through appropriate activities (The Budapest Declaration on World Heritage, 2002, p. 4).

This Declaration implements the managerial approach to Worl Heritage Sites and invites the member states to balance the aspects of preservation, sustainability and development (Leone, Lo Piccolo, & Pizzuto, 2012). The relevance of World Heritage Sites in sustainable development is even indirectly confirmed by the 2030 Agenda (Policy for the integration of a sustainable development perspective into the processes of the World Heritage Convention, 2015). The Goal 11, target 4 pretend to «strengthen efforts to protect and safeguard the world's cultural and natural heritage» (The 17 Goals, 2015).

Secondly, and consequently to the first evidence, the Management Plans should be updated and implemented on a regular basis to foster and adapt sustainability to eventual environmental modification. This results in an unintentional amplification, exploration and exemplification of Sustainable Development Goals at the organizational level. (Donelli, Lusiani, & Mio, 2023). The 2005 Operational Guidelines stated that the Management Plan has to go through:

> a cycle of planning, implementation, monitoring, evaluation and feedback [and that] States Parties are responsible for implementing effective management activities for a World Heritage property (Operational Guidelines for the Implementation of the World Heritage Convention, 2005, p. 26-27).

In 2008, UNESCO reiterated this principle by stating that an effective Management Plans long term and daily actions creating a continuous monitoring, evaluator and feedbacks

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generation cycle (Operational Guidelines for the Implementation of the World Heritage Convention, 2008). A control system should check the effective application of the strategies described in the Management Plan and the meeting of objectives on a regular basis (Badia & Donato, 2011). The systematic assessment and data collection reinforce the management system, balance the protection of the Sites with sustainable development objectives and the needs of the society, arrange additional frameworks for implementing the environmental, social, economic and cultural impact (Policy for the integration of a sustainable development perspective into the processes of the World Heritage Convention, 2015). The monitoring phase should gain relevance because it allows to consider integrative and additional actions and to recognize eventual evaluation mistake, very likely to happen due to the complexity of the sustainable development objectives related to the real context of actions (Scimeni, 2013). Implementing the Management Plan with specific indicators facilitates the monitoring system and the periodic report editing (Scimeni, 2013). The process of Management Plan drafting and recurring revision advance the World Heritage Sites as standard setter of best practices and innovative models of sustainability application in cultural institutions (Policy for the integration of a sustainable development perspective into the processes of the World Heritage Convention, 2015).

Despite the UNESCO's guidelines and the theoretical attention towards the benefits of updating Management Plans, there are evidence that the periodical revision of Management Plans is not widely performed on a regular basis, even though there are still not researches regarding this topic.

The quantitative and qualitative analysis seeks to systematically map the involvement of sustainability and Sustainable Development Goals within a sample of Management Plans of UNESCO World Heritage Sites. This former research tries to understand the relevance and the structure of sustainable discourse within the Management Plans, in term of general discourse and Sustainable Development Goals.

3.1.2 Methodology

The quantitative analysis of Management Plans is developed with the method of content analysis by Krippendorff. Content analysis is:

> [an] analysis of the manifest and latent content of a body of communicated material [...] through classification, tabulation, and evaluation of its key symbols and themes in order to ascertain its meaning and probable effect (Krippendorff, 2004, p. XVII).

It is an empirical method that helps in examining the Management Plan documents to understand what information are conveyed. The purpose is to create a systematic framework to categorize the information of the Management Plans. Indeed, the contexts, the actors, the contents and the instruments concurring in Management Plans editing are significantly different (Leone, Lo Piccolo, & Pizzuto, 2012; Donelli, Lusiani, & Mio, 2023). Nevertheless, information are comparable, but require to adopt standards to organize and create a dialogue between the various contexts.

The content analysis of Management Plans is text-driven, due to the nature and richness of the data available, and problem-driven, because it pursues to understand the involvement of sustainability and Sustainable Development Goals with a systematic reading of Management Plans, which can clarify this issue.

The quantitative analysis is developed by applying a normalization formula, to scale the results in a 0-1 range[2], that permits to intersect content analysis results with the qualitative aspects of the UNESCO World Heritage Site

3.1.3 Design

The research is designed adopting 11 criteria and 23 related standard categories for discerning the Management Plans, implemented by a brief description of each UNESCO World Heritage Site.

The first three categories are fundamental to outline the effective sample of UNESCO World Heritage Sites: the year of inscription in the list, the presence and the editing year of the Management Plan.

The resulting sample of UNESCO World Heritage Sites is explored by geographical location, heritage typology, UNESCO's categorization and sites typology. The geographical location is divided into continent and region columns. Four comprehensive heritage

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[2] The outcome R, that has a value comprised between 0 and 1, result from the formula $R_{(0-1)} = \frac{X - Xmin}{Xmax - Xmin}$, where x represents the number of words resulted from the content analysis.

typologies are identified - archaeological, cultural, landscape, monument – which, in some cases, are enriched by specification (e.g. Natural landscape, memorial site monument).

Cultural, natural or mixed are the three official classes of the UNESCO World Heritage List, which can be associated to the specification of 'in danger'. Then, the site typology refers to the seriality or transnationality of the UNESCO World Heritage Sites.

> [A serial inscription:] consists of two or more areas which are physically unconnected but related, for example because they belong to the same geological or geomorphologic formation, biogeographic province or ecosystem type, and which together are of OUV; such value would not necessarily exist if its component parts were considered individually (Serial Inscription/serial properties).

> [A transnational nomination consists in:] a serial nomination of properties located in the territory of different States Parties, which need not be contiguous and which are nominated with the consent of all States Parties concerned (Policy Compendium).

The management system is explored by managing entity or entities, with the relative description and governance. Managing entity or entities category refers to authority in charge of conducting the day-to-day activities. The managing entity or entities can be classified as ad hoc, when the authority is appointed on purpose; public, when the managing entity depends directly from public institutions (e.g. The State, the Region or the Municipality); private, when the authority is subject to a private institution (e.g. University); or religious, when the authority is related to a religious reality (e.g. The Church, confraternity); mixed, when the Site is jointly managed by a public and a private or private religious institutions. The governance refers to the official 'owner(s)' or legal representative(s) of the site (e.g. Municipalities, the national government). In some cases, the managing entity or entities and the governance could coincide.

The following categories focus on the Management Plan document: language, length and editors of the file. The ending standards investigate the sustainability discourse: the word counts of sustainability, sustainable, sustainable development and sustainable management. These word counts are followed by the category outlining the presence of a section and of monitoring indicators dedicated exclusively to sustainability. The last column detects the explicit presence of Sustainable Development Goals.

Criteria	Description	Related categories	Notes
Inscription year	Year of inscription of the Site in the World Heritage List		
Document: Management Plan	Presence or absence of the Management Plan of the Site		
Editing year	Year of publication of the Management Plan		
Geographical location	Geographical and political location of belonging	Continent	Mainland of belonging
		Region	Territorial State of belonging
Heritage typology	Categorization of the Site's typology deduced from the description	Archaeological, Cultural, Landscape, Monument	Each category is enriched by specification
UNESCO's category	Official categorization of the Site in the World Heritage List	Cultural, Natural, Mixed	The 'In danger' specification is explicated attached to the category
Site's typology	Supplementary specification occurring in some specific World Heritage Sites	Seriality	The Site property includes more areas interconnected, but geographically distant
		Transnationality	The boundaries of the Site cover more than one territorial State
Management system	Managers and holders of the Site, which can coincide	Governance	General legal authority(ies) or representative(s) responsible of the Site
		Managing entity	Athority(ies) responsible of the daily management and life of the Site
Management plan	Objective characteristic of the document	Language(s)	
		Length in number of pages	
		Editor(s) and writer(s)	
Sustainability discourse	Investigation of sustainability discourse presence in the Management Plan	Sustainability	Objective word count
		Sustainable	
		Sustainable Development	
		Sustainable Management	
		Sustainability section	Objective count and title(s) explicitation
		Monitoring indicator(s)	Objective count and explication
Sustainable Development Goals	Explicit presence of Sustainable Development Goals	Objective count and explication of the Sustainable Development Goals present	

Table 4 - Criteria adopted (Authoress' elaboration)

3.1.4 The sample

The UNESCO World Heritage Sites considered for this research are the sites inscribed on the List from 2017 to 2023. Sustainable Development Goals were adopted in 2015 by 193 countries (Transforming our world: the 2030 Agenda for Sustainable Development, 2015). Accordingly, only Management Plans written after 2015 could be enriched by Sustainable Development Goals. The 2017 is chosen as representative year for the possible effective integration of Sustainable Development Goals within strategic planning of the UNESCO World Heritage Sites (Donelli, Lusiani, & Mio, 2023).
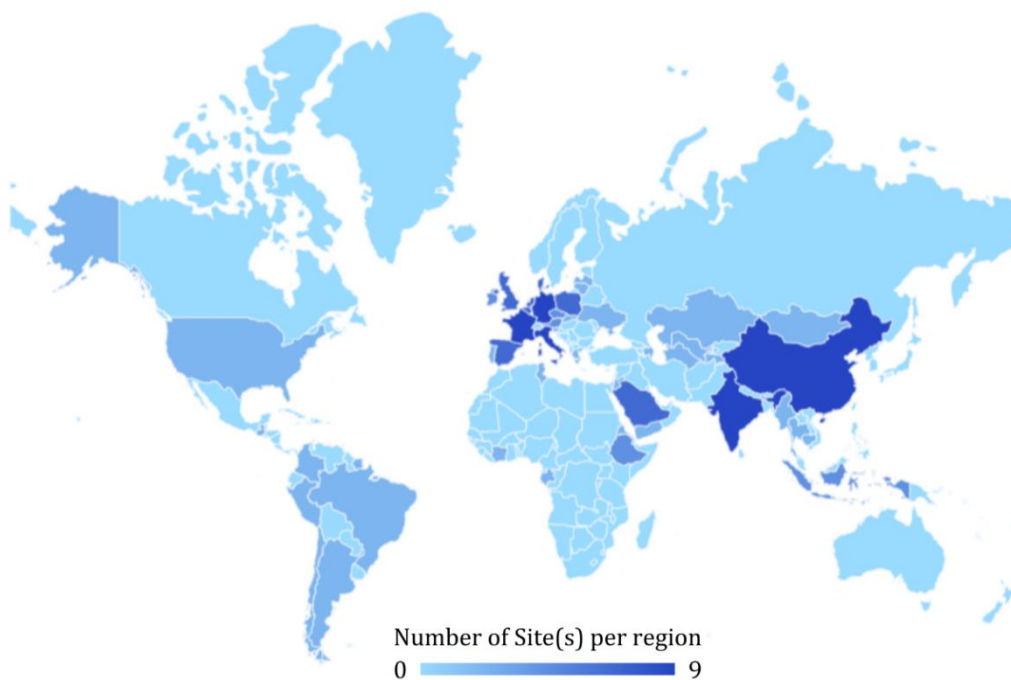
Figure 4 - Number of World Heritage Site(s), included in the sample, per region (Authoress' elaboration)

The UNESCO World Heritage Sites inscribed in the List since 2017 are 148. The UNESCO World Heritage Sites included within the sample are 102. The missing Sites are excluded for two main reasons: the absence of the Management Plan and the editing year dated before 2017. Only the Management Plans of the Archaeological Ruins of Liangzhu City, in China, and of the Historic Centre of Sheki with the Khan's Palace, in Azerbaijan, are excluded because it is not possible to make an accurate analysis of the documents.[3]

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[3] The two Management Plans are not PDF OCR files and it resulted impossible to contact the responsible authorities.

The 102 UNESCO World Heritage Sites are mostly cultural or natural landscapes located in Asia and Europe. The highest number of new inscriptions during the years considered locates in Germany (8 new sites enlisted), 6 new sites in Italy and Türkiye, 5 in China and India.

The number of UNESCO World Heritage Sites inscribed within the list for each year considered is hugely variable. From 2017 to 2019 an average of 11 sites were inscribed in the List. Then since 2020 an interesting pattern have gained relevance: no sites were enlisted in 2020 and in 2022, whereas 29 and 40 sites were inscribed respectively in 2021 and in 2023. The absence of World Heritage Sites inscription in 2020 is easily ascribable to the emergence of Covid-19, while the case of 2022 should be investigated by further research.

The majority of the World Heritage Sites considered is identified by UNESCO official categories as cultural, whose only two are in danger. Only few sites are transnational, while near one half (45 sites) are serial properties. The ad-hoc public and public are the prevailing management systems.

Almost all the Management Plans are in English language, some of whom published also in the local language. A discrete number of Management Plans is edited exclusively in French. Indeed, UNESCO official guidelines for Management Plans admit three official languages: English, French and Spanish. The average length of the documents is 213 pages, but the differing length of the documents is significantly wide: the shortest is composed by 10 pages, for the Ancient Jericho/Tell es-Sultan in State of Palestine, while 1710 is the page number of the longest Management Plan for the Chankillo Archaeoastronomical Complex in Peru.

Appendix II offers an overview of the features of the sample for each criterium.

3.2 Discussion

Every World Heritage Sites in the sample presents at least one word from the set considered for once, 56 Management Plans present at least one section dedicated to sustainability, 24 World Heritage Sites from the sample appoints at least one indicator related to sustainability and 10 Management Plans introduce at least one Sustainable Development Goal.
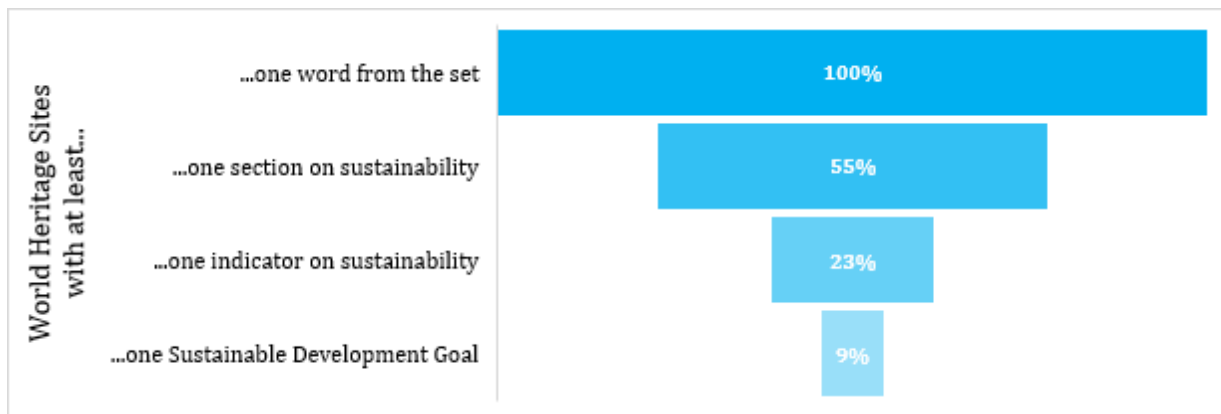
Figure 5 - Integration of words, section, indicator and Sustainable Development Goals among the sample of World Heritage Sites

Focusing on the word counts, it seems to reveal a predominance of Management Plans with quotation relative to sustainability realm words.
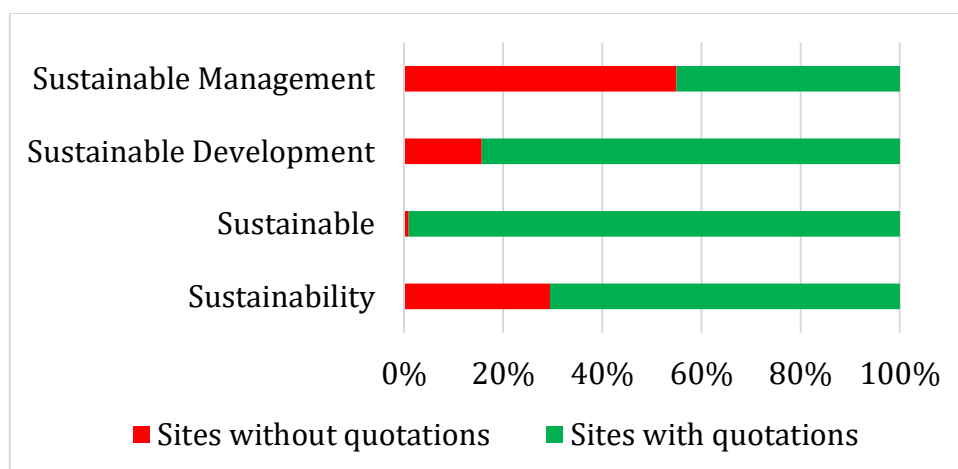
Figure 6 - Relation between World Heritage Sites with or without quotations (Authoress' elaboration)

Figure 6 demonstrates that the Management Plans, presenting at least once the words 'Sustainable development', 'Sustainability' or 'Sustainable', are greater than the Management Plans without any quotation. Indeed, 'Sustainability' is present in 72 and 'Sustainable development' in 86 Management Plans out of 102. The words count 'Sustainable' is undoubtedly the most excellent case, because the Deer Stone Monuments and Related Bronze Age Sites in Mongolia is the unique site without any reference to 'sustainable'. Despite this, it quotes the term 'sustainability' twice: the first time referring to environmental sustainability developed as forests, grazing lands, soil and water preservation, desertification and soil erosion mitigation, wildfire prevention and reforestation; the second time to social and culture sustainability in terms of traditional

nomadic lifestyle and habits preservation (Management Plan of the Deer Stone Monuments and Related Bronze Age Sites in Mongolia, 2022).

This general overview of the Management Plans with quotations related to sustainability realm words could predict a significant integration of sustainability within World Heritage Sites' management. Nevertheless, a more focused view on the Management Plans with quotations reveal the effective usage of these words.

First of all, a wide gap of repetitions of words characterizes the set of Management Plans with quotations. As figure 7 represents, the most of Management Plans with quotations presents the words considered less than 10 times.
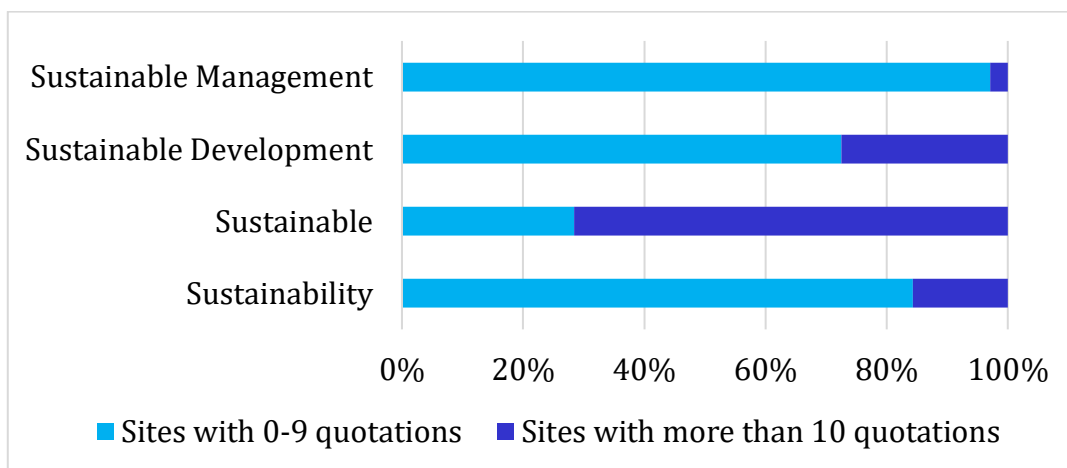
Figure 7 - Percentage of Sites with 0-9 or more than 10 quotations (Authoress' elaboration)

This means that even though a Management Plan cites the words considered and is part of sample of the Management Plans with quotations, it does not mean that it considers sustainability fundamental in its managing activities. Indeed, 99, 74 and 86 over 102 Management Plans use, correspondingly, the words 'sustainable management 'sustainability' or 'sustainable development' from 0 to 9 times. The repetitions of these word less than 10 times do not denote a wide integration of sustainability within Management Plans at this stage of the research. Consequently, the sample is composed even by Management Plans with at least one quotation for each word. Indeed, in several cases these words compare only one time within a Management Plans. An explanatory case is the Site ESMA Museum and Site of Memory in Argentina, which cite 'sustainable' only once in general terms among the mission of the managerial activity and do not propose any effective activity for sustainability. Similarly, the Site Dholavira: a Harappan

City World Heritage in India quotes 'sustainable development' once, in relation to tourism concerns, but does not implement the discourse with a dedicated paragraph or indicator.

On the other hand, 'sustainability and 'sustainable development' are characterized by an uneven breakdown. Several Management Plans with restricted number of repetitions are accompanied by a few very excellent cases. Within the Management Plans with at least one reference to 'sustainability', the management plan of the Site Paseo del Prado and Buen Retiro, a landscape of Arts and Sciences in Spain repeats the word more than 50 times. Similarly, the Management Plans of the Petroglyphs of Lake Onega and the White Sea Site in Russian Federation and of the Bagan Site in Myanmar presents 'sustainable development' word more than 70 times. These few excellent cases suggest a more significative integration of sustainability and an effective effort to include sustainable development issues within the management of World Heritage Sites.

'Sustainable' word requires a different discourse. It is the unique case where the Management Plans with a considerable number of quotations (more than 10) significantly exceed the documents with lesser quotation. In addition, only one Management Plan among these cites 'sustainable' once and, at the same time, 'sustainable' recurs more than 100 times in 5 management plans, within which the document of the Bagan Site in Myanmar utilizes the word 235 time. Despite these data are promising, they should be critically viewed because, being an adjective, 'sustainable' is the most adaptable word among the words considered. As consequence, it could be easily used as a decorative word losing its intrinsic sense. The Site Sacred Island of Okinoshima and Associated Sites in the Munakata Region in Japan cite 'sustainable' for two times in reference to the social and community sustainable development, but a closer look reveals that nor a paragraphs nor specific indicators are dedicated specifically to sustainability. Similarly, the Site Quanzhou: Emporium of the World in Song-Yuan in China cites 'sustainable development' as a title to a paragraph, which does not specific effectively how sustainability is practiced.

The pure word count can be associated with the qualitative characteristics of the World Heritage Sites. Considering the geographical location, the European World Heritage Sites mention the most the set of words considered and each management plans quote at least one of the words for once. Instead, African management plans gain the lower percentage of words presence, even though quoting at least one of the words for once. In the American World Heritage Sites, it is possible to find management plans without any reference to

sustainability and related words, while Asian World Heritage Sites present the wider difference of words presence from the lower to the higher quotation. (Figure 8)
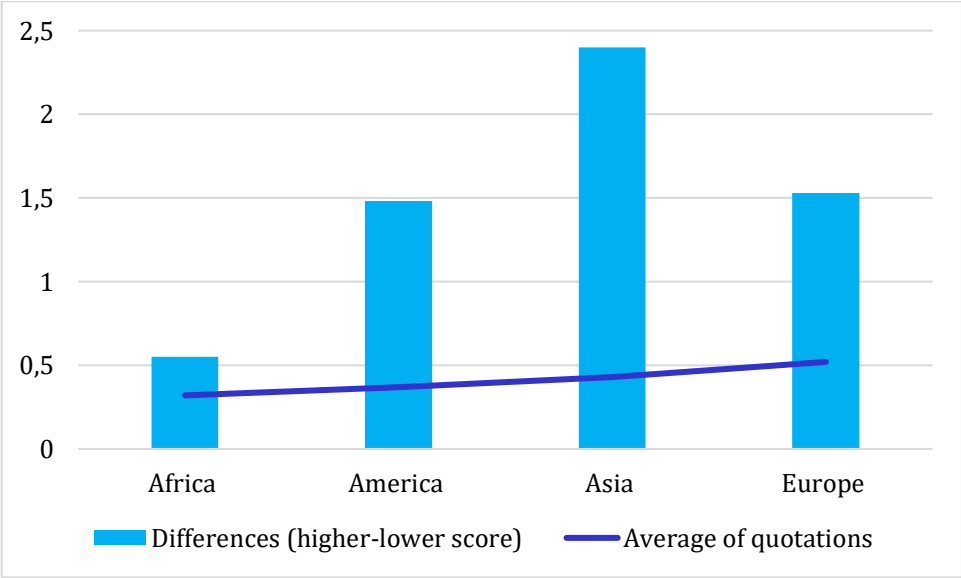
Figure 8 - Difference and average score quotation by continent (Authoress' elaboration)

This suggests that the geographical location influences the implementation of sustainability discourse. European and Asian Management Plans integrate sustainability more significantly probably because the managers and stakeholders of these World Heritage Sites are more incline to sustainability discourse. Indeed, European scholars have significantly developed the sustainability discourse regarding arts, culture and communities (Duxbury & Jeannotte, 2010). While Asian researchers have focused on sustainable urbanization and culture (Duxbury & Jeannotte, 2010).

Focusing on the typology of World Heritage Sites (Figure 9), landscapes and archaeological sites demonstrate more tendency towards sustainability discourse, compared to monumental sites, among which some World Heritage Sites do not make any reference to the words considered. Landscape sites also show the wider gap between the lower to the higher quotations.[4]

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[4] Cultural sites are not considered because the only one presence do not give ground for overall considerations.
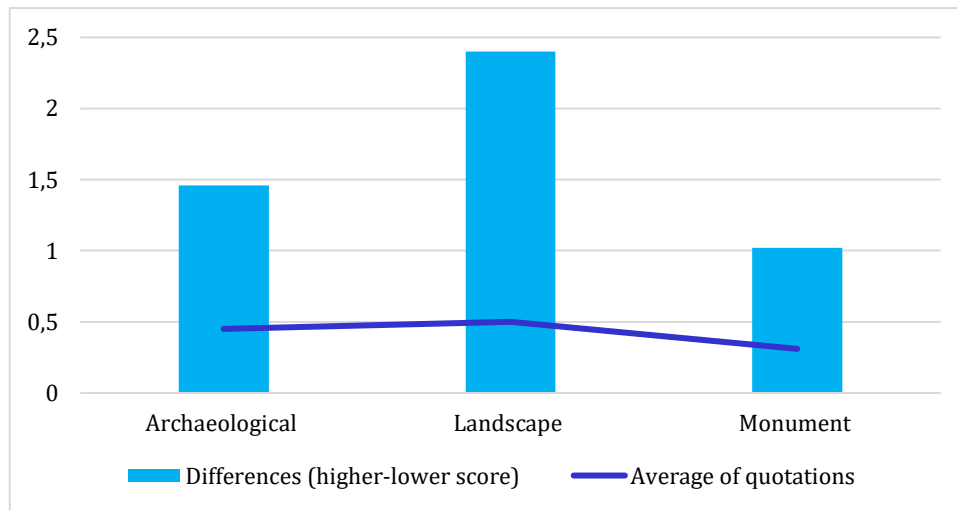
Figure 9 - Difference and average score quotation by typology (Authoress' elaboration)

These differences highlight that there are typologies of heritage more predisposed to or offering more possibility of integration of sustainability in their management.

The collaboration between various locations, authorities and stakeholders is the most interesting aspect to observe. Serial UNESCO World Heritage Sites are more pervaded by the sustainability discourse as well as the transnational World Heritage Sites, although the number of transnational Sites is limited and do not permit certain judgement. The score obtained by serial World Heritage Sites is slightly higher than non-serial World Heritage Sites. This suggests that the collaboration between various locations, authorities, managers, stakeholders and knowledge, required when a Sites includes more than one location, foster the implementation of the sustainability discourse. Indeed, the interdisciplinary and cooperative methodology can support in dealing with the difficulties of integrating the several subjects involved (e.g. urban studies, architecture, restoration, archaeology, engineering, landscape studies, sociology, art history) when implementing sustainable approaches within management plans (Badia & Donato, 2011).

The issue of sustainability has a little space in term of dedicated section within management plans. Indeed, around one half of the UNESCO World Heritage Sites in the sample (56 out of 102) focus at least one paragraph on sustainability and related discourses. A maximum of 4 sections are dedicated to this concern, but the majority (32 management plans out of 56) presents only one paragraph; while the Management Plans with more than 2 sections dedicated to sustainability are a minority (Figure 10).
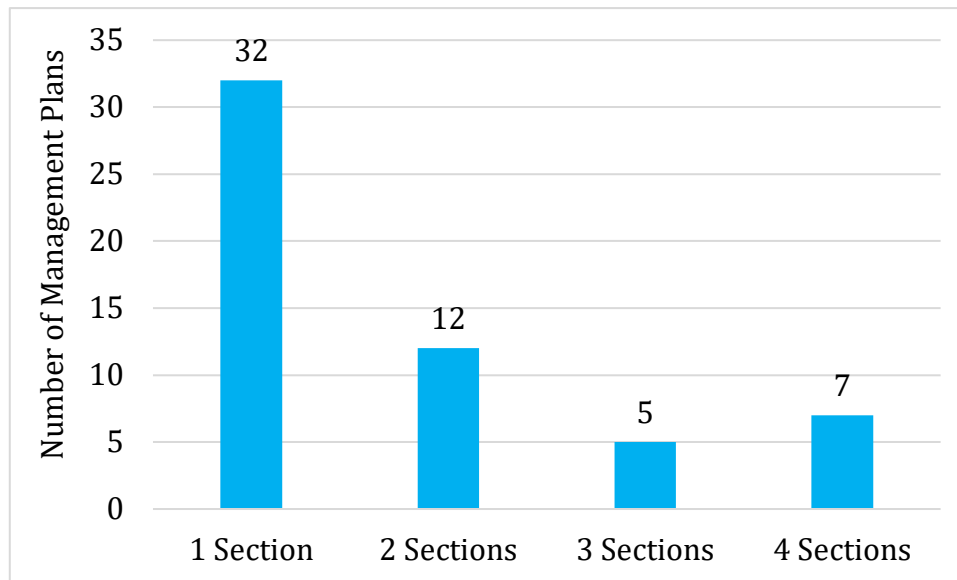
Figure 10 - Number of Management Plans in relation to the number of sections related to sustainability
(Authoress' elaboration)

The predominance of the unique section dedicated to sustainability suggests that World Heritage Sites prefers to assign a specific independent space, within their Management Plan, for developing the discourse related to sustainability. Rather, only few Management Plans arrange a significant number of paragraphs on sustainability. A different approach distinguishes these few World Heritage Sites because they widespread paragraphs on sustainability along the document and link, probably, the discourse on sustainability to the various issues discussed in each part of the Management Plan.

Two different approaches result: in most of the cases, World Heritage Sites prefers to dedicate to sustainability a specific and definite place within the Management Plan, dealing with sustainability as an independent issue. On the other hand, a minority of World Heritage Sites seems to integrate sustainability more harmonically among the other issues of the Management Plan, appointing sustainable approaches in relation to the specific issue handled.

Considering the qualitative characteristics of the World Heritage Sites with at least one paragraph on sustainability, it is possible to attest that European and Asian Sites are predominant. 25 Sites are located in Europe and 24 Sites in Asia, out of the sample of 56 Sites. On the other hand, these Sites are distributed homogeneously among the European and Asian states. This geographical distribution confirms the evidence that the

geographical location influences the implementation of sustainability discourse, as verified by the word count.

Conversely, considering the typology of the World Heritage Sites, there is not a specific category more or less keen towards the section on sustainability. Indeed, the sample of 56 Management Plans with at least one section dedicated to sustainability is almost equally divided among three typologies: 10 Sites are archaeological, 19 are cultural landscapes, 12 are natural landscapes and 15 are monuments. Accordingly, the word count revealed an influence of the typology of heritage on the sustainability discourse, but the audit on sections dedicated to sustainability reveals the opposite: sustainability is tackled almost equally among the different typologies of heritage. In addition, monumental World Heritage Sites result to develop sustainability issues in term of dedicated paragraphs, despite their Management Plans attested, with the word count, the lower tendency towards sustainability.

Around one half of the World Heritage Sites, with at least one section on sustainability, is a serial Site. In particular, 25 Management Plans are of a Serial World Heritage Sites and 31 of a non-Serial World Heritage Sites. This confirms that the collaboration between various locations can influence the implementation of sustainability, but not as evidently as it resulted from the world count.

Management plans presenting a paragraph dedicated to sustainability focus mainly on the economic pillar, then on the social pillar, on the environmental pillar and on the cultural pillar. Indeed, the economic pillar is present in 37 out of 56 Management Plans, the social pillar in 28 Management Plans, the environmental pillar in 25 Management Plans and the cultural pillar in 16 out of 56 Management Plans.

Figure 11 outlines the percentage of integration of each sustainability pillar among the paragraphs within each Management Plans. It is important to highlight that the categorization of the issues developed within the paragraphs, among the sustainability pillars, has been performed recalling the topics emerged from the literature review and that each section on sustainability can deal with more than one pillar of sustainability (Appendix IV). Indeed, 31 out of 56 Management Plans present at least one section on sustainability referring to more than one pillar of sustainability.
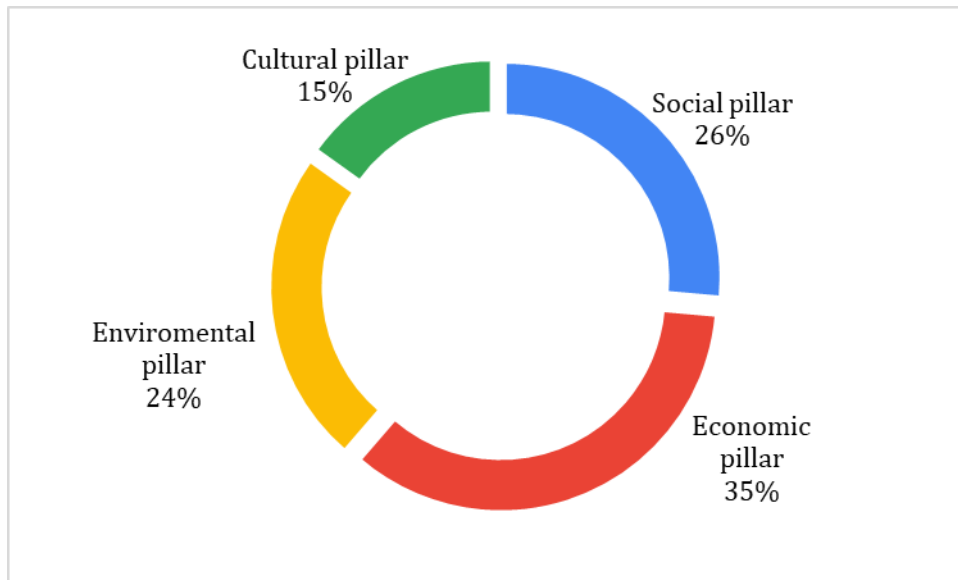
Figure 11 - Four pillars of Sustainability distribution among paragraph on sustainability

(Authoress' elaboration)

The economic pillar is evidently the most explored topics within Management Plans. Indeed, 37 out of 56 Management Plans develop at least one issue traceable to economic sustainability. The economic pillar of sustainability is explored, mainly, in term of economic sustainability for the Site management itself, in term of local economic and businesses development and in term of sustainable tourism management.

The Site Bale Mountains National Park in Ethiopia is a very clear example of economic sustainability explored for the Site management and subsistence. This Site notifies the inadequacy of the financial resources granted by different stakeholders (e.g. Government, private and public institutions). This worrying situation led the Site to develop a 'Business and Sustainable Financing Plan' to implement and to foster the efficiency of available funds over the years. Indeed, the Management Plan of the Site Bale Mountains National Park inserted the section 'Objective 2: Sustainable financing secured for BMNP (and park-associated communities)' where it states that:

> In 2011, a **5-year Business and Sustainable Financing Plan** was developed for BMNP (n.d.r. Bale Mountains National Park) as part of GMP (n.d.r. General Management Plan) implementation, with the goal "To **increase finances available** as well as improve **financial management efficiency** in the short and long term, for the effective management of the BMNP", which

i. Analysed the **financial needs** for optimal and critical (essential) BMNP management and GMP implementation,

ii. Identified priority areas for **investment** (e.g. resource protection and tourism development), iii. Identified **financial strategies** for increasing revenue and cost saving and estimated business plan implementation costs.

<div align="right">(Management Plan of the Site Bale Mountains National Park, p. 93)</div>

Another recurrent issue among the Management Plans implementing the economic pillar is not strictly linked to the Site itself, but aims at influencing the economic context of belonging. In particular, some World Heritage Sites purpose to foster the local economic and businesses development. Interesting is the case of the Slate Landscape of Northwest Wales Site, in United Kingdom and Northern Ireland. This Site starts from reckoning the context surrounding, characterized by a situation of deprivation, and firmly believes that its heritage can be a chance of regeneration and economic development of the area. The Management Plans enunciates that:

Heritage-led regeneration through the re-use of historic buildings or other historic assets can ensure the **sustainability of a local community**. [...] It can be a positive catalyst to achieve **economic change** in an area, creating jobs, initiating **wider improvements.** [...] This is of particular relevance for areas within the proposed World Heritage Site that suffer from relatively **high levels of deprivation**, lack of highly skilled jobs.

(Management Plan of the Slate Landscape of Northwest Wales Site, 2019, p. 142)

Among the several observations outlined in the section, this Management Plan underlines the importance of local businesses and the potential and effective influence of its heritage on the commercial activities:

Heritage is central to a number of businesses within the proposed World Heritage Site [...] Some businesses located within the proposed World Heritage Site have no specific heritage focus but own **important historic assets**, some of which have considerable **heritage potential** [...]. Other businesses located within the proposed World Heritage Site use **heritage as a unique selling point** for their

product. These include gin distilleries, cheese maturing and craft ale production, along with a number of artisan crafts such as jewellery makers and artists.

(Management Plan of the Slate Landscape of Northwest Wales Site, 2019, p. 164)

This discourse is considered very relevant within the economic pillar of sustainability. Indeed, this Management Plan suggests dealing with sustainability not only considering the heritage, which still is the main focus of the document, but to view the Site inserted and influencing its context. Therefore, this Site enforces the concept that the economic pillar deals with the economic sustainability of the cultural institution itself, but, somehow, that its heritage is considerable as an indirect and unsuspecting economic actor within a specific context.

A different way of implementing the economic pillar in term of local economic and businesses development is offered by the Site Volcanoes and Forests of Mount Pelée and the Pitons of Northern Martinique in France. This Site supports managers and private actors in sustainable exploitation of resources respecting biodiversity by ensuring quality industrial spaces and landscapes, integrating external and internal stakeholders' expectations, fostering Corporate Social Responsibility and Sustainable Development during training programs for employees and managers.

Thus, in view of the **economic issues** (production of wealth, employment pool) underlying this sector of activity [n.d.r. material extraction], it therefore appears necessary to jointly define a guide plan for support measures and the inclusion of career managers in the implementation of methods for the **sustainable exploitation of resources** and compatible with management [...]. To support this approach within the companies present in the property, the following priority areas have been retained: completely **integrate sustainable development into the establishment's strategy** [...]; integrate the expectations of external and internal stakeholders; participate in the **development of knowledge** in terms of data and criteria for taking into account and evaluating **Sustainable Development**; irrigate the concepts of Corporate Social Responsibility (CSR) and SD in all training programs for employees and managers [...]; encourage employees to **integrate environmental criteria** into their daily professional practices [...]; initiate a charter

> or framework agreement containing shared commitments in the context of taking **biodiversity into account in the various activities** of companies [...].[5]
>
> (Management Plan of the Site Volcanoes and Forests of Mount Pelée and the Pitons of Northern Martinique, 2019, p. 176-177)

This approach to economic sustainability for the businesses of the area is considerable part of the approach 'culture for sustainability'. Indeed, the cultural institution commits to foster the economic issues of the surrounding area, while ensuring the environmental sustainability of the natural resources.

The last issue developed by World Heritage Sites in term of economic pillar is the sustainable tourism development and management. A few cases are presented as explanatory. The Sansa Site, a Buddhist Mountain Monasteries in the Republic of Korea, represents a prerogative issue: the protection of heritage and traditional local culture to provide tourist a satisfying experience while ensuring the local residents welfare.

> **Sustainable tourism** starts with **safeguarding cultural heritage** and protecting the sustainability of culture, city structure, and the local community. Thus its goal is to **provide** tourists with a **satisfying experience** as well as promote the welfare of local residents. To ensure the **sustainability of tourism** of the mountain temples, connections with the local community must be strengthened so that they can contribute to the **regional economy**. To this end, **ownership** of tourism-related facilities, services, and businesses must be **held by the local community**, and residents should be given priority for jobs created, so that profits generated can be reinvested in the community.
>
> (Management Plan of the Sansa Site, a Buddhist Mountain Monasteries, 2018, p. 172)

This World Heritage Site is a good explanatory case because offers several aspects of sustainable tourism. First, it declares that ensuring the heritage protection and safeguarding is a prerogative for the development of sustainable tourism, because it

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[5] The text is translated from French by the authoress.

permits to offer a 'satisfying experience'. Secondly, the Management Plans highlight that sustainable tourism contributes to the regional economy. Thirdly, even this Site develops the economic pillar in term of development of the economic context beyond the economic viability of the Site itself. Indeed, the community gains a central role benefitting of job creation and direct reinvestments of the profits generated by sustainable tourism.

The Site Caves and Ice Age Art in the Swabian Jura in Germany foster this discourse by dealing with the thread, that has to be faced within a sustainable approach to tourism. Its Management Plan declares that:

> **Tourism** should in this situation, **in the sense of sustainability**, be brought **into harmony with the economic and social efforts** of the municipalities. To this end, the risks and threats which result from an increased number of visitors must be regulated within the framework of a tourism concept.[6] […] The **investments** which have already been made in the development of museums and information resources and the tourist infrastructure, as well as the consequential increase in capacity are **strengthening the regional economy**.
>
> (Management Plan of the Site Caves and Ice Age Art, 2016, p. 106-107)

The Site Caves and Ice Age Art considers within the economic sustainable usage of the heritage all the actions and investments that ensure a correct handling of increased visitors flows. These actions and investments are practiced as structural precondition (e.g. Roads, paths, parking areas). These structural investments in the area are considered fundamental for ensuring the development of sustainable tourism and for the economic sustainability of the context of belonging.

The social pillar is present in 28 out of 56 Management Plans and is explored mainly as community and knowledge development and citizens involvement in management processes.

For example, in the light of community and knowledge development, the Site Migratory Bird Sanctuaries along the Coast of Yellow Sea-Bohai Gulf of China structured a managing,

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[6] This Management Plan does not provide any further specific definition or explication of the terms 'tourism concept'. It is simply used in the place of tourism' or 'sustainable tourism'.

monitoring and planning participatory system involving the residents in project works, operational activities and scientific researches.

> **Encourage local residents to participate** in the protection of natural resources, to make the **local residents fully aware** of the importance of protecting natural resources and protect the benefits of natural resources. [...] It is expected to protect wildlife habitats, restore species, improve the functions of ecological system, build a monitoring system and **enhance the ability of local residents** to protect and manage natural resources by holding the above activities. [...] Through bird watching training, community residents can monitor the species and number of birds in their own fishponds, farmland and salt field activities, record the data in the bird-watching app in cell phone [...] for the reference for scientific research.
>
> (Management Plan of the Site Migratory Bird Sanctuaries along the Coast of Yellow Sea-Bohai Gulf, 2016, p. 143-144)

The community is involved directly in the life of the heritage. The Site proposes several activities for capacity building of the community. On the other hand, the heritage itself takes advantage of the new abilities learnt by the community, which are empowered as a 'guardian' of their heritage.

Other World Heritage Sites implement the social pillar in term of community development starting from contextual problematic issues. For example, to respond to the decrease and aging of population and to the outflow of young people, the Hidden Christian Sites in the Nagasaki Region in Japan, adopts long-term measures to revitalise local livelihood and promotes collaboration between public institutions and private sectors.

> The World Heritage nomination bid is an **opportunity to closely link the protection of the components to sustainable development of local communities**. [...] Local communities at these places are facing not only a decrease in numbers and an aging population, but also an outflow of young people from these areas [...]. Three general themes of '**sharing pride** in the nominated property by **enhancing the local identify'**, 'building a **shared awareness and network** through interchange among people' and '**maintaining and revitalising local communities'** [promote] lectures and workshops for local residents, [...] lifelong learning

> programmes, [...] educational programmes for children and students, [the utilization of] unoccupied houses and abandoned agricultural fields, [...] **capacity building** and provision of technical support to maintain local communities.
>
> (Management Plan of the Hidden Christian Sites in the Nagasaki Region, 2017, p. 159-162)

This Site interprets the social sustainability by facing the social issues of its context and setting the goal of reconstructing a social web. To achieve this goal, the Management Plans promotes the attractiveness of rural areas and the utilizations of vacant houses, adopts measures against agricultural fields abandonment, implements artistic programmes for training the citizenships.

Within the social pillar, some Sites focus on knowledge implementation. The Babylon Site in Iraq pretends to settle information programs within the education system to foster the appreciation and knowledge of the heritage towards population and to keep the community informed about the dangers effecting the Site.

> Provide **information on education** (primary, secondary and tertiary) and information programmes that have been undertaken or are planned to strengthen appreciation and respect by the **population**, to keep the public broadly informed of the dangers threatening the heritage and of activities carried out in pursuance of the Convention.
>
> (Management Plan of the Babylon Site, 2018, p. 46)

While environmental pillar is explored in 25 out of 56 Management Plans mainly in term of the impact of the heritage on the context and of the surrounding environment sustainability. The Fanjingshan Site in China condemns who betrays animals or collect vegetative components, that are daily monitored by local control stations. In addition, for preserving the environment, the Site create first-aid stations for animals and a biological migration corridor, develop scientific researches and restoration projects of roads and slopes.

> **Ecological protection**: this includes banning anyone from hunting, trapping and poisoning wild animals, constructing and maintaining first-aid stations, cages for animals, absolutely banning collecting vegetative components in the nominated property, strictly controlling vegetative components in World Heritage buffer zone, carrying out technical research on extended reproduction and natural conservation of the key species [...], constructing experimental bases to breed rare plants and collect the genes of rare, endangered and unique plants, creating resources conservation repositories in different places; constructing biological migration corridor of Rhinopithecus brelichi, providing living space for Rhinopithecus brelichi and relieving their survival pressure, carrying out ecological restoration projects of roads and slopes adopting the economic and effective treatment schemes to adjust to the surrounding **environment** so as to effectively reduce geological disasters.
>
> (Management Plan of the Fanjingshan Site, 2016, p. 37)

In other words, the Fanjingshan Site implements the environmental pillar by actuating a series of activities and actions to preserve the natural environment. This approach to the environmental pillar of this Site is significant. Indeed, the Site is inscribed in the World Heritage List as a natural landscape. Consequently, preserving its natural heritage is a prerogative to maintain the entitlement.

More singular and explanatory is the Site Pimachiowin Aki in Canada. The Management Plan of this Site explores environmental pillar by adapting buildings to meet a changing demand of the community, by promoting energetic urban renewal to control the environmental impact.

> **Ninety-eight percent** of electricity generation in Manitoba comes from **renewable hydroelectricity** which is virtually greenhouse gas-free, thus enabling Manitoba to maintain a **low** greenhouse gas emission profile and help **reduce** global greenhouse **gas emissions**.
>
> (Management Plan of the Site Pimachiowin Aki, 2016, p. 56)

The attention to the type of energy used in this Site derives from the aim of controlling the impact of the anthropized environment on the historic cultural landscape and of

fostering an environmental friendly use of natural resources. This kind of approach meets evidently the idea of green or ecological architecture (Chen, Fan, & Wu, 2016) that promotes the use of local and recycled materials for energy efficient constructions.

The Prehistoric Sites of Talayotic Menorca in Spain explores the environmental pillar not operating directly on the environment, but by raising awareness among the stakeholders of the Site.

> It is important to **make all visitors and users aware of the importance of sustainability and environmental protection**, and to encourage non-harmful behaviours [by creating] dissuasive car parks in the areas around the sites, avoiding parking of vehicles at the foot of archaeological sites. Proposals that **encourage community mobility**, such as the implementation of public transport or shuttles that bring visitors from dissuasive car parks. Encouraging **sustainable mobility** with bicycles or walking itineraries. [...] **Positive discrimination policies** applied to visitors who use a **sustainable mode of transport** [...] such as a reduction in the price of entry, a free ticket to visit another archaeological site, a free guided tour or the gift of a recycled object with the Talayotic Menorca logo.
>
> (The Management Plan of the Prehistoric Sites of Talayotic Menorca, 2021, p. 125-126)

This Management Plan prompts to raise visitors' awareness of environmental respect and discourage of harmful behaviours by adopting specific policies for mobility and recycling. This approach to environmental pillar is very innovative, because it aims at modifying the behaviours of people not only towards its heritage, but to the environmental issues in general.

Lastly, cultural pillar is explicated in only 16 out of 56 World Heritage Sites. These Management Plans explore this pillar mainly as cultural sustainable development, preservation and restoration of the Site. Nevertheless, some World Heritage Sites present some interesting expansion of the cultural pillar. The Site Frontiers of the Roman Empire – The Lower German Limes in Germany is a singular case where cultural sustainability gives relevance to research and knowledge development.

> A **joint research strategy** will be developed to ensure better understanding of the Limes as a whole and of its protection, and partners will work together on the dissemination of scientific knowledge. [...] Partners will explore opportunities to develop **joint projects** in the fields of preservation, research, public access and interpretation. [...] More attention will be paid to the Dutch-German Limes in **primary and secondary education**, with a focus on **greater awareness** of the Lower-German Limes as a valuable historical structure linked to the core values of UNESCO. [...] An education strategy will be developed, integrating the existing offer into a coherent **educational programme**.
>
> (Management Plan of the Site Frontiers of the Roman Empire – The Lower German Limes, 2020, p. 36)

The objective consists in increasing the knowledge and understanding of the heritage by implementing and disseminating the scientific knowledge of the Site. This is pursued on two parallel lines. On one hand, academic research is encouraged, specifically fostering the collaboration and partnerships. On the other, the Site wagers on lower education to sensibilize the children on the heritage with appointed educational programme.

Similarly, the Site Chankillo Archaeoastronomical Complex in Peru promotes a knowledge dissemination program for different target groups (e.g. students, teachers, locals, researchers, visitors).

> An **important step to consolidate the heritage protection** processes is to **raise knowledge** among the population [...]. To achieve **greater knowledge** about the monument, it is necessary to advance in **two parallel lines**, **promotion** and **dissemination**. Several axes of work are contemplated, addressing **various target groups**: the teaching and student population, the local population, researchers and the general public. The projects and activities aim to **increase knowledge** about Chankillo in the target groups.[7]
>
> (Management Plan of the Site Chankillo Archaeoastronomical Complex, 2018, p. 56)

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[7] The text is translated from Spanish by the authoress.

This knowledge dissemination program consists in the publication of informative material to increase the community education and of more specialized publications of researches for specialized scholars, in the creation of a website dedicated to the advancement and implementation of the Site, in scheduled visits addressed to the community. In addition, these actions are undertaken specifically for the heritage protection and, consequently these produce the knowledge development of the community, intersecting the cultural pillar with the social pillar.

The cultural pillar is even explored by the Site Porticoes of Bologna in Italy starting from the belief of the power of cultural heritage as a facilitator of past time and cultural diversity understanding in contemporaneity.

> [There is] a tendency to consider 'living' sites as part of the heritage, rather than only monuments. These **living heritage** sites are considered important not only for what they tell us about the past but also as a testimony to the **continuity of old traditions in present-day culture** and for providing **implicit evidence of their sustainability**.
>
> (Management Plan of the Site Porticoes of Bologna, 2020, p. 138-143)

Since this conviction, the Management Plan promotes several initiatives: publications regarding the heritage for adults and children (e.g. the children guide *I portici delle meraviglie*), events, exhibitions (e.g. the art exhibition *Bologna. Sotto il segno dei portici* by Ivan Dimitrov), the 3D modelling and augmented reality adaptation of the porticoes, initiatives promoting the urban respect against graphic vandalism, restoration and conservation of several monuments (e.g. the Bologna Municipal theatre, the monumental portico of San Luca).

In the discourse of cultural sustainability, a fundamental role is even granted to immaterial cultural heritage. The Site Paseo del Prado and Buen Retiro, a landscape of Arts and Sciences in Spain, underlines the importance of immaterial cultural heritage preservation, in particular practices, skills, expressions and collective imaginaries, recognized as a constitutive part of the cultural landscape itself. For pursuing this aim, this Site offers spaces for debate and exchange for maintaining and developing this irreplaceable heritage.

> It is important that **at the centre** of the scientific, research and educational commitment of universities, schools, social and political organizations are the **phenomena and processes related to Intangible Heritage**, whose studies have tried to understand and explain its permanence and significance in the sociocultural context. These diverse approaches reflect a high level of responsibility, which has become a challenge for cultural interaction, coexistence and diversity among peoples. [...] This program will focus on the significance of Intangible Cultural Heritage for current and future generations, conceiving communities and groups in function of its environment, its interaction with nature and its history, as a force of feelings of identity, continuity, thus contributing to promoting respect for cultural diversity, human creativity and the **legacy** of Paseo del Prado and Retiro as a cultural landscape of the Sciences and the Arts, favouring, in the latter case, **knowledge**, **appropriation**, **valuation** and **respect**.[8]
>
> (Management Plan of the Site Paseo del Prado and Buen Retiro, a landscape of Arts and Sciences, 2020, p. 132)

In this case, cultural pillar is explored as the socio-cultural context where the heritage has developed and is situated. In particular, the immaterial culture is considered as fundamental contributor to the World Heritage Site. As consequence, the World Heritage Site has the interest of preserving this immaterial heritage, that implement the Outstanding Universal Value. Somehow, the life of Site Paseo del Prado and Buen Retiro, a landscape of Arts and Sciences, is dependent on the preservation of the relative immaterial heritage.

3.2.1 Sustainability Indicators

The discourse worsens when focussing on sustainability indicators, which are detectable in only 24 out of 102 Management Plans. Each of these Management Plans present a limited number between 1 to 5 indicators. Nevertheless, a few World Heritage Sites can be undoubtedly considered an exception. Indeed, in ascending order, in the Management Plan of the Site Göbekli Tepe in Türkiye 14 indicators are detectable, the Site Paseo del Prado and Buen Retiro, a landscape of Arts and Sciences in Spain, presents 32 indicators,

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[8] The text is translated from Spanish by the authoress.

for the Site Chankillo Archaeoastronomical Complex in Peru 33 indicators are appointed and the Bagan Site in Myanmar provides 48 indicators.

Despite a first look photographs an overall limited integration of indicators regarding sustainability, in term of Management Plans presenting at least one indicator and in term of number of indicators present in each Management Plan, a positive feature is detectable considering the year of inscription within the List of the World Heritage Sites with at least one indicator related to sustainability and the editing year of their Management Plan. Indeed, the inclusion of sustainability indicators have grown harmonically since 2018.
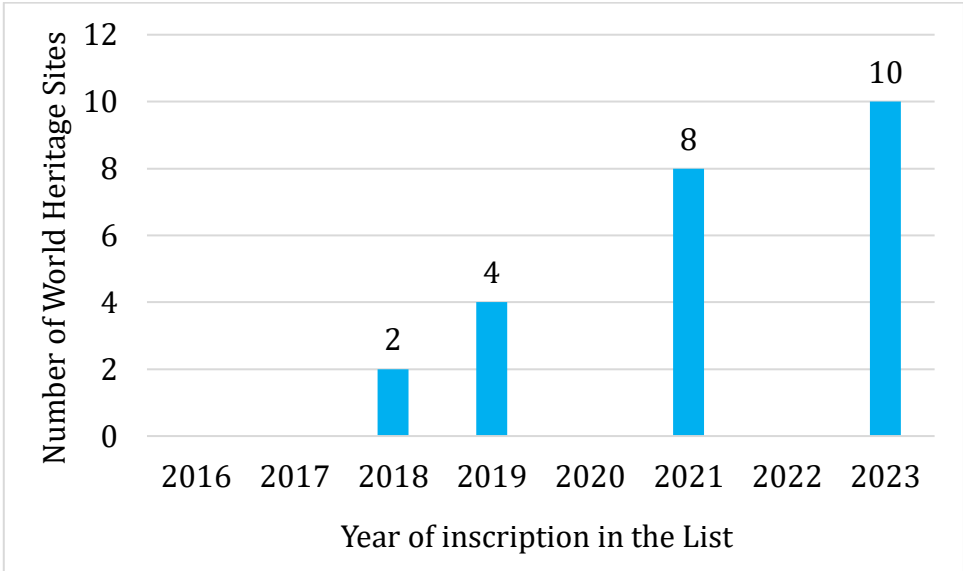
Figure 12 - Number of World Heritage Sites with at least one indicator related to sustainability per year of inscription in the World Heritage List (Authoress' elaboration)

As represented in Figure 12, an increment of indicators regarding sustainability have verified since the inscriptions in the List of 2018.[9] In particular, the number of World Heritage Sites with at least one indicator on sustainability doubled in 2021, compared to the number of 2019, and more than a half of Sites entered in the List after 2021. 8 Sites were inscribed in 2021 and 10 in 2023. The editing year of the Management Plans confirms this positive trend: 2018 and 2021 records the higher number of Sites (six for each year), which were enlisted during the following years. These considerations suggest that, despite Management Plans are not still accustomed to craft indicators specifically

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[9] In 2020 and 2022 there are no World Heritage Sites with at least one indicator related to sustainability because there were not inscriptions in the World Heritage List during these years.

measuring sustainability, the indicators for sustainability are starting to be implemented more.

Some other noticeable features of these Sites are evident, despite these should be considered as an overall review because the number of Sites with at least one indicator on sustainability do not permit certain considerations. Almost a half of the Sites with at least one sustainability indicator locates in Europe and in Asia (Table 5). This data is useful to confirm the previous considerations on the geographical location of the Sites in the sample. Indeed, European and Asian Sites seem to be more inclined towards sustainability discourse. In addition, these Sites are distributed homogeneously among various European and Asian States. Another tendency already noticed is confirmed: landscape Sites dominate the heritage typology (Table 6). This reiterates that landscape Sites seems to present more possibility to integrate sustainability in their management.

Continent	Number of Sites		Heritage typology	Number of Sites
Africa	1		Archaeological	2
America	4		Landscape	19
Asia	8		Monument	3
Europe	11			

Tables 5 and 6 - World Heritage Sites, with at least one indicator on sustainability,
by continent and heritage typology (Authoress' elaboration)

A more in-depth analysis on the text of the indicators presented in each Management Plan reveal that the attention is distributed almost homogeneously among the four pillars of sustainability (Figure 13). In term of indicators related to sustainability, the environmental pillar is present in 17, the economic pillar in 14, the social pillar in 12 and the cultural pillar in only 9 out of 24 Management Plans. Environmental and economic sustainability are cited at least in one indicator in more than a half of Management Plans, reiterating a preference similar to the distribution of the four pillars of sustainability among the paragraphs dedicated to sustainability.

The indicators related to sustainability, dealing with different themes emerged from the literature review and outlined with the following explanatory examples, can disclose, within the same Management Plan, more than one pillar of sustainability (Appendix V).

Indeed, around one half of Management Plans (14) present at least one indicator on sustainability referring to more than one pillar of sustainability.
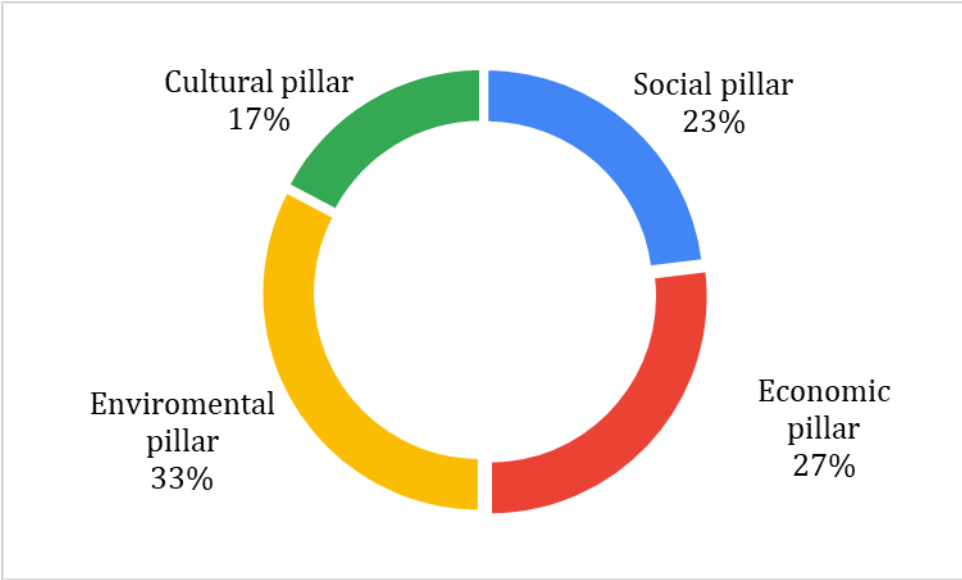
Figure 13 - Distribution of indicators' references to the four pillars of sustainability (Authoress' elaboration)

The Environmental pillar, traceable in 17 out of 24 Management Plans, is explored by indicators that are appointed to measure the use and the promotion of renewable or alternative sustainable energy and methods in the Site Bale Mountains National Park in Ethiopia, or the promotion of programs of sustainable rangeland management and of biodiversity preservation in the Site 'Uruq Bani Ma'arid in Saudi Arabia and to estimate the effectiveness of the sustainable urban mobility plan in Spain at the Site Paseo del Prado and Buen Retiro, a landscape of Arts and Sciences.

The Management Plan of the Site Bale Mountains National Park in Ethiopia structures the indicators section very specifically. Indeed, the more general '10-Year Objectives and Sub-Objectives' are splitted in a '3-Year Management Actions/Activities', that permits a short-term analysis and control of the macro-goals, with a specific identification of the actions to be undertaken during each year. Among these, it is possible to find the 10-Year Objective '2.4: Alternative and sustainable energy use facilitated and promoted' divided into two actions to be pursued and measured in three years. Among these actions, the environmental pillar is explored in term of environmental respect and respectful usage of natural resources. Mainly, the indicators of this Site aim at programming, measuring and promoting the implementation of alternative and energy efficient fuel sources among different stakeholders.

Ecological Management Programme 3-year Action Plan	
10-Year Objectives and Sub-Objectives	**3-Year Management Actions/Activities**
2.4: Alternative and sustainable energy use facilitated and promoted.	Action 2.4.1: Promote **alternative** and **energy-efficient fuel** sources and building materials. c. Conduct discussion forums with woreda executive and law makers to promote alternative and energy efficient fuel sources. d. Encourage and support institutions such as prison houses, Universities, Colleges and hotels **energy efficient fuel use**.

Table 7 - Indicators linked to the environmental pillar of sustainability from the Management Plan of the Site Bale Mountains National Park, p. 160

Differently, the Site 'Uruq Bani Ma'arid in Saudi Arabia defines the indicators in term of Key Performance Indicators in a three-year Work Plan, from 2021 to 2023. The outputs are, firstly, presented in general term with the relative number of activities undertaken. Then, each output is described specifically outlining the relative actions and the scheduling over years. Among these the Result 6 'An effective program for sustainable rangeland management developed and initiated to serve biodiversity conservation and sustainable use of local resources' meets the themes of environmental pillar. Analysing the actions relative to result 6, it is clear that «biodiversity conservation and sustainable use of local resources» (Management Plan of Site 'Uruq Bani Ma'arid, p. 46) the relates to necessity of managing and controlling the hunting reserve for preserving the heritage considered of Outstanding Universal Value. The actions undertaken compels the study of feasibility and creation of a community-based hunting reserve, the promotion of sustainable hunting initiatives and the dissemination of knowledge. These actions explore the environmental pillar in a remarkably interesting way, because the general conviction of environmental preservation is shaped specifically around the contextual needs and issues of the Site.

No	Output	Number of activities
6	An effective program for **sustainable rangeland management** developed and initiated to serve **biodiversity conservation** and **sustainable use of local resources**.	6

Table 8 - Indicators linked to the environmental pillar of sustainability from the Management Plan of the Site 'Uruq Bani Ma'arid, p. 46

A different approach to environmental pillar is offered by the Management Plan of the Site Paseo del Prado and Buen Retiro, a landscape of Arts and Sciences, in Spain. This Site focuses on influencing visitors and people's behaviour towards environmental issues, despite preserving directly environmental assets. In particular, the Management Plan proposes a set of indicators to estimate the results and the effectiveness of the sustainable urban mobility plan, coherently to the sustainability section previously presented. Under the macro strategic line 'L2', that promotes actions to guarantee the conservation, restoration, maintenance and improvement of the heritage and to contribute to its vitality, accessibility and connectivity with the rest of the city, the actions 'L2.P1.A1 Sustainable urban mobility plan of the city of Madrid (PMUS)'[10] presents several indicators that promotes environmental-friendly mobility choices, as pedestrian mobility and public transport usage, evaluated annually.

Strategic lines	Programs	Actions/Areas	Indicators
L2. Promote actions, in the field of physical intervention or legal adaptation, which guarantees the conservation, restoration, maintenance and improvement of the property and that contribute, in a comprehensive manner, to its vitality, cohesion and coherence, both in the material and intangible spheres, to its **accessibility** and **connectivity**	L2.P1 Management and Improvement of mobility program	L2.P1.A1 **Sustainable urban mobility plan** of the city of Madrid (PMUS)	% of trips on foot Pedestrian mobility demand % of trips by public transport Demand for public transport % of trips by bike Demand for cycling mobility Motorcycle demand
with the rest of the city and to the preservation of its OUV, its integrity and its authenticity.			% of private vehicle travel Private vehicle demand

Table 9 - Indicators linked to the environmental pillar of sustainability from the Management Plan of the Site Paseo del Prado and Buen Retiro, a landscape of Arts and Sciences, p. 214 [10]

The economic pillar, present in 14 out of 24 Management Plans is mainly developed in term of sustainable tourism development, in the Site Old town of Kuldīga in Latvia, and related research to face and deal with the eventual negative effects of tourism, in the Göbekli Tepe Site in Türkiye, and in term of local community involvement for developing ecocultural sustainable heritage tourism in Canada at the Pimachiowin Aki Site.

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[10] The text is translated from Spanish by the authoress.

Under the strategic objectives 'Marketing & Tourism', the Management Plan of the Site Old town of Kuldīga in Latvia proposes a series of 'indicators/achievable results' that the marketing and promotional activities should meet to foster a sustainable lifestyle and tourism. Associated to these indicators, the Management Plan specifies the responsible institution, the completion term and the funding available. The indicators proposed by this Site are particularly noticeable because they measure the effectiveness of practical activities and initiatives.

Objective	Sub target	Indicator/Achievable result
A diverse, interactive and exciting set of marketing and promotional materials and activities presents Kuldīga as a lively town in Courland to experience contemporary culture in **a model approach towards sustainable lifestyle and tourism**	New visitors are attracted by creating new **tourism activities, programs, events**	Achieved awareness of Kuldīga as the best representation of the Duchy of Courland and Semigallia Elaborated attractive new tourism programs for promoting the Duchy of Courland and Semigallia Increased number of visitors Organised interesting events for the residents and visitors for promoting the Duchy of Courland and Semigallia Increased number of visitors Elaborated new tourism offers for families with children Increased number of visitors
	Development of tourism and **tourism infrastructure** is promoted. Qualification and knowledge of employees and owners of tourism business is improved.	Improved quality of the technical infrastructure regarding accommodation and other tourism services Number of educated owners of tourism companies and their employees Increased level of knowledge of the specialists involved in tourism business regarding heritage issues

Table 10 - Indicators linked to the economic pillar of sustainability from the Management Plan of the Site Old town of Kuldīga, p. 31-33

On the other hand, the Göbekli Tepe Site in Türkiye, conscious of the economic benefits as well as the threads of tourism, within the objective 'Visitor Management, Sustainable Tourism and Education', sets the Key Management Indicator of creating and updating annually a visitor Management Plan, of monitoring the tourism impact on local community and the eventual adverse effect of tourism on the Site. In addition, the fourth aim 'Promote sustainable tourism at Göbekli Tepe and its setting while ensuring that the cultural significance of the Site is retained, and even enhanced' delineates several activities and relative outcomes to be measured for monitoring the tourism development.

Management Objectives	Key Management Indicators
Visitor Management, **Sustainable** Tourism and Education	23. Existence of Visitor Management Plan
	32. Impact of tourism on local community
	33. Evaluation of the **adverse effect** of tourism on site (numbers of vehicles etc.)

Aim 4: Tourism Development

Promote **sustainable tourism** at Göbekli Tepe and its setting while ensuring that the cultural significance of the Site is retained, and even enhanced.

No.	Activity	Outcome
4.2.4	Identify alternative visitor route in case of deterioration of the route.	To relief the adverse effect of the tourism and **enable sustainability.**

Table 11 - Indicators linked to the economic pillar of sustainability from the Management Plan of the Site Göbekli Tepe, p. 84, 114-116

Another aspect of economic pillar implementation in term of tourism development is raised by the Pimachiowin Aki Site in Canada, which focuses on the local community involvement for developing ecocultural sustainable heritage tourism. In this Management Plans, the indicator is included in a wider monitoring program on Site's management under the theme 'The Anishinaabe Cultural Landscape' and sees the involvement of the local community a benefit for the community itself.

Table 3 – Monitoring Indicators Anishinaabe Cultural Landscape Theme			
Indicators	**Potential Measures**	**Periodicity**	**Location of records**
Community benefits	Involvement in **eco-cultural sustainable heritage tourism**	5 years	Pimachiowin Aki Corp., Winnipeg, Manitoba

Table 12 - Indicators linked to the economic pillar of sustainability from the Management Plan of the Site Pimachiowin Aki, p. 62

It is also interesting that this indicator has a long check periodicity, corresponding to five years, and a statement that underlines that these targets concur in conveying the Outstanding Universal Value.

These three previous examples are reported because they clearly represent a practical representation of the several aspects of tourism development, in term of economic sustainability pillar, previously presented in the literature review. Alongside tourism, the economic pillar is explored even in term of local small businesses development, generating economic income for the community, by the Cosmological Axis of Yogyakarta and its Historic Landmarks Site in Indonesia. This Management Plan observes that several

creative traditional industries are present within the nominated area and aims to maintain and implement them, strongly believing that they generate a significant economic return and jobs creation for the local community. Indeed, the Site sets the indicator of raising the awareness on the culture based and creative industries businesses annually with the target of, at least, two promotional events held each year.

Expected outcome	Indicator	Target	Context of the indicator
Locally made and **sustainable goods** are developed by local small business **generating economic/jobs** for the local community.	Awareness of culture based/ creative industries businesses located in the buffer zone and wider setting enhanced.	At least 2 promotional events of creative industries held each year. **Period** Annually **Data Source** Business survey	There are a number of **creative industries** in the nominated property, buffer zone and wider setting. This includes batik creation/shops, **traditional** food production etc. It is important that this business can be maintained and grown at the property. This indicator will help measure this. A baseline survey will be conducted in 2023.

Table 13 - Indicators linked to the economic pillar of sustainability from the Management Plan of the Site Cosmological Axis of Yogyakarta and its Historic Landmarks, p. 85

The social pillar of sustainability is present in one half of the Management Plan with at least one indicator related to sustainability (12 out of 24). This pillar is implemented, as example, in term of training a community-based monitoring system of the heritage sustainability in the Bale Mountains National Park in Ethiopia and of influencing the education system for the indicators of the Site Cold Winter Deserts of Turan in Kazakhstan and of the Site Paseo del Prado and Buen Retiro, a landscape of Arts and Sciences in Spain.

The Bale Mountains National Park in Ethiopia not only implement the environmental pillar, but in doing so, it also fosters the social pillar. Its 'Ecological Management Programme 3-year Action Plan' scheduled a specific action to involve the community and to widen its knowledge to provide an additional grounded monitoring system of natural resources. This Management Plan presents an interesting example of associating positively two sustainability pillars from its heritage.

Ecological Management Programme 3-year Action Plan		
Objective	**Specific Objectives**	**3-Year Management Actions/Activities**
1: Human associated threats to BMNP Principal Ecosystem Components and their Key Ecological Attributes mitigated through active management.	1.1: Ecological factors are considered in threat reduction activities in other GMP programmes.	Action 1.1.2: Provide ecological input to support actions in other Programmes that will reduce threats to PECs and KEAs. b. Provide input into protocols for **community-based monitoring/evaluation of sustainable natural resource management** agreements and train community-monitors as necessary.

Table 14 - Indicators linked to the social pillar of sustainability from the Management Plan of the Site Bale Mountains National Park, p. 117-118

In term of educational system within the social pillar, the Site Cold Winter Deserts of Turan in Kazakhstan targets its indicators on scholarly students and schedules the implementation of methods and materials to widen the knowledge of the students regarding the sustainability of the Site.

Consolidated list indicators of implementation of the Gaplangyr State Nature Reserve Management Plan			
No	**Indicator**	**Measurable parameters of performance evaluation**	
		Current value	**Forecasted indicators**
53	Number of **methodological developments** for **schools** on the subjects of the nature reserve, **sustainable use** of natural re-sources and the WHS	No	3
Consolidated list indicators of the implementation of the Management Plan Repetek State Biosphere Reserve			
55	Number of **methodological materials** for **schools** on biosphere reserves, **sustainable use** of natural resources, and WHS	No	2

Table 15 - Indicators linked to the social pillar of sustainability from the Management Plan of the Site Cold Winter Deserts of Turan, p. 875, 1032

A different approach towards education is offered by the Site Paseo del Prado and Buen Retiro, a landscape of Arts and Sciences in Spain. This Management Plan set several indicators to measures the participation of schools and students in the life of the Site itself, measuring the number of visiting schools and students.

Strategic lines	Programs	Actions/Areas	Indicators
L1. Promote the refoundation, reappropriation and spatio-symbolic consolidation of El Paseo del Prado and Buen Retiro, a landscape of Arts and Sciences, by citizens and public and private agents, within the conscious framework of definition and delimitation of contents and values adopted in the World Heritage candidation	L1.P2 Science, **Education** and **Sustainability**	L1.P2.A1 From the encyclopedia to the wikipedia. From medialab-prado	Number of actions performed Number of actors involved
		L1.P2.A2 Educational activity around the buen retiro park and the Madrid of Carlos III	Number of activities offered Number of **participating schools** Number of **participating students** Number of participating groups Number of activities offered Number of agreements signed Number of **school competitions**
	L1.P4 **Education**	L1.P4.A1 Habitat Madrid, aimed at the general public. Nature, culture and **sustainability**	**Number of activities carried out** in the different sections: guided itineraries, workshops, courses, equipment visits, exhibitions, talks and conferences, etc. **Number of participants** in the activities described. User rating

Table 16 - Indicators linked to the social pillar of sustainability from the Management Plan of the Site Paseo del Prado and Buen Retiro, a landscape of Arts and Sciences, p. 213-214 [11]

These two Sites are interesting because they develop the same sustainability issue in two completely different approaches. Empowering people's knowledge and education, part of the social sustainability, is developed, in the first case, with project addressed to a specific target wherever located, in the second case, with activities attracting a specific target in a specific location, the Site itself. These two examples confirm clearly that sustainability should not be developed in a unique manner shared universally, but in several singular ways, even contrasting, developed from the specific context and needs of each cultural institution.

Lastly, cultural sustainability is findable in 9 out of 24 Management Plans. The indicators explore the cultural pillar, for example, in term of evaluation of the investigation regarding the architectural history in the Jewish-Medieval Heritage of Erfurt Site in

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[11] The text is translated from Spanish by the authoress.

Germany, of evaluating the conservation activities of the Site Amami-Oshima Island, Tokunoshima Island, Northern part of Okinawa Island, and Iriomote Island in Japan and in the Site 'Uruq Bani Ma'arid in Saudi Arabia.

The Management Plan of the Site Jewish-Medieval Heritage of Erfurt in Germany, with the objective of preserving the future use of the heritage for future generations, in the short term (3 years) measures the results of the architectural history investigations for developing a sustainable heritage usage.

Objective/guidelines	Measures in the short term (1-3 years)
Regulation of the future use, so that future generations are also able to experience the testimonies.	Component 3: Stone House: Evaluation of the results of the **architectural history investigations** for the development of a **sustainable utilisation concept**.

Table 17 - Indicator linked to the cultural pillar of sustainability from the Management Plan of the Site the Jewish-Medieval Heritage of Erfurt, p. 68

Indicators for evaluating the heritage conservation activities are appointed by the Site Amami-Oshima Island, Tokunoshima Island, Northern part of Okinawa Island, and Iriomote Island Site in Japan and in the Site 'Uruq Bani Ma'arid in Saudi Arabia.

In the first Site, the Management Plan focuses on securing the necessary budget for ensuring conservation and sustainable use of the Site in the short term.

Action item	Timeline	Description	Target [Evaluation indicator]
Considerations related to **sustainably** ensuring financing in order to **appropriate the funds** to costs needed for **conservation** and management	From short term to long term	In order to secure **sufficient financial resources** to sustainably conserve and manage the heritage value while responding to the increase in the number of users expected as a result of inscription on the World Heritage List, consideration will be given to ensuring mechanisms capable of **raising funds** in a broad-ranging manner, including the collection of fees from tourist business operators and users, who represent the beneficiaries, institutionalization of entry fees to Iriomote Island, adoption of partnership schemes with businesses, donations from	The **budget necessary** for the **conservation** and **sustainable use** of the natural environment on Iriomote Island is secured. [**Amount of funds secured**] [**The state of disbursement of the funds secured**]

		people who support **conservation** of the heritage value, and the establishment of special funds.	

Table 18 - Indicators linked to the cultural pillar of sustainability from the Management Plan of the Site Amami-Oshima Island, Tokunoshima Island, Northern part of Okinawa Island, and Iriomote Island, p. 2-106

The second Management Plan focuses specifically on budget allocation and financing, but on appointing a Key Performance Indicator integrating heritage conservation and the sustainable use and development of resources available by scheduling six activities over three years.

No	Output	Number of activities
2	An updated and integrated **conservation** zoning plan for 'Uruq Bani Ma'arid, which **balances** natural heritage **conservation** requirements with **sustainable use of resources** and **sustainable development**.	6

Table 19 - Indicator linked to the cultural pillar of sustainability from the Management Plan of the Site 'Uruq Bani Ma'arid, p. 46

These three World Heritage Sites represent an explanatory sample of the indicators approach towards the cultural pillar. Indeed, the cultural pillar is not only present in a quite restrict number of Management Plans, but it is also still developed with a narrow approach focused mainly on heritage conservation and preservation projects.

Similar consideration can be developed reviewing the implementation of Sustainable Development Goals within the Management Plans. Despite Sustainable Development Goals were introduced in 2015, explicit reference to Sustainable Development Goals is not recurrent in the sample of Management Plans and Only 10 documents clarify what Sustainable Development Goals are implementing. In addition, the incorporation of Sustainable Development Goals in the management system of World Heritage Sites has gained importance only recently and in a limited geographical area (Appendix VII).

The first two World Heritage Site with at least one Sustainable Development Goal entered in the List only in 2019 and are the Site Bagan in Myanmar and the Site Water Management System of Augsburg in Germany. However, more than a half of these Sites (6 out 10) were inscribed in 2021 (Appendix VII). In addition, the Sites with Sustainable Development Goals are all located in Asia or Europe, confirming the tendency of these

continents towards sustainability, and widespread in different Sates: Italy, Greece, Germany and United Kingdom for Europe; Saudi Arabia, Myanmar, India and Russia for Asia (Appendix VII). Considering the typology of these Sites, the landscape category results to be keener towards sustainability implementation. The majority of the Sites (7 out of 10) are identified as cultural landscape, only 1 is an industrial landscape and 2 monuments (Appendix VII).

The Site Ḥimā Cultural Area in Saudi Arabia and the Site Porticoes of Bologna in Italy explicit the higher number of Sustainable Development Goals (10 in each Site), while the ShUM Sites of Speyer, Worms and Mainz in Germany and the Site Slate Landscape of Northwest Wales in United Kingdom of Great Britain and Northern Ireland focuses only on one specific Sustainable Development Goal.

An interesting feature to note, already verified when detecting section on sustainability among Management Plans, is that Sustainable Development Goals seems to be interpreted as a mediating tool, useful when the Site is serial and implicates the collaboration between various locations, stakeholders and authorities. Indeed, 7 out of 10 Sites are enlisted as serial properties (Appendix VII).

Moreover, almost all these Sites present in the Management Plan at least one section dedicated to sustainability (Appendix VII). Only the Site Zagori Cultural Landscape in Greece and the Site Water Management System of Augsburg in Germany presents, respectively, 6 and 3 Sustainable Development Goals without any specific section on sustainability. Conversely, the Management Plans presenting at least one Sustainable Development Goal and with other indicators related to sustainability are a few (Appendix VII). This suggests that Sustainable Development Goals are usually contextualized in a wider sustainability discourse and could stand for more specific indicators related to sustainability, drafted specifically for a World Heritage Site. Despite the missing place of culture in Sustainable Development Goals (Miotto, Rodríguez, & Vila, 2021), the Goals considered by World Heritage Sites are:

Goal 11 – Sustainable cities and communities prevail over the other goals, followed by Goal 4 – Quality education, Goal 8 – Decent work and economic growth and Goal 12 – Responsible consumption and production (The 17 Goals, 2015).

Each Management Plan develops differently the relative Sustainable Development Goal selected depending on its specific context, needs and possibilities.

Site	Bagan	Water Management System of Augsburg	Ḥimā Cultural Area	Petroglyphs of Lake Onega and the White Sea	ShUM Sites of Speyer, Worms and Mainz	The Porticoes of Bologna	The Slate Landscape of Northwest Wales	Jewish-Medieval Heritage of Erfurt	Sacred Ensembles of the Hoysalas	Zagori Cultural Landscape
SDGs (Number)	4	3	10	4	1	10	1	3	4	6
Goal 1						•				
Goal 3						•				
Goal 4	•		•		•	•			•	
Goal 5						•				
Goal 6		•	•							•
Goal 7		•	•				•	•		
Goal 8	•		•	•		•			•	•
Goal 9			•					•		
Goal 10			•			•				
Goal 11	•	•	•	•		•			•	•
Goal 12	•		•	•		•			•	•
Goal 13								•		•
Goal 14				•						
Goal 15			•							•
Goal 16						•				
Goal 17			•			•				

Table 20 - UNESCO World Heritage Sites and related Sustainable Development Goals (Authoress' elaboration)

As evident in Table 20, several Sustainable Development Goals are presented only by the Management Plan of the Site Porticoes of Bologna in Italy. This Site associates the

Sustainable Development Goals selected to a set of scheduled activities and projects. «**Goal 1** – End poverty in all its forms everywhere» (The 17 Goals, 2015) is contextualized within the social and economic redevelopment of degraded districts of Bologna, the Treno and the Barca districts. The Municipality aims at refurbishing and restoring the physical framework with the development of social services, with the redevelopment of commercial units and with the introduction of new marketplace activities and real estate units. Meanwhile, «**Goal 3** – Ensure healthy lives and promote well-being» (The 17 Goals, 2015) is implemented in term of sport activity promotion and of accessibility. Indeed, the Bologna city marathon was performed in 2020 to «conjugate the sports practice together with cultural insights» (Management Plan of the Site Porticoes of Bologna, 2021, p. 114) crossing historical monuments and ancient buildings, along the porticoes towards the historic centre. While, a pilot project makes the city more accessible and usable for the blind and visually impaired helping citizenship in living together. The activities of the project consist in reporting and mapping architectural barriers, developing technological devices for the people with disabilities and public spaces interventions. «**Goal 5** – Achieve gender equality and empower all women and girls» (The 17 Goals, 2015) is, as well, present only in this World Heritage Site and widespread among different projects. In particular, this Goal recurs among the project that foster citizenship's knowledge as the editing of a book on the history, anecdotes and narrations of the porticoes for a wide audience in collaboration with the local University; events for making the UNESCO nomination a public value and for sharing local history and culture; the development of an application that shares the heritage and design of digitalized points of interests around Bologna.

The Management Plan of the Site Porticoes of Bologna implements also the last two Sustainable Development Goals. The projects *The UNESCO system and the nomination of Bologna's porticoes as a World Heritage Site* and *Civic education program on legality and respect for urban decorum* fosters the «**Goal 16** – Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels» (The 17 Goals, 2015). The first project, in collaboration with the master's degree program in Law of the University of Bologna, organized a cycle of seminars on the UNESCO's legal framework and conventions for preparing the future ruling class and for discovering the effort and implication beyond the Site's nomination. The «**Goal 17** – Strengthen the means of implementation and revitalize

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the Global Partnership for Sustainable Development» (The 17 Goals, 2015) is interpreted as a chance to enhance collaboration and dialogue among citizenship for fostering the overall targets of the Sustainable Development Goals. Indeed, the Porticoes of Bologna Site schedules a project for enhancing civic awareness and environmental respect among two different targets, citizenship and students. It consists in an awareness-raising campaign to promote neighbourhood respect and social solidarity and attention to raise carefulness towards the porticoes among inhabitants. On the other hand, under the light of community empowerment, specific interventions in schools are undertaken to promote the culture of legality and respect of the urban shared environment. Similarly, the project *Proximity Porticoes* plans a series of activities around porticoes to enhance collaboration and care of the heritage involving citizenship and considering the porticoes as a place of proximity, within which socialize and build neighbourly relationships.

Goal 17 is also pursued by the Site Ḥimā Cultural Area in Saudi Arabia with a wider approach, that aims at encouraging public, public-private and civil society partnerships. The Management Plan declares to engage the local communities and specific municipalities in sustainable tourism, environmental protection and partnerships development beyond the region. The Site Ḥimā Cultural Area in Saudi Arabia is interesting even for the implementation of other Sustainable Development Goals. The «**Goal 6** – Ensure availability and sustainable management of water and sanitation for all» (The 17 Goals, 2015) encounters the key theme efficient water management of the Site. The Management Plan promotes sensitive approaches to water usage, ensures and monitors the sustainable use of water resources, in particular in regard to the visitor services structured on sustainable water use plan and respecting the national ecological standards. The management structure involves the local community groups actively in the every-day life of the Site, encountering «**Goal 10** – Reduce inequality within and among countries» (The 17 Goals, 2015). For example, the core of Site protection and of visitor services is composed by guardians, rangers and guides part of the local community and living close to the Site. These professional figures are carefully trained and informed about the archaeological significance and value of the Site, before starting their service. Lastly, «**Goal 12** – Ensure sustainable consumption and production patterns» (The 17 Goals, 2015) is expanded by actions reducing waste and fostering recycling. These general aims materialized in the establishment of recycling systems, of waste disposal points for

visitors with scheduled recycling collection and of interpretative messages to prompt against poor environmental practices.

The ShUM Sites of Speyer, Worms and Mainz in Germany strongly believes that the «**Goal 4** – Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all» (The 17 Goals, 2015) assumes a crucial role among its heritage. Indeed, surviving to several caesuras and disruptions over history, the Site seizes the opportunity to scatter the European Judaism tradition and history towards a wide audience. The community centres and cemeteries are seen as an opportunity to inform the audience about Jewish religion, traditions and lifestyle for enhancing mutual respect and diversity preservation based on knowledge among the global community.

«**Goal 7** – Ensure access to affordable, reliable, sustainable and modern energy for all» (The 17 Goals, 2015) is pursued by the Site Slate Landscape of Northwest Wales in the United Kingdom of Great Britain and Northern Ireland with a technological system of «large-scale pumped hydro energy storage and generation a proven technology which facilitates a renewables-based energy network» (Management Plan of the Site e Landscape of Northwest Wales, 2019, p. 140). This renewable energy storage technology is developed without impacting the visual appearance and the preservation of the heritage.

Goal 7 is implemented mutually with «**Goal 9** – Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation» and «**Goal 13** – Take urgent action to combat climate change» (The 17 Goals, 2015) in the Jewish-Medieval Heritage of Erfurt in Germany. Climate protection and adaptation to climate change is a key component in the Management Plan of this Site. In the city of Erfurt, a shared long-term objective of facing the local effects of the climate change is pursued by several measures undertaken by planning and administrative institutions (e.g. Fresh and cold air production areas, implementation of thermal insulation and heat protection on buildings). Climate actions are undertaken even in Greece by the Site Zagori Cultural Landscape. It promotes projects against natural threats and towards climate change adaptation. The projects consist in studies on acute weather phenomena and climate change effects or in plans on settlements monitoring against natural phenomena and dangers. Alongside Goal 13, the Site Zagori Cultural Landscape in Greece implements other Goals. In particular, it associates Goal 13 to «**Goal 15** – Protect, restore and promote

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sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss» (The 17 Goals, 2015). The specific aim consists in preserving the values of natural environment for future generations, developing several activities such as the mapping of vegetation types of habitats and enactment of protection regulations, the creation of a bio-diversity database with a specific focus on typical species (e.g. Wild goat, brown bear, alpine newts, golden eagle, trout, butterflies, orchids, herbs), the protection of Sacred Forests and individual trees considered natural monuments, the minimization of illegal activities threatening the environment and the preservation of the current status of the region without asphalted roads. In addition, the Management Plan refers to «**Goal 8** – Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all» (The 17 Goals, 2015) in regard to touristic attractiveness reinforcement, overcoming seasonal visitors' unevenness, and to countryside productive revival. For pursuing these aims, the Site promotes educational seminars for tourism entrepreneurs, informative and interpretative material to guide visitors and disperse them from highly attractive areas, farmlands mapping and monitoring, new capabilities, technologies and cultivations introduction, sheep and goat herding strengthening. The final goal consists in connecting these two areas of interventions by introducing a moderate tourism form in the local production areas (e.g. Agrotourism, ecotourism and geotourism). Lastly, the Site Zagori Cultural Landscape in Greece implement the «**Goal 11** – Make cities and human settlements inclusive, safe, resilient and sustainable» (The 17 Goals, 2015) by developing accessibility within the archaeological sites and monuments, promoting the historic and artistic value of the region and new artistic creations, preservation the tangible and intangible cultural heritage by specific documentations and surveys, for example on traditional occupations, professions and animal-raising techniques and the of drystone wall building.

The remaining «**Goal 14** – Conserve and sustainably use the oceans, seas and marine resources for sustainable development» (The 17 Goals, 2015) is explicated by the Site Petroglyphs of Lake Onega and the White Sea in Russia from the point of view of sustainable use of ocean and sea resources for tourism. The Management Plan outlines four relative areas of work: promoting policies and frameworks, collaboration among stakeholders, guidelines for mainstream destinations and financial investments for fostering sustainable tourism. However, this Management Plan does not clearly explain

how these areas are practically developed and what specific projects are scheduled. Similarly, the Bagan Site in Myanmar and the Site Sacred Ensembles of the Hoysalas in India, despite citing 4 Sustainable Development Goals respectively, omit to describe specifically the actions of projects related for pursuing the Goals selected.

Indeed, a remarkable gap exists among the implementation of Sustainable Development Goals in the Management Plans. Some Sites are very meticulous and detailed in explicating the projects related to specific Sustainable Development Goals, with details on the actors and stakeholders involved, audience target, budget allocated and timeframe. Among these, it is possible to find the Site Ḥimā Cultural Area in Saudi Arabia, the Site Porticoes of Bologna in Italy and the Site Slate Landscape of Northwest Wales in the United Kingdom of Great Britain and Northern Ireland. The Site Ḥimā Cultural Area in Saudi Arabia and the Site Porticoes of Bologna in Italy explicit the Sustainable Developments Goals pursued in a dedicated section with specific reference to the projects or activities facing each specific Goal. The Site Ḥimā Cultural Area in Saudi Arabia has a more discursive approach, that explains the targets specifically considered in each Sustainable Development Goal, and indicates the relative policy code.[12] The Site Porticoes of Bologna in Italy intersects all the projects and Sustainable Development Goals in a table, that clarifies the level of influence of each project towards each Sustainable Development Goal. Then, these two Management Plans explain more widely the activities developed, the stakeholders involved, the indicators appointed, the outcomes and outputs expected, the backgrounds, the motivations and the objectives of each project in dedicated pages.

Despite referring to only one Sustainable Development Goal, the Site Slate Landscape of Northwest Wales in the United Kingdom of Great Britain and Northern Ireland is rightly part of this first group because it states the Sustainable Development Goal considered and, subsequently, describes the objectives pursuing the Goal, with the actions undertaken, the actors involved and the level of development (e.g. Ongoing, concluded).

Besides these, other Management Plans of the sample explicate the reference to Sustainable Development Goals and presents the related activities without the same efforts performed by the first group of World Heritage Sites. This superficial approach is

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[12] In the Management Plan of the Site Ḥimā Cultural Area in Saudi Arabia, the term 'policy' with an assigned code, identifies the projects and activities scheduled.

present in the Management Plans of the ShUM Sites of Speyer, in the Worms and Mainz and the Site Jewish-Medieval Heritage of Erfurt and in the Water Management System of Augsburg in Germany and of the Site Zagori Cultural Landscape in Greece. These three World Heritage Sites declares the Sustainable Development Goal selected directly within the paragraph dedicated to the pertinent projects, they describe the relative actions and measures planned, but do not provide further specific information, as it was in the Management Plans of the first meticulous group. Only the Site Zagori Cultural Landscape in Greece slightly differentiate for a more schematic approach.

The remaining World Heritage Sites of the sample seems to cite Sustainable Development Goals only as an embellishment and not clarifying how they effectively apply and practically implement the selected Goals among their projects. This perfunctory approach is detectable in the Management Plans of the Site Bagan in Myanmar, of the Site Petroglyphs of Lake Onega and the White Sea in the Russian Federation and of the Site Sacred Ensembles of the Hoysalas in India. These three Sites differentiate clearly the discussion for presenting the selected Sustainable Development Goals and develop a general discourse on the issues of the 2030 Agenda for Sustainable Development and on explaining the selected Goals. However, these Management Plans do not clarify how they practically apply these Goals, what projects are developed for each Goal and what Sites' issues and needs encounter the Sustainable Development Goals. Nevertheless, these Site should not be wholly criticised. Indeed, noticeable is the commitment of identifying the Sustainable Development Goals more suitable for their institutions, initiative not very widespread considering the overall sample of World Heritage Sites considered.

Conclusion

Adjoining the scientific discourse on the implementation of culture within sustainable development, the research investigated the integration of sustainability discourse within the management of UNESCO World Heritage Sites.

The literature review outlined the object of the research and the several faces of the relationship between culture and sustainability. Trandisciplinarity and evolutionary approach helped in tracing the influences and the development of this discourse, among several authors and scholars, and in creating a comprehensive and exhaustive view of the concern since the first attempts. The absence of a predominant place granted to culture within the Agenda 2030 and its Sustainable Development Goals attested the difficulties of integrating culture in the worldwide sustainability discourse and practices yet. Culture is still considered irrelevant in some international development contexts (Nurse, 2006). Indeed, UNESCO's efforts to shed a light on the benefits of cultural activities in sustainable development have been significant since 1960s. UNESCO can be unquestionably considered a pioneer in esteeming culture as an enabler of sustainability (Roders & Van Oers, 2011) and in stimulating international public debates on sustainable development and culture (Duxbury & Jeannotte, 2010).

Accordingly, UNESCO World Heritage Sites result to be the ideal representatives to map the implementation of sustainability within cultural institutions' management. Indeed, beyond UNESCO's initiatives and efforts on this matter, sustainability is considered an essential requirement for the inscription within the World Heritage List (Operational Guidelines for the Implementation of the World Heritage Convention, 2005; Loulanski, 2006; Donelli, Lusiani, & Mio, 2023), and the regular auditing and implementation of Management Plans should explore sustainability and Sustainable Development Goals at the organizational level (Operational Guidelines for the Implementation of the World Heritage Convention, 2005; Scimeni, 2013; Donelli, Lusiani, & Mio, 2023).

Nevertheless, the research attested that vague and perfunctory attempts characterize the integration between sustainability and culture in the management system of World Heritage Sites. The issue of sustainability and sustainable development is missing in several Management Plans, in term of terminology, specific sections, dedicated indicators and Sustainable Development Goals integration. Therefore, implementing sustainability

and culture is still creating some bewilderment and difficulties (Wiktor-Mach, 2020; Leone, Lo Piccolo, & Pizzuto, 2012; Miotto, Rodríguez, & Vila, 2021). It is still considered an arduous task to apply the theoretical developments in the daily and long-term management of cultural institutions (Wiktor-Mach, 2020; Miotto, Rodríguez, & Vila, 2021), despite it is clear that «the interrelationship between culture and sustainable development seems to be a matter of common sense» (Kavaliku, 2005, p. 24) and that UNESCO can be considered unquestionably a pioneer of sustainability discourse in global debates (Wiktor-Mach, 2020).

Specifically, a wide range of levels of integration can be detected in the sample of Management Plans. A few excellent World Heritage Sites explicit their interpretation and actualization of sustainable development, in term of general discourse and specific indicators, alongside with several unfavorable Management Plans rarely referring to, or not even slightly considering, any discourse on sustainability. This mirrors the fact that culture is still considered irrelevant in some international sustainability debates (Nurse, 2006) and the vagueness of the understanding of culture within sustainable development framework (Birkeland & Soini, 2014).

In addition, the Management Plans dealing with sustainability, in term of sections and indicators, implement predominantly the economic and environmental pillars. Furthermore, they predominantly practice the cultural pillar of sustainability as a communicating ground between the other three pillars of sustainability – culture *as* sustainability – and as a supporter of each pillar of sustainability – culture *for* sustainability – and disregard the independent empowerment and application of the cultural pillar – culture *in* sustainability (Dessein & Soini, 2016). Consequently, World Heritage Sites result to perpetrate a narrow vision of sustainable development and confirms the limited tendency of cultural institutions to implement cultural sustainability (Boukas, Christodoulou-Yerali, & Stylianou-Lambert, 2014). The prevalence of these two pillars and representations of sustainability risk of subordinating the cultural mission of cultural institutions, which is a warning detected in the business models of institutions and companies developed according to the Triple Bottom Line (Loach, Griffiths, & Rowley, 2017; Elkington, 2018).

The European and Asian World Heritage Sites resulted to be pioneer in implementing sustainability. When analysing the sustainability words' realm, the section dedicated to

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sustainable development, the presence of sustainability indicators and the integration of Sustainable Development Goals among the Management Plans, it was possible to locate the best practices generally between Asian and European States. This tendency reflects the significant developments of research on sustainability developed in these two continents. Indeed, Duxbury and Jeannotte clustered in Europe and in Asia some specific theoretical development on sustainability (Duxbury & Jeannotte, 2010). European scholars have developed the topics of culture and sustainable communities and of arts and sustainability, while Asian scholars have focused mainly on sustainable urbanization and culture (Duxbury & Jeannotte, 2010).

Similarly, another fundamental feature emerged from the literature review is detectable in the World Heritage Sites. As scholars attested, the interdisciplinary and cooperative methodology can support in implementing the several themes of sustainability within the management system of cultural institutions (e.g. urban studies, architecture, restoration, archaeology, engineering, landscape studies, sociology, art history) (Badia & Donato, 2011). As a matter of fact, serial and transnational World Heritage Sites resulted to implement more significantly the sustainability discourse, because seriality and transnationality require the collaboration between various locations, authorities, managers, stakeholders and experts of different subjects. The typology of World Heritage Sites attesting the higher level of sustainability integration, the landscapes, confirms this theoretical assumption. Indeed, Landscapes World Heritage Sites comprise wide geographical area, that contains different cultural, social and economic realities. It means that Landscapes World Heritage Sites' managers are in dialogue with local authorities managing the different aspects of the life of a community. This is likely the generative collaborative ground (Badia & Donato, 2011) where it is possible to develop a co-joint action for Sustainable Development of the area involved.

In addition, the Landscape Sites result to be the most suitable for adding cultural pillar to the three dimensions of sustainability. Indeed, their management inevitably effect and involve the life of a community and adding culture to the three dimensions of sustainability entails including human beings, values, behaviour and ways of life, which are culturally embedded (Clammer, 2014; Dessein & Soini, 2016).

Recalling specifically the word count, a general initial overview suggested a significant integration of sustainability within World Heritage Sites' management. However, the

word count is characterised by a wide gap of repetitions of each word among the Management Plans and a prevalence of documents with a reduced number of quotations. It confirms that the majority of Management Plans do not consider sustainability structural in the managing activities, but only as an aesthetic and perfunctory asset (Loulanski, 2006; Donelli, Lusiani, & Mio, 2023).

In term of section dedicated to sustainability, a large part of World Heritage Sites prefers to deal with sustainability as an independent issue in a dedicated area. A small part of Management Plans integrates the discourse harmonically. The preference of reserving a specific section for sustainability confirms that it is still considered difficult to integrate organically sustainability among all the managerial aspects (Leone, Lo Piccolo, & Pizzuto, 2012) and that sustainability is perceived as a decorative addition (Donelli, Lusiani, & Mio, 2023).

Indicators dedicated to sustainability and the integration of Sustainable Development Goals are mainly absent in the sample of Management Plans, although it is attested that they facilitate the monitoring system and the elaboration of coherent strategies (Leone, Lo Piccolo, & Pizzuto, 2012). Despite the general negative tendency, a positive trend is detectable in the constant growth of the number of World Heritage Sites including indicators related to sustainability since 2018. This tendency suggests an increased understanding of indicators as optimization standards for the decision-making process (Scimeni, 2013) and as facilitator of the periodical mandatory valuative actions and reports (Operational Guidelines for the Implementation of the World Heritage Convention, 2005; Leone, Lo Piccolo, & Pizzuto, 2012).

Mirroring the missing place of culture in Sustainable Development Goals (Miotto, Rodríguez, & Vila, 2021), only a few World Heritage Sites integrate them. However, some of these Sites believe firmly in the relevance of these Goals and tries to effectively integrate and implement the Goals selected in their effective daily management and scheduled activities. In addition, they believe firmly in the relevance of the Sustainable Development Goals and prefer to practice the Goals selected as primary performance indicators, as attested by the absence of additional indicator related to sustainability in most cases. Indeed, the majority these Sites can be considered a practical reproval of the UNESCO's efforts to integrated culture among the world-wide sustainability discourse

and to grant more relevance to cultural themes within Sustainable Development Goals (Wiktor-Mach, 2020).

The research offers various further investigations and improvements. Foremost, the sample of World Heritage Sites analysed can be widened by examining Management Plans edited before 2017 and afterwards updated. The sample enlargement could effectively modify the results, because the updates, implementing older Management Plans, should result from practical experience and sustainability needs encountered among years. Mostly, the research will extremely benefit from practical on-field investigation. Indeed, implementing the official declarations, detected in the Management Plans analysed, with on-field examinations would clarify several additional questions. For instance, field research can demonstrate if the initiatives and activities scheduled on paper are effectively carried out and at what level sustainability is considered an asset in empowering World Heritage Sites. On-field investigation would discover if the personnel were prepared and trained regarding sustainability or if even non-distinguishable, in sustainability terms, World Heritage Sites undertake any type of approach considerable sustainable, although not declared, or if these are trying to implement sustainability in their contexts. These are a few possible developments of the research interesting to be explored.

Nevertheless, some useful suggestions can be provided yet. Despite custom made approaches are not considerable the ultimate solution, which is the same motivation beyond the absence of a unique documentary model for drafting the Management Plans due to the wide differences of World Heritage Sites and planning systems (Pedersen, 2002; Scimeni, 2013), UNESCO could publish an additional guideline document addressing managers, editors, writers and any kind of specialist towards the practical implementation of sustainability and Sustainable Development Goals in Management Plans. These guidelines could disclose practical examples, explanatory activities, indicators and parameters, adaptable to different contexts, for fostering sustainability within the management system of World Heritage Sites and, at large, the management system of cultural institution.

The new operational guidelines could also be introduced with the same introductory approach undertaken for the Management Plan document, which was initially requested only to the new candidates and, subsequently, compulsory even for the Sites already

inscribed (Badia & Donato, 2011). At the same time, the World Heritage Committee could begin to emphasise the relevance of sustainability practices and Sustainable Development Goals implementation within Management Plan, countermanding candidates without this feature, as it is for Sites without an accurate Management Plan (Leone, Lo Piccolo, & Pizzuto, 2012).

On the other hand, managerial personnel of World Heritage Sites should be involved in drafting this document introducing concerns, difficulties and needs regarding their own Site on sustainability discourse in practice. In addition, they should be inspired by dialoguing with other World Heritage Sites to implement their own approach towards sustainable development (Badia & Donato, 2011). The inspiration from other World Heritage Sites should be associated to a careful listening of the needs of the community of reference and observation of the circumstances and objectives relevant in each specific context (Dessein, Fairclough, Horlings, & Soini, 2015). Indeed, Management Plans should establish an effective sustainable management model of natural and cultural heritage and influence the urban and economic planning system to develop sustainability among a wider area (Leone, Lo Piccolo, & Pizzuto, 2012). It means that each Management Plan is related to several planning instruments and policies preserving the integrity and the legacy of the World Heritage Sites, enhancing local communities and involving several actors and stakeholders (Leone, Lo Piccolo, & Pizzuto, 2012; Scimeni, 2013). As consequence, a specific serious survey on the actual status and on the possible changes of the related context (Leone, Lo Piccolo, & Pizzuto, 2012) should be carried out preliminary to schedule effective and coherent strategic sustainable action plan.

Lastly, scholars can play a fundamental role empowering the research on culture and sustainability. They could assume a mediating counsellor role between the several stakeholders of World Heritage Sites, facilitating the encounter between needs, best practices and practical application of theoretical research by convincing the stakeholders about the benefits of the encounter between culture and sustainability.

Appendix I

List of the ten criteria for the inclusion of a property in the World Heritage List from the *Operational Guidelines for the Implementation of the World Heritage Convention* of 2005.

(i)   represent a masterpiece of human creative genius;

(ii)   exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on developments in architecture or technology, monumental arts, town-planning or landscape design;

(iii)   bear a unique or at least exceptional testimony to a cultural tradition or to a civilization which is living or which has disappeared;

(iv)   be an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history;

(v)   be an outstanding example of a traditional human settlement, land-use, or sea-use which is representative of a culture (or cultures), or human interaction with the environment especially when it has become vulnerable under the impact of irreversible change;

(vi)   be directly or tangibly associated with events or living traditions, with ideas, or with beliefs, with artistic and literary works of outstanding universal significance. (The Committee considers that this criterion should preferably be used in conjunction with other criteria);

(vii) contain superlative natural phenomena or areas of exceptional natural beauty and aesthetic importance;

(viii) be outstanding examples representing major stages of earth's history, including the record of life, significant on-going geological processes in the development of landforms, or significant geomorphic or physiographic features;

(ix)   be outstanding examples representing significant ongoing ecological and biological processes in the evolution and development of terrestrial, fresh water, coastal and marine ecosystems and communities of plants and animals;

(x)   contain the most important and significant natural habitats for in-situ conservation of biological diversity, including those containing threatened species of outstanding universal value from the point of view of science or conservation.

Appendix II

Overview of the sample of World Heritage Sites

World Heritage Sites enlisted from 2017 to 2023: 148

World Heritage Sites considered in the sample: 102

Year of inscription	Number of Site(s) enlisted		Editing year of Management Plan(s)	Number of Management Plan(s)
2017	9		2016	14
2018	9		2017	13
2019	15		2018	13
2020	0		2019	15
2021	29		2020	14
2022	0		2021	18
2023	40		2022	14
			2023	1

Tables 21 and 22 - Number of World Heritage Sites inscribed in the List per year and number of Management Plans edited per year (Authoress' elaboration)

Site's typology
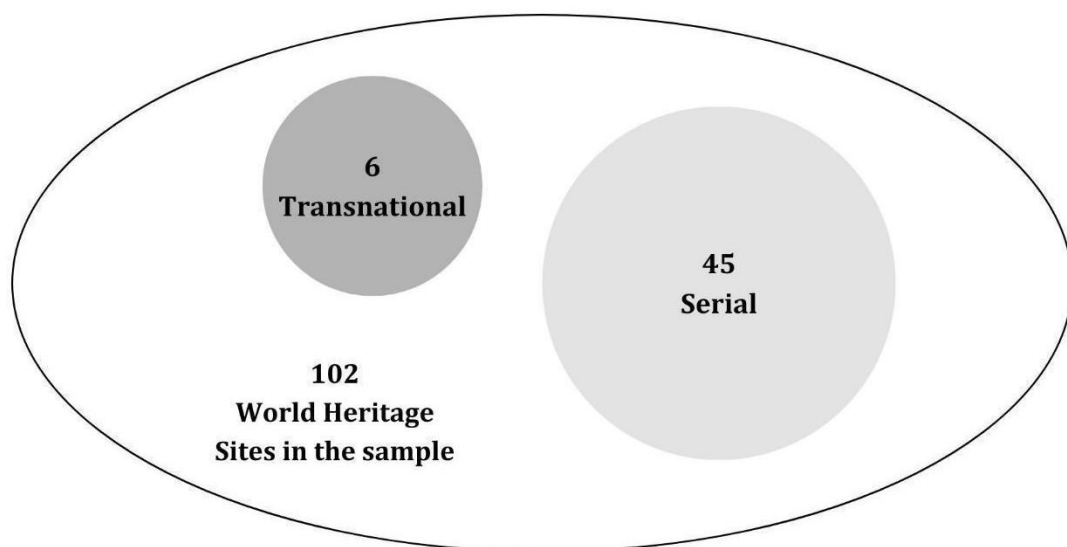
Figure 14 - Number of serial and transnational World Heritage Sites in the sample (Authoress' elaboration)

Geographical location

Continent	Number of Sites
Africa	8
America (Central)	2
America (North)	5
America (South)	5
Asia	44
Europe	38

Table 23 - Number of World Heritage Sites per continent (Authoress' elaboration)

Heritage typology
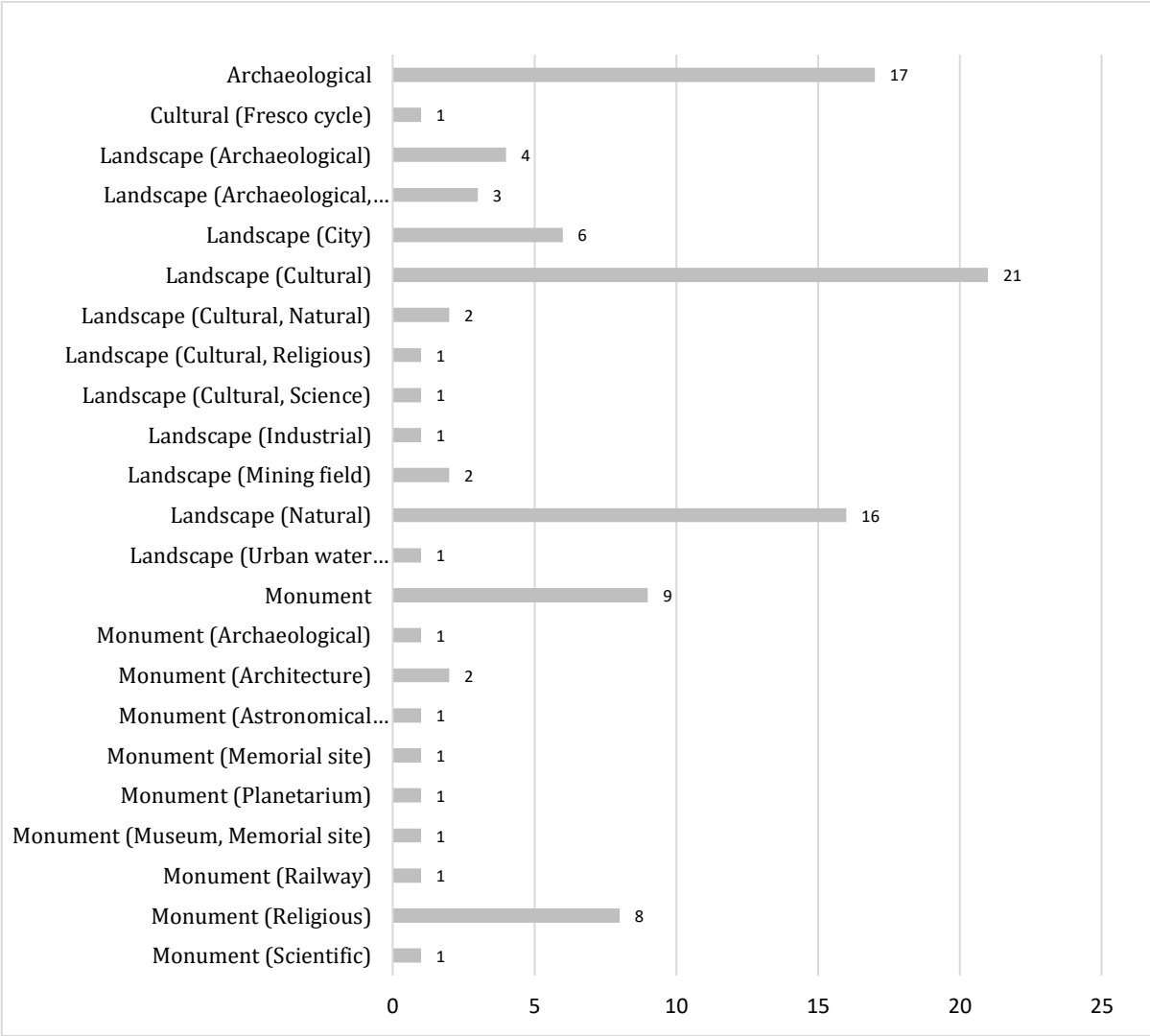
Figure 15 - Number of World Heritage Site(s) per category (Authoress' elaboration)

UNESCO's categories	Number of Site(s)
Cultural	84
Cultural (in Danger)	2
Mixed	3
Natural	13

Table 24 - Number of World Heritage Sites per UNESCO's official categories (Authoress' elaboration)

Management of World Heritage Sites

Management system	Number of Sites
Ad-hoc mixed (Public-Private)	2
Ad-hoc public	46
Mixed (Public-Private Religious)	2
Mixed (Public-Private)	11
Private	2
Public	39

Table 25 - Number of World Heritage Sites per management system (Authoress' elaboration)

Management plan

Languages	Number of document(s)	Length	Number of document(s)
English	82	from 1 to 100 pages	35
English, Arab	3	from 101 to 200 pages	37
English, Chinese	1	from 201 to 300 pages	13
English, Korean	1	from 301 to 400 pages	6
English, Slovene	1	from 401 to 500 pages	4
English, Spanish	2	from 501 to 600 pages	2
French	10	from 801 to 900 pages	1
Spanish	2	more than 1000 pages	4

Tables 26 and 27 - Number of Management Plan per language and per length in number of pages

(Authoress' elaboration)

Appendix III

Overview of the World Heritage Sites sample, analysed in the research, with qualitative characteristics and quantitative counts.

			Qualitative characteristic								Quantitative counts						
Site	Insciption year	Editing year	Region(s)	Continent	Heritage typology	UNESCO's category	Serial	Transnational	Managing entiti(es)	Sustainability	Sustainable	Sustainable development	Sustainable management	Sustainability section	Sustainability indicator	SDGs
Asmara: A Modernist African City	2017	2016	Eritrea	Africa	Landscape (City)	Cultural			Public	1	13	2	2			
Assumption Cathedral and Monastery of the town-island of Sviyazhsk	2017	2016	Russia	Asia	Monument (Religious)	Cultural			Mixed (Public-Private)	1	29	21	0	✓		
Caves and Ice Age Art in the Swabian	2017	2016	Germany	Europe	Archaeological	Cultural	Yes		Ad-hoc public	12	25	6	0	✓		
Historic City of Ahmadabad	2017	2016	India	Asia	Landscape (Archaeological)	Cultural			Public	1	9	2	1			
Kujataa Greenland: Norse and Inuit Farming at the	2017	2016	Denmark	Europe	Landscape (Cultural)	Cultural			Ad-hoc public	0	9	1	0			
Qinghai Hoh Xil	2017	2016	China	Asia	Landscape (Natural)	Natural			Mixed (Public-Private)	0	2	0	0	✓		
Sacred Island of Okinoshima and Associated Sites in	2017	2016	Japan	Asia	Landscape (Archaeological)	Cultural	Yes		Ad-hoc public	0	2	1	0			
Tarnowskie Góry Lead-Silver-Zinc Mine and its Underground Water Management System	2017	2016	Poland	Europe	Monument	Cultural			Ad-hoc public	7	37	12	1	✓		
Temple Zone of Sambor Prei Kuk, Archaeological Site of Ancient Ishanapura	2017	2017	Cambodia	Asia	Archaeological	Cultural	Yes		Mixed (Public-Private)	3	9	3	3			
Aasivissuit – Nipisat. Inuit Hunting Ground between Ice and Sea	2018	2017	Denmark	Europe	Landscape (Cultural)	Cultural			Public	5	52	6	0			
Al-Ahsa Oasis, an Evolving Cultural Landscape	2018	2017	Saudi Arabia	Asia	Landscape (Archaeological)	Cultural	Yes		Ad-hoc public	4	16	6	1			
Chiribiquete National Park – "The Maloca of the Jaguar"	2018	2016	Colombia	America (South)	Landscape (Cultural, Natural)	Mixed			Public	3	11	1	0			
Fanjingshan	2018	2016	China	Asia	Landscape (Natural)	Natural			Ad-hoc public	0	16	9	0	✓		

			Qualitative characteristic							Quantitative counts						
Site	Inscription year	Editing year	Region(s)	Continent	Heritage typology	UNESCO's category	Serial	Transnational	Managing entiti(es)	Sustainability	Sustainable	Sustainable development	Sustainable management	Sustainability section	Sustainability indicator	SDGs
Göbekli Tepe	2018	2017	Turkey	Europe	Landscape (Archaeological, Monument)	Cultural			Public	1	56	16	10	✓	14/76	
Hidden Christian Sites in the Nagasaki Region	2018	2017	Japan	Asia	Landscape (Archaeological, Monument)	Cultural	Yes		Ad-hoc public	0	47	16	0	✓		
Ivrea, industrial city of the 20th century	2018	2017	Italy	Europe	Landscape (Archaeological, Monument)	Cultural			Ad-hoc public	24	21	8	0	✓		
Pimachiowin Aki	2018	2016	Canada	America (North)	Landscape (Cultural, Natural)	Mixed			Mixed (Public-Private)	3	25	12	0	✓	1/11	
Sansa, Buddhist Mountain Monasteries in Korea	2018	2018	Korea	Asia	Monument (Religious)	Cultural	Yes		Mixed (Public-Private)	5	22	2	0	✓		
Babylon	2019	2018	Iran	Asia	Monument (Archaeological)	Cultural			Public	5	10	0	1	✓		
Bagan	2019	2018	Myanmar	Asia	Landscape (Cultural, Religious)	Cultural	Yes		Ad-hoc public	16	235	80	1	✓		4
Churches of the Pskov School of Architecture	2019	2017	Russia	Asia	Monument (Religious)	Cultural	Yes		Mixed (Public-Private Religious)	1	45	37	0	✓		
Dilmun Burial Mounds	2019	2017	Bahrain	Asia	Archaeological	Cultural	Yes		Ad-hoc public	3	13	1	2	✓		
Jodrell Bank Observatory	2019	2018	United Kingdom	Europe	Monument (Scientific)	Cultural			Ad-hoc public	6	22	0	1	✓		
Krzemionki Prehistoric Striped Flint Mining Region	2019	2018	Poland	Europe	Landscape (Mining field)	Cultural	Yes		Public	0	6	3	0	✓	1/7	
Le Colline del Prosecco di Conegliano e Valdobbiadene	2019	2019	Italy	Europe	Landscape (Natural)	Cultural			Ad-hoc public	3	18	1	0	✓	2/6	
Migratory Bird Sanctuaries along the Coast of Yellow Sea-Bohai Gulf of China (Phase I)	2019	2016	China	Asia	Landscape (Natural)	Natural	Yes		Ad-hoc public	0	38	24	10	✓		
Ombilin Coal Mining Heritage of Sawahlunto	2019	2017	Indonesia	Asia	Landscape (Mining field)	Cultural			Ad-hoc public	3	20	2	2			
Paraty and Ilha Grande – Culture and Biodiversity	2019	2018	Brazil	America (South)	Landscape (Natural)	Mixed	Yes		Ad-hoc public	3	13	1	0		2/47	

			Qualitative characteristic								Quantitative counts						
Site	Inscription year	Editing year	Region(s)	Continent	Heritage typology	UNESCO's category	Serial	Transnational	Managing entiti(es)	Sustainability	Sustainable	Sustainable development	Sustainable management	Sustainability section	Sustainability indicator	SDGs
Risco Caído and the Sacred Mountains of Gran Canaria Cultural Landscape	2019	2017	Spain	Europe	Landscape (Natural)	Cultural			Public	9	27	3	1	✓		
Sanctuary of Bom Jesus do Monte in Braga	2019	2018	Portugal	Europe	Monument (Religious)	Cultural			Mixed (Public-Private Religious)	0	5	0	2			
Seowon, Korean Neo-Confucian Academies	2019	2017	Korea	Asia	Monument (Religious)	Cultural	Yes		Ad-hoc public	0	5	1	2			
Water Management System of Augsburg	2019	2018	Germany	Europe	Landscape (Urban water management)	Cultural			Public	13	58	26	3		1/22	3
Writing-on-Stone / Áísínai'pi	2019	2018	Canada	America (North)	Landscape (Cultural)	Cultural	Yes		Public	14	62	0	0			
Amami-Oshima Island, Tokunoshima Island, Northern part of Okinawa Island, and Iriomote Island	2021	2018	Japan	Asia	Landscape (Natural)	Natural	Yes		Ad-hoc public	2	61	3	0	✓	3/34	
Arslantepe Mound	2021	2019	Türkiye	Asia	Archaeological	Cultural			Mixed (Public-Private)	1	8	2	2			
As-Salt - The Place of Tolerance and Urban Hospitality	2021	2019	Jordan	Asia	Landscape (City)	Cultural			Public	0	2	0	0			
Chankillo Archaeoastronomical Complex	2021	2018	Peru	America (South)	Archaeological	Cultural			Public	26	128	19	2	✓	2/105	
Colonies of Benevolence	2021	2019	Belgium, Netherlands	Europe	Landscape (Cultural)	Cultural	Yes	Yes	Ad-hoc public	3	33	10	0		1/65	
Cordouan Lighthouse	2021	2020	France	Europe	Monument	Cultural			Public	0	17	12	0			
Cultural Landscape of Hawraman/Uramanat	2021	2020	Iran	Asia	Landscape (Cultural)	Cultural			Ad-hoc public	5	14	5	0			
Dholavira: a Harappan City	2021	2020	India	Asia	Landscape (Cultural)	Cultural			Public	0	2	1	0			
Frontiers of the Roman Empire – The Danube Limes	2021	2019	Austria, Germany, Slovakia	Europe	Archaeological	Cultural		Yes	Ad-hoc public	13	58	6	3	✓		

Site	Insciption year	Editing year	Region(s)	Continent	Heritage typology	UNESCO's category	Serial	Transnational	Managing entiti(es)	Sustainability	Sustainable	Sustainable development	Sustainable management	Sustainability section	Sustainability indicator	SDGs
Frontiers of the Roman Empire – The Lower German Limes	2021	2020	Germany, Netherlands	Europe	Archaeological	Cultural	Yes	Yes	Ad-hoc public	1	14	1	0	✓		
Getbol, Korean Tidal Flats	2021	2019	Korea	Asia	Landscape (Natural)	Natural	Yes		Public	1	55	8	1	✓	1/4	
Himá Cultural Area	2021	2018	Saudi Arabia	Asia	Landscape (Cultural)	Cultural	Yes		Public	13	61	14	2	✓	1/85	10
Ivindo National Park	2021	2016	Gabon	Africa	Landscape (Natural)	Natural			Public	2	4	0	0			
Jomon Prehistoric Sites in Northern Japan	2021	2019	Japan	Asia	Archaeological	Cultural	Yes		Ad-hoc public	0	6	0	3	✓		
Kakatiya Rudreshwara (Ramappa) Temple, Telangana	2021	2020	India	Asia	Monument (Religious)	Cultural			Public	0	6	3	0			
Mathildenhöhe Darmstadt	2021	2019	Germany	Europe	Monument	Cultural			Mixed (Public-Private)	1	29	1	0	✓		
Nice, Winter Resort Town of the Riviera	2021	2021	France	Europe	Landscape (City)	Cultural			Public	2	17	4	0			
Padua's fourteenth-century fresco cycles	2021	2018	Italy	Europe	Cultural (Fresco cycle)	Cultural			Public	3	6	4	0			
Paseo del Prado and Buen Retiro, a landscape of Arts and Sciences	2021	2020	Spain	Europe	Landscape (Cultural, Science)	Cultural			Ad-hoc mixed (Public-Private)	52	51	4	0	✓	32/50	
Petroglyphs of Lake Onega and the White Sea	2021	2020	Russia	Asia	Landscape (Cultural)	Cultural	Yes		Ad-hoc public	4	119	76	2	✓		4
Quanzhou: Emporium of the World in Song-Yuan China	2021	2019	China	Asia	Landscape (Cultural)	Cultural	Yes		Public	0	2	2	0	✓		
Settlement and Artificial Mummification of the Chinchorro Culture in the Arica and Parinacota Region	2021	2020	Chile	Africa	Archaeological	Cultural	Yes		Public	13	40	0	0	✓		
ShUM Sites of Speyer, Worms and Mainz	2021	2019	Germany	Europe	Landscape (Cultural)	Cultural	Yes		Mixed (Public-Private)	14	89	27	0	✓		1

| | | Qualitative characteristic | | | | | | | | Quantitative counts | | | | | | |
Site	Insciption year	Editing year	Region(s)	Continent	Heritage typology	UNESCO's category	Serial	Transnational	Managing entiti(es)	Sustainability	Sustainable	Sustainable development	Sustainable management	Sustainability section	Sustainability indicator	SDGs
Sudanese style mosques in northern Côte d'Ivoire	2021	2019	Cote d'Ivoire	Africa	Monument (Religious)	Cultural	Yes		Ad-hoc public	0	5	4	1			
The Great Spa Towns of Europe	2021	2021	Austria, Belgium, Czechia, France, Germany, Irland, Italy, United Kingdom	Europe	Monument	Cultural	Yes	Yes	Ad-hoc public	1	43	11	2	✓		
The Porticoes of Bologna	2021	2021	Italy	Europe	Monument	Cultural	Yes		Public	12	57	13	0	✓	1/14	10
The Slate Landscape of Northwest Wales	2021	2019	United Kingdom, Irland	Europe	Landscape (Industrial)	Cultural	Yes		Mixed (Public-Private)	7	110	30	6	✓	33/101	1
The works of Jože Plečnik in Ljubljana – Human Centred Urban Design	2021	2020	Slovenia	Europe	Monument (Architecture)	Cultural	Yes		Ad-hoc mixed (Public-Private)	0	6	2	0			
Trans-Iranian Railway	2021	2019	Iran	Asia	Monument (Railway)	Cultural			Public	0	11	7	0	✓		
'Uruq Bani Ma'arid	2023	2021	Saudi Arabia	Asia	Landscape (Natural)	Natural			Public	1	29	4	0		3/10	
Ancient Jericho/Tell es-Sultan	2023	2022	Palestine	Africa	Archaeological	Cultural			Public	0	10	4	0			
Anticosti	2023	2021	Canada	America (North)	Landscape (Natural)	Natural			Ad-hoc public	0	20	2	0	✓	3/34	
Astronomical Observatories of Kazan Federal University	2023	2022	Russia	Asia	Monument (Astronomical Observatory)	Cultural			Private	1	34	23	0	✓		
Bale Mountains National Park	2023	2021	Ethiopia	Africa	Landscape (Natural)	Natural			Ad-hoc public	6	59	8	1	✓	5/473	
Cold Winter Deserts of Turan	2023	2022	Kazakhstan, Turkmenistan, Uzbekistan	Asia	Landscape (natural)	Natural	Yes	Yes	Ad-hoc public	0	104	37	7	✓	3/137	
Cultural Landscape of Khinalig People and "Köç Yolu" Transhumance Route	2023	2022	Azerbijan	Asia	Landscape (Cultural)	Cultural			Public	9	21	3	1	✓		
Cultural Landscape of Old Tea Forests of the Jingmai Mountain in Pu'er	2023	2020	China	Asia	Landscape (Cultural)	Cultural			Mixed (Public-Private)	0	28	29	0	✓		

			Qualitative characteristic							Quantitative counts					Sustainability indicator	SDGs
Site	Inscription year	Editing year	Region(s)	Continent	Heritage typology	UNESCO's category	Serial	Transnational	Managing entit(es)	Sustainability	Sustainable	Sustainable development	Sustainable management	Sustainability section		
Deer Stone Monuments and Related Bronze Age Sites	2023	2022	Mongolia	Asia	Landscape (Cultural)	Cultural	Yes		Ad-hoc public	2	0	0	0			
Djerba: Testimony to a settlement pattern in an island territory	2023	2022	Tunisia	Africa	Landscape (Cultural)	Cultural	Yes		Ad-hoc public	6	22	15	0			
Eisinga Planetarium in Franeker	2023	2021	Netherlands	Europe	Monument (Planetarium)	Cultural			Private	4	18	0	2	✓		
ESMA Museum and Site of Memory – Former Clandestine Center of Detention, Torture and Extermination	2023	2021	Argentina	America (South)	Monument (Museum, Memorial site)	Cultural			Ad-hoc public	0	1	0	0			
Evaporitic Karst and Caves of Northern Apennines	2023	2022	Italy	Europe	Landscape (Natural)	Natural	Yes		Ad-hoc public	0	9	4	1			
Funerary and memory sites of the First World War (Western Front)	2023	2017	Belgium, France	Europe	Landscape (Cultural)	Cultural	Yes	Yes	Ad-hoc public	2	66	8	1			
Gordion	2023	2021	Türkiye	Asia	Archaeological	Cultural			Public	5	14	3	1			
Hopewell Ceremonial Earthworks	2023	2016	United States of America	America (North)	Archaeological	Cultural	Yes		Ad-hoc public	0	4	0	0			
Jewish-Medieval Heritage of Erfurt	2023	2020	Germany	Europe	Landscape (Cultural)	Cultural			Ad-hoc public	6	36	11	0	✓	3/12	3
Jodensavanne Archaeological Site: Jodensavanne Settlement and Cassipora Creek Cemetery	2023	2021	Suriname	America (South)	Archaeological	Cultural	Yes		Mixed (Public-Private)	2	33	7	3			
Koh Ker: Archaeological Site of Ancient Lingapura or Chok Gargyar	2023	2021	Cambodia	Asia	Archaeological	Cultural			Ad-hoc public	8	93	12	4	✓	1/37	
Landmarks of the Ancient Kingdom of Saba, Marib	2023	2022	Yemen	Asia	Archaeological	Cultural (Danger)	Yes		Public	0	7	0	1			

	Qualitative characteristic									Quantitative counts				Sustainability section	Sustainability indicator	SDGs
Site	Inscription year	Editing year	Region(s)	Continent	Heritage typology	UNESCO's category	Serial	Transnational	Managing entit(es)	Sustainability	Sustainable	Sustainable development	Sustainable management			
Memorial sites of the Genocide: Nyamata, Murambi, Gisozi and Bisesero	2023	2019	Rwanda	Africa	Monument (Memorial site)	Cultural	Yes		Public	0	2	1	0			
Modernist Kaunas: Architecture of Optimism, 1919-1939	2023	2017	Lithuania	Europe	Landscape (City)	Cultural			Ad-hoc public	5	33	16	0	✓		
National Archaeological Park Tak'alik Ab'aj	2023	2020	Guatemala	America (Central)	Archaeological	Cultural			Ad-hoc public	15	16	4	1	✓		
Old town of Kuldīga	2023	2022	Latvia	Europe	Landscape (City)	Cultural			Public	4	68	23	4	✓	48/64	
Prehistoric Sites of Talayotic Menorca	2023	2021	Spain	Europe	Landscape (Archaeological)	Cultural	Yes		Public	24	20	4	1	✓		
Sacred Ensembles of the Hoysalas	2023	2021	India	Asia	Monument	Cultural	Yes		Public	8	61	28	0	✓		4
Santiniketan	2023	2020	India	Asia	Monument	Cultural			Public	2	5	0	1			
The Ancient Town of Si Thep and its Associated Dvaravati Monuments	2023	2022	Thailand	Asia	Monument	Cultural	Yes		Public	3	3	1	0			
The Cosmological Axis of Yogyakarta and its Historic Landmarks	2023	2023	Indonesia	Asia	Monument	Cultural			Ad-hoc public	1	24	9	0	✓	1/27	
The Gedeo Cultural Landscape	2023	2021	Ethiopia	Asia	Landscape (Cultural)	Cultural			Ad-hoc public	6	11	1	1			
The Historic Centre of Odesa	2023	2022	Ukraine	Europe	Landscape (City)	Cultural (Danger)			Public	0	7	3	0	✓		
The Maison Carrée of Nîmes	2023	2022	France	Europe	Monument (Architecture)	Cultural			Ad-hoc public	0	20	2	1	✓		
The Persian Caravanserai	2023	2021	Iran	Asia	Landscape (Cultural)	Cultural	Yes		Public	0	3	1	0	✓		
Tr'ondëk-Klondike	2023	2020	Canada	America (North)	Landscape (Cultural)	Cultural	Yes		Ad-hoc public	12	13	4	0	✓		
Tugay forests of the Tigrovaya Balka Nature Reserve	2023	2021	Tajikistan	Asia	Landscape (Natural)	Natural			Ad-hoc public	7	6	0	0		2/62	
Viking-Age Ring Fortresses	2023	2021	Denmark	Europe	Archaeological	Cultural	Yes		Ad-hoc public	4	20	5	1	✓		

			Qualitative characteristic							Quantitative counts						
Site	Insciption year	Editing year	Region(s)	Continent	Heritage typology	UNESCO's category	Serial	Transnational	Managing entiti(es)	Sustainability	Sustainable	Sustainable development	Sustainable management	Sustainability section	Sustainability indicator	SDGs
Volcanoes and Forests of Mount Pelée and the Pitons of Northern Martinique	2023	2019	France	Europe (Politically) America central (Geographically)	Landscape (Natural)	Natural	Yes		Ad-hoc public	0	51	6	10	✓		
Wooden Hypostyle Mosques of Medieval Anatolia	2023	2022	Turkiye	Europe	Monument (Religious)	Cultural	Yes		Ad-hoc public	31	26	1	3		2/92	
Zagori Cultural Landscape	2023	2022	Greece	Europe	Landscape (Cultural)	Cultural			Public	2	16	24	1			6
Žatec and the Landscape of Saaz Hops	2023	2021	Czechia	Europe	Landscape (Cultural)	Cultural			Public	8	10	6	0			

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Appendix IV

Overview of the sections on sustainability with related pillar of sustainability encountered within each World Heritage Sites.

Site	Sustainability section (Number)	Economic pillar	Enviromental pillar	Social pillar	Cultural pillar
Assumption Cathedral and Monastery of the town-island of Sviyazhsk (Russian Federation)	3		•	•	
Caves and Ice Age Art in the Swabian Jura (Germany)	1	•	•	•	•
Qinghai Hoh Xil (China)	1	•		•	
Tarnowskie Góry Lead-Silver-Zinc Mine and its Underground Water Management System(Poland)	2				•
Temple Zone of Sambor Prei Kuk, Archaeological Site of Ancient Ishanapura (Cambodia)	1	•		•	•
Fanjingshan (China)	1	•	•	•	
Göbekli Tepe (Türkiye)	1	•	•		
Hidden Christian Sites in the Nagasaki Region (Japan)	4			•	
Ivrea, industrial city of the 20th century (Italy)	2	•			•
Pimachiowin Aki (Canada)	1		•	•	•
Sansa, Buddhist Mountain Monasteries in Korea (Republic of Korea)	1	•			
Babylon (Iraq)	1	•		•	•
Bagan (Myanmar)	4	•	•	•	•
Churches of the Pskov School of Architecture (Russian Federation)	3	•	•	•	
Jodrell Bank Observatory (United Kingdom of Great Britain and Northern Ireland)	2	•	•	•	
Krzemionki Prehistoric Striped Flint Mining Region (Poland)	1	•			
Le Colline del Prosecco di Conegliano e Valdobbiadene (Italy)	1	•			
Migratory Bird Sanctuaries along the Coast of Yellow Sea-Bohai Gulf of China (Phase I)(China)	3			•	

Site	Sustainability section (Number)	Economic pillar	Enviromental pillar	Social pillar	Cultural pillar
Risco Caido and the Sacred Mountains of Gran Canaria Cultural Landscape (Spain)	2	•			
Amami-Oshima Island, Tokunoshima Island, Northern part of Okinawa Island, and Iriomote Island (Japan)	1	•			
Chankillo Archaeoastronomical Complex (Peru)	1		•		•
Frontiers of the Roman Empire – The Danube Limes (Western Segment) (Austria)	1	•		•	
Frontiers of the Roman Empire – The Lower German Limes (Germany)	1				•
Getbol, Korean Tidal Flats (Republic of Korea)	4	•			•
Ḥimā Cultural Area (Saudi Arabia)	3		•		
Jomon Prehistoric Sites in Northern Japan (Japan)	1				•
Mathildenhöhe Darmstadt (Germany)	1	•	•	•	•
Paseo del Prado and Buen Retiro, a landscape of Arts and Sciences (Spain)	3		•	•	•
Petroglyphs of Lake Onega and the White Sea (Russian Federation)	2	•	•	•	
Quanzhou: Emporium of the World in Song-Yuan China (China)	1	•		•	
Settlement and Artificial Mummification of the Chinchorro Culture in the Arica and Parinacota Region (Chile)	1		•	•	
ShUM Sites of Speyer, Worms and Mainz (Germany)	4	•	•		
The Great Spa Towns of Europe (Austria)	1	•			
The Porticoes of Bologna (Italy)	1			•	•
The Slate Landscape of Northwest Wales (United Kingdom of Great Britain and Northern Ireland)	1	•		•	•
Trans-Iranian Railway (Iran (Islamic Republic of)	1	•	•	•	
Anticosti (Canada)	1	•			
Astronomical Observatories of Kazan Federal University (Russian Federation)	2		•		
Bale Mountains National Park (Ethiopia)	4	•	•	•	
Cold Winter Deserts of Turan (Kazakhstan)	2		•		

Site	Sustainability section (Number)	Economic pillar	Enviromental pillar	Social pillar	Cultural pillar
Cultural Landscape of Khinalig People and "Köç Yolu" Transhumance Route (Azerbaijan)	1	•			
Cultural Landscape of Old Tea Forests of the Jingmai Mountain in Pu'er (China)	2		•	•	
Eisinga Planetarium in Franeker (Netherlands (Kingdom of the))	1	•			
Jewish-Medieval Heritage of Erfurt (Germany)	1			•	
Koh Ker: Archaeological Site of Ancient Lingapura or Chok Gargyar (Cambodia)	1	•			
Modernist Kaunas: Architecture of Optimism, 1919-1939 (Lithuania)	1	•			
National Archaeological Park Tak'alik Ab'aj (Guatemala)	2		•		
Old town of Kuldīga (Latvia)	2	•	•		
Prehistoric Sites of Talayotic Menorca (Spain)	1		•		
Sacred Ensembles of the Hoysalas (India)	2	•			
The Cosmological Axis of Yogyakarta and its Historic Landmarks (Indonesia)	4	•		•	
The Historic Centre of Odesa (Ukraine)	1	•		•	
The Maison Carrée of Nîmes (France)	1	•			
Tr'ondëk-Klondike (Canada)	1	•			
Viking-Age Ring Fortresses (Denmark)	2		•	•	•
Volcanoes and Forests of Mount Pelée and the Pitons of Northern Martinique (France)	4	•	•	•	

Appendix V

Overview of the indicators on sustainability with related pillar of sustainability encountered within each World Heritage Sites.

Site	Sustainability indicator (Number)	Economic pillar	Enviromental pillar	Social pillar	Cultural pillar
Göbekli Tepe (Türkiye)	14/76	•		•	•
Pimachiowin Aki (Canada)	1/11	•			
Krzemionki Prehistoric Striped Flint Mining Region (Poland)	1/7	•			
Le Colline del Prosecco di Conegliano e Valdobbiadene (Italy)	2/6	•	•	•	
Paraty and Ilha Grande – Culture and Biodiversity (Brazil)	2/47		•	•	
Water Management System of Augsburg (Germany)	1/22	•	•	•	•
Amami-Oshima Island, Tokunoshima Island, Northern part of Okinawa Island, and Iriomote Island (Japan)	3/34	•			•
Chankillo Archaeoastronomical Complex (Peru)	2/105	•			
Colonies of Benevolence (Belgium and Netherlands)	1/65		•		
Getbol, Korean Tidal Flats (Republic of Korea)	1/4			•	
Ḥimā Cultural Area (Saudi Arabia)	1/85		•		
Paseo del Prado and Buen Retiro, a landscape of Arts and Sciences (Spain)	32/50		•	•	•
The Porticoes of Bologna (Italy)	1/14		•		
The Slate Landscape of Northwest Wales (United Kingdom of Great Britain and Northern Ireland)	33/101	•	•	•	•
'Uruq Bani Ma'arid (Saudi Arabia)	3/10		•		•
Anticosti (Canada)	3/34	•	•		
Bale Mountains National Park (Ethiopia)	5/473	•	•	•	
Cold Winter Deserts of Turan (Kazakhstan)	3/137		•	•	
Jewish-Medieval Heritage of Erfurt (Germany)	3/12	•	•		•
Koh Ker: Archaeological Site of Ancient Lingapura or Chok Gargyar (Cambodia)	1/37		•		

Site	Sustainability indicator (Number)	Economic pillar	Enviromental pillar	Social pillar	Cultural pillar
Old town of Kuldīga (Latvia)	48/64	•	•	•	•
The Cosmological Axis of Yogyakarta and its Historic Landmarks (Indonesia)	1/27	•		•	
Tugay forests of the Tigrovaya Balka Nature Reserve (Tajikistan)	2/62		•		
Wooden Hypostyle Mosques of Medieval Anatolia (Türkiye)	2/92	•	•	•	•

Appendix VI

Explication of the indicators on sustainability with related pillar of sustainability encountered within each World Heritage Site.

Site	Indicator(s)	Sustainability indicator (Number)	Economic pillar	Environmental pillar	Social pillar	Cultural pillar
Göbekli Tepe (Türkiye)		14/76	•		•	•
	Visitor Management, Sustainable Tourism and Education Indicator		•			
	Coordinated decision-making regarding conservation, research and sustainable development of the Site (Referred to: Site conservation)					•
	Coordinated decision-making regarding conservation and sustainable development of the Site and its setting (Referred to: conservation of the setting)				•	•
	To protect the site in sustainable manner (Referred to: excavation and research, maintain roof system regularly and allocate money for the maintenance)		•			•
	Coordinated decision-making regarding conservation, research and sustainable development of the Site (Referred to: excavation and Research)					•
	To collect visitor information for the sustainable visitor management (Referred to: record statistical data of visitors regularly)		•			
	To collect visitor information for the sustainable visitor management (Referred to: prepare and regularly apply visitor questionnaire)		•			
	To collect visitor information for the sustainable visitor management (Referred to: conduct analysis to identify maximum capacity of visitors and buses)		•			
	To relief the adverse effect of the tourism and enable sustainability (Referred to: identify alternative visitor route in case of deterioration of the route)					•
	Coordinated decision-making regarding conservation, research and sustainable development of the Site					•
	Comprehensive community involvement programme targeting sustainable development of the local communities				•	
	Sustainable development of the communities (Referred to: integrate and implement community involvement programme within the overall site management process)				•	
	Sustainable conservation and development of the Site and its setting (Referred to: integrate and implement community involvement programme within the overall site management process)				•	•
	Site management system made operational and sustainable (Referred to: allocate adequate budget for execution of all site management processes)		•			
Pimachiowin Aki (Canada)		1/11	•			
	Involvement in ecocultural sustainable heritage tourism		•			

Site	Indicator(s)	Sustainability indicator (Number)	Economic pillar	Environmental pillar	Social pillar	Cultural pillar
Krzemionki Prehistoric Striped Flint Mining Region (Poland)		1/7				
	Introduction of a Sustainable Tourist Traffic System		•			
Le Colline del Prosecco di Conegliano e Valdobbiadene (Italy)		2/6				
	The development of sustainable tourism		•			
	Improving the ecological quality of the property and its population's quality of life			•	•	
Paraty and Ilha Grande – Culture and Biodiversity (Brazil)		2/47				
	Generate benefits for all the stakeholders, including communities and owners, ensuring complementarity and integration efforts and results in order to relate the outstanding universal value of the site to the concomitant development of new forms of support to society, with agreed criteria of sustainability				•	
	Policies establishing and implementation of biodiversity conservation actions, climate change and sustainability in the proposed Site			•		
Water Management System of Augsburg (Germany)		1/22				
	To enable a sensitive and continued sustainable development (Referred to: securing the functionlity and usability of The Water Management System of Augsburg for future generations in term of economic, enviromental, social an cultural sustainability)		•	•	•	•
Amami-Oshima Island, Tokunoshima Island, Northern part of Okinawa Island, and Iriomote Island (Japan)		3/34				
	A master plan for sustainable tourism is developed to manage tourism on the northern part of Okinawa Island, and sustainable tourism is achieved through its implementation		•	•	•	•
	A master plan for sustainable tourism is developed to manage tourism on Iriomote Island, and sustainable tourism is achieved through its implementation		•			
	The budget necessary for the conservation and sustainable use of the natural environment on Iriomote Island is secured					•
Chankillo Archaeoastronomical Complex (Peru)		2/105				
	30 micro-business initiatives on sustainable cultural services, products and events in the second year of holding the fair (Referred to: Local Entrepreneurship Project for enhacing Cultural Identity)		•			
	Sustainable hill management project (Referred to: tourist route implementation)		•			

Site	Indicator(s)	Sustainability indicator (Number)	Economic pillar	Environmental pillar	Social pillar	Cultural pillar
Colonies of Benevolence (Belgium and Netherlands)		1/65		•		
	Number and nature of permit applications in respect of measures focused on sustainability			•		
Getbol, Korean Tidal Flats (Republic of Korea)		1/4			•	
	Establish a system for self-governing heritage management and sustainable use by strengthening raising-awareness on the World Heritage				•	
Himā Cultural Area (Saudi Arabia)		1/85		•		
	Natural environment and sustainability			•		
Paseo del Prado and Buen Retiro, a landscape of Arts and Sciences (Spain)		32/50		•	•	•
	Number of actions undertaken (Referred to: Science, Education and Sustainability - From the encyclopedia to the wikipedia. From Medialab-Prado)				•	•
	Number of actors involved (Referred to: Science, Education and Sustainability - From the encyclopedia to the wikipedia. From Medialab-Prado)				•	•
	Number of activities offered (Referred to: Science, Education and Sustainability - Educational activity around Buen Retiro Park and the Madrid of Carlos III)				•	•
	Number of participating schools (Referred to: Science, Education and Sustainability - Educational activity around Buen Retiro Park and the Madrid of Carlos III)				•	•
	Number of participating students (Referred to: Science, Education and Sustainability - Educational activity around Buen Retiro Park and the Madrid of Carlos III)				•	•
	Number of participating groups (Referred to: Science, Education and Sustainability - Educational activity around Buen Retiro Park and the Madrid of Carlos III)				•	•
	Number of activities offered (Referred to: Science, Education and Sustainability - Educational activity around Buen Retiro Park and the Madrid of Carlos III)				•	•
	Number of agreements signed (Referred to: Science, Education and Sustainability - Educational activity around Buen Retiro Park and the Madrid of Carlos III)				•	•
	Number of school competitions (Referred to: Science, Education and Sustainability - Educational activity around Buen Retiro Park and the Madrid of Carlos III)				•	•
	Number of educational centers visited by schools in the UNESCO Associated Schools Network (Referred to: Science, Education and Sustainability - Ambassadors of the candidature of El Paseo del Prado and The Buen Retiro, Landscape of Arts and Sciences. Grid of schools associated with UNESCO)				•	•

Site	Indicator(s)	Sustainability indicator (Number)	Economic pillar	Environmental pillar	Social pillar	Cultural pillar
	Number of participating students (Referred to: Science, Education and Sustainability - Ambassadors of the candidature of El Paseo del Prado and The Buen Retiro, Landscape of Arts and Sciences. Grid of schools associated with UNESCO)				•	•
	Number of participating schools (Referred to: Science, Education and Sustainability - Ambassadors of the candidature of El Paseo del Prado and The Buen Retiro, Landscape of Arts and Sciences. Grid of schools associated with UNESCO)				•	•
	Number of activities carried out in the different sections (Referred to: education - Habitat Madrid, addressed to the general public. Nature, culture and sustainability.)				•	•
	Number of participants in the activities described (Referred to: education - Habitat Madrid, addressed to the general public. Nature, culture and sustainability.)				•	•
	User rating (Referred to: education - Habitat Madrid, addressed to the general public. Nature, culture and sustainability.)				•	•
	% of trips on foot (Referred to: Mobility Management and Improvement Program - Sustainable urban mobility plan for the city of Madrid)			•		
	Pedestrian mobility demand (Referred to: Mobility Management and Improvement Program - Sustainable urban mobility plan for the city of Madrid)			•		
	% of trips by public transport (Referred to: Mobility Management and Improvement Program - Sustainable urban mobility plan for the city of Madrid)			•		
	Demand for public transport /Metro-EMT-Cercanías-Interur banos (Referred to: Mobility Management and Improvement Program - Sustainable urban mobility plan for the city of Madrid)			•		
	% of trips by bike (Referred to: Mobility Management and Improvement Program - Sustainable urban mobility plan for the city of Madrid)			•		
	Demand for cycling mobility (Referred to: Mobility Management and Improvement Program - Sustainable urban mobility plan for the city of Madrid)			•		
	% of trips by motorcycle (Referred to: Mobility Management and Improvement Program - Sustainable urban mobility plan for the city of Madrid)			•		
	Motorcycle demand (Referred to: Mobility Management and Improvement Program - Sustainable urban mobility plan for the city of Madrid)			•		
	% of private vehicle travel (Referred to: Mobility Management and Improvement Program - Sustainable urban mobility plan for the city of Madrid)			•		

Site	Indicator(s)	Sustainability indicator (Number)	Economic pillar	Environmental pillar	Social pillar	Cultural pillar
	Private vehicle demand (Referred to: Mobility Management and Improvement Program - Sustainable urban mobility plan for the city of Madrid)			•		
	Comprehensive rehabilitation and development of the guidelines of the tree directory plan, in the Jardines De Herrero Palacios (within the gardens of Buen Retiro) (Referred to: Green Zone Rehabilitation and Sustainability Program)			•		
	Comprehensive rehabilitation and development of the guidelines of the tree planning director, in the meteorological environment (within the Buen Retiro Gardens) (Referred to: Green Zone Rehabilitation and Sustainability Program)			•		
	Diagnosis and evaluation of the moisture present in the brick vault of the artificial mountain, application of corresponding corrective measures and rehabilitation of the environment for its later opening to the public (Referred to: Green Zone Rehabilitation and Sustainability Program)			•		
	Comprehensive rehabilitation and development of the guidelines of the directions plan for the trees in Paseo De Méjico within the Buen Retiro Gardens (Referred to: Green Zone Rehabilitation and Sustainability Program)			•		
	Conditioning works of the water treatment station of the Buen Retiro Park pond (Referred to: Green Zone Rehabilitation and Sustainability Program)			•		
	Pavement of the corridors of various cultivation areas in the Buen Retiro stove nursery (Referred to: Green Zone Rehabilitation and Sustainability Program)			•		
The Porticoes of Bologna (Italy)		1/14	•	•		
	Pollution Climate change and severe weather events			•		
The Slate Landscape of Northwest Wales (United Kingdom of Great Britain and Northern Ireland)		33/101		•	•	•
	Number of Community Design Guides developed (Referred to: Sustainable conservation of the proposed World Heritage Site and public participation in conservation programmes will be encouraged)				•	•
	Number of volunteer projects undertaken (Referred to: Sustainable conservation of the proposed World Heritage Site and public participation in conservation programmes will be encouraged)				•	•

Site	Indicator(s)	Sustainability indicator (Number)	Economic pillar	Environmental pillar	Social pillar	Cultural pillar
	Number of funding applications submitted (Referred to: Communities will be supported to identify and implement local regeneration opportunities that sustain the proposed Outstanding Universal Value of the proposed World Heritage Site and promote the Welsh Language)		•			
	Number of Cynlluniau Cynefin strategies completed (Referred to: Sustainable Development of The Slate Landscape of Northwest Wales - Communities will be supported to identify and implement local regeneration opportunities that sustain the proposed Outstanding Universal Value of the proposed World Heritage Site and promote the Welsh Language)		•			
	Number of Ambassadors created (Referred to: Sustainable Development of The Slate Landscape of Northwest Wales - A successful inscription as a World Heritage Site will instil a sense of pride and ambition within local communities)				•	
	The Slate Landscape of Northwest Wales is a priority in Strategic Plans post 2023 (Referred to: Sustainable Development of The Slate Landscape of Northwest Wales - Slate heritage will be a priority within the Gwynedd Council strategic plan for economic regeneration)		•			
	Number of periodic reviews undertaken (Referred to: Sustainable Development of The Slate Landscape of Northwest Wales - Primary mineral extraction outside of the proposed World Heritage Site will be managed through the existing mineral planning process)			•		
	Number of interventions undertaken (Referred to: Sustainable Development of The Slate Landscape of Northwest Wales - Slate craft and conservation skills will be actively promoted together with skills support for the modern slate quarrying industry)					•
	Total annual production in tonnes of roofing and architectural slate (Referred to: Sustainable Development of The Slate Landscape of Northwest Wales - A sustainable supply of conservation materials and aggregates will be maintained and the use of secondary aggregates should be optimised wherever possible)					•
	Number of pre-application meetings held between Local Panning Authorities and developers, and their outcome (Referred to: Sustainable Development of The Slate Landscape of Northwest Wales - Proposals that make use of natural resources without impacting on proposed Outstanding Universal Value will be supported subject to the requirements of the Eryri Local Development Plan 2016-2031: Development Policy 3 and where relevant, Strategic Policy B (February 2019), and the Anglesey and Gwynedd Joint Local Development Plan)			•		

Site	Indicator(s)	Sustainability indicator (Number)	Economic pillar	Environmental pillar	Social pillar	Cultural pillar
	Number of heritage impact assessments received by Local Planning Authorities following ICOMOS guidance (Referred to: Sustainable Development of The Slate Landscape of Northwest Wales - Proposals that make use of natural resources without impacting on proposed Outstanding Universal Value will be supported subject to the requirements of the Eryri Local Development Plan 2016-2031: Development Policy 3 and where relevant, Strategic Policy B (February 2019), and the Anglesey and Gwynedd Joint Local Development Plan)			•		
	Documented consultations with ICOMOS-UK (Referred to: Sustainable Development of The Slate Landscape of Northwest Wales - Proposals that make use of natural resources without impacting on proposed Outstanding Universal Value will be supported subject to the requirements of the Eryri Local Development Plan 2016-2031: Development Policy 3 and where relevant, Strategic Policy B (February 2019), and the Anglesey and Gwynedd Joint Local Development Plan)			•		
	Number of pre-application meetings held between Local Panning Authorities and developers, and their outcome (Referred to: Sustainable Development of The Slate Landscape of Northwest Wales - Renewable energy proposals that do not impact on proposed Outstanding Universal Value, and comply with existing planning policy, will be supported)			•		
	Number of Heritage Impact Assessments received by Local Planning Authorities following ICOMOS guidance (Referred to: Sustainable Development of The Slate Landscape of Northwest Wales - Renewable energy proposals that do not impact on proposed Outstanding Universal Value, and comply with existing planning policy, will be supported)			•		
	Documented consultations with ICOMOS-UK (Referred to: Sustainable Development of The Slate Landscape of Northwest Wales - Renewable energy proposals that do not impact on proposed Outstanding Universal Value, and comply with existing planning policy, will be supported)			•		
	Number of regeneration projects developed (Referred to: Sustainable Development of The Slate Landscape of Northwest Wales - In the event of a successful inscription, regeneration opportunities that complement or enhance the World Heritage Site and comply with the policies of the Local Development Plans will be encouraged)				•	
	Number of wider economic projects developed(Referred to: Sustainable Development of The Slate Landscape of Northwest Wales - In the event of a successful inscription, regeneration opportunities that complement or enhance the World Heritage Site and comply with the policies of the Local Development Plans will be encouraged)		•			
	Number of historic assets conserved (Referred to: Sustainable Development of The Slate Landscape of Northwest Wales - Conservation of historic assets will be used as a catalyst to encourage the development and continuation of traditional skills and specialist conservation work)					•

Site	Indicator(s)	Sustainability indicator (Number)	Economic pillar	Environmental pillar	Social pillar	Cultural pillar
	Number of conservation projects undertaken (Referred to: Sustainable Development of The Slate Landscape of Northwest Wales - Conservation of historic assets will be used as a catalyst to encourage the development and continuation of traditional skills and specialist conservation work)					•
	Number of collaborative projects undertaken (Referred to: Sustainable Development of The Slate Landscape of Northwest Wales - Collaborative working with other relevant initiatives will enhance economic opportunities)		•			
	Total investment value (Referred to: Sustainable Development of The Slate Landscape of Northwest Wales - Collaborative working with other relevant initiatives will enhance economic opportunities)		•			
	Number of housing developments (Referred to: Sustainable Development of The Slate Landscape of Northwest Wales - All new housing within or adjacent to the proposed World Heritage Site will take account of the need to protect and enhance proposed Outstanding Universal Value)				•	
	Number of projects undertaken (Referred to: Sustainable Development of The Slate Landscape of Northwest Wales - The Partnership Steering Group will encourage informed conservation of distinctive elements of the built environment that contribute to historic character, considering the recommendations of the Urban Character Studies as guidance for best practice)					•
	Number of projects undertaken (Referred to: Sustainable Development of The Slate Landscape of Northwest Wales - The Partnership Steering Group will encourage informed conservation of distinctive elements of the built environment that contribute to historic character, considering the recommendations of the Urban Character Studies as guidance for best practice)					•
	Number of buildings identified (Referred to: Sustainable Development of The Slate Landscape of Northwest Wales - The Partnership Steering Group will seek solutions and actively encourage appropriate adaptive reuse of redundant historic buildings including places of worship in a way that will not compromise the historic and archaeological integrity of these assets)					•
	Number of projects undertaken (Referred to: Sustainable Development of The Slate Landscape of Northwest Wales - The Partnership Steering Group will seek solutions and actively encourage appropriate adaptive reuse of redundant historic buildings including places of worship in a way that will not compromise the historic and archaeological integrity of these assets)					•
	Number of projects undertaken (Referred to: Sustainable Development of The Slate Landscape of Northwest Wales - The Partnership Steering Group will welcome agricultural diversification in ways that contribute to access and conservation of the proposed World Heritage Site)			•		
	Number of discussions held (Referred to: Sustainable Development of The Slate Landscape of Northwest Wales - The Partnership Steering Group will advocate for future sustainable land management schemes to apply to World Heritage Sites)			•		

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Cultural pillar	Social pillar	Environmental pillar	Economic pillar	Sustainability indicator (Number)	Indicator(s)	Site
			•		Number of itineraries developed (Referred to: Sustainable Development of The Slate Landscape of Northwest Wales - The use of sustainable methods of travel to visit the component parts of the proposed World Heritage Site will be encouraged)	
			•		Number of projects supported (Referred to: Sustainable Development of The Slate Landscape of Northwest Wales - The use of sustainable methods of travel to visit the component parts of the proposed World Heritage Site will be encouraged)	
			•		Number of projects undertaken (Referred to: Sustainable Development of The Slate Landscape of Northwest Wales - The use of sustainable methods of travel to visit the component parts of the proposed World Heritage Site will be encouraged)	
			•		Number of partners working together (Referred to: Sustainable Development of The Slate Landscape of Northwest Wales - The Partnership Steering Group will actively encourage integration of sustainable modes of transport and will seek to integrate heritage interest with sustainable transport within the proposed World Heritage Site, and the region)	
			•		Creation of Sustainable Visitor Management Plan (Referred to: Enjoying The Slate Landscape of Northwest Wales - The Partnership Steering Group will develop clear and consistent signage and information provision across the proposed World Heritage Site)	
•		•		3/10		'Uruq Bani Ma'arid (Saudi Arabia)
•		•			An updated and integrated conservation zoning plan for 'Uruq Bani Ma'arid, which balances natural heritage conservation requirements with sustainable use of resources and sustainable development	
•		•			An effective program for sustainable rangeland management developed and initiated to serve biodiversity conservation and sustainable use of local resources	
		•			A pilot initiative for sustainable wildlife hunting developed outside the PA based on internationally accepted standards, aimed to alleviate illegal hunting pressure and to support the PA management	
		•	•	3/34		Anticosti (Canada)
		•			Condition of access trails to sites and their natural environment (Referred to: responsible and sustainable visit to fossil sites)	
			•		Number of participants in guided tours (Referred to: responsible and sustainable visit to fossil sites)	
			•		Promote sustainable tourism compatible with the vision of the local community	

Site	Indicator(s)	Sustainability indicator (Number)	Economic pillar	Environmental pillar	Social pillar	Cultural pillar
Bale Mountains National Park (Ethiopia)		5/473	•	•	•	
	Provide input into protocols for community-based monitoring/evaluation of sustainable natural resource management agreements and train community-monitors as necessary			•	•	
	Establish new Community Based Organizations (CBOs) where none exist together with local administration office to ensure control of grazing and sustainable uses of other New Regulations (NRs)				•	
	Maximise Bale Mountains National Park use of sustainable energy and promote awareness of alternative energy sources and energy saving methods			•		
	Sustainable financial plan for Bale Mountains National Park and park associated communities operational				•	
	Alternative and sustainable energy use promoted and facilitated			•		
Cold Winter Deserts of Turan (Kazakhstan)		3/137		•	•	
	Expansion of the protected area for sustainable preservation of the protected core (pg. 622)			•		
	Number of methodological developments for schools on the subjects of the nature reserve, sustainable use of natural resources and the WH site (pg. 626)			•	•	
	Number of methodological materials for schools on biosphere reserves, sustainable use of natural resources, and WH sites (pg. 783)			•	•	
Jewish-Medieval Heritage of Erfurt (Germany)		3/12	•	•		•
	Evaluation of the results of the architectural history investigations for the development of a sustainable utilisation concept					•
	Further development of sustainable tourism infrastructure in line with accepted conservation practice (e.g. toilets and cloakrooms)		•			
	Development of a sustainable presentation compatible with cultural monuments also with regard to expected changes to the interior climate			•		
Koh Ker: Archaeological Site of Ancient Lingapura or Chok Gargyar (Cambodia)		1/37		•		
	Sustainable transport			•		

Site	Indicator(s)	Sustainability indicator (Number)	Economic pillar	Environmental pillar	Social pillar	Cultural pillar
Old town of Kuldiga (Latvia)		48/64	•	•	•	•
	Number of interactive games elaborated and presented to public (Referred to: A diverse, interactive and exciting set of marketing and promotional materials and activities presents Kuldiga as a lively town in Courland to experience contemporary culture in a model approach towards sustainable lifestyle and tourism - Development of modern technology-based interactive games to help tourists get to know the old town of Kuldiga and the identified attributes related to the Outstanding Universal Value of the property)					•
	A data base of such games elaborated (Referred to: A diverse, interactive and exciting set of marketing and promotional materials and activities presents Kuldiga as a lively town in Courland to experience contemporary culture in a model approach towards sustainable lifestyle and tourism - Development of modern technology-based interactive games to help tourists get to know the old town of Kuldiga and the identified attributes related to the Outstanding Universal Value of the property)					•
	Virtual exhibition elaborated and published, available to both residents and visitors of Kuldiga (Referred to: A diverse, interactive and exciting set of marketing and promotional materials and activities presents Kuldiga as a lively town in Courland to experience contemporary culture in a model approach towards sustainable lifestyle and tourism - omprehensive information of the Duchy of Courland and Semi gallia and its special values of Kuldiga)					
	Achieved awareness of Kuldiga as a world heritage site and as a recognised trade mark according to public surveys (Referred to: A diverse, interactive and exciting set of marketing and promotional materials and activities presents Kuldiga as a lively town in Courland to experience contemporary culture in a model approach towards sustainable lifestyle and tourism - Promotion of Kuldiga as a world heritage site and as a recognised trade mark)					•
	Increased number of visitors (Referred to: A diverse, interactive and exciting set of marketing and promotional materials and activities presents Kuldiga as a lively town in Courland to experience contemporary culture in a model approach towards sustainable lifestyle and tourism - Promotion of Kuldiga as a world heritage site and as a recognised trade mark)		•			
	Elaborated attractive new tourism programs for promoting the Duchy of Courland and Semigallia (Referred to: A diverse, interactive and exciting set of marketing and promotional materials and activities presents Kuldiga as a lively town in Courland to experience contemporary culture in a model approach towards sustainable lifestyle and tourism - Development and implementation of new tourism programs to explore and promote the Duchy of Courland and Semigallia)		•			

Site	Indicator(s)	Sustainability indicator (Number)	Economic pillar	Environmental pillar	Social pillar	Cultural pillar
	Increased number of visitors (Referred to: A diverse, interactive and exciting set of marketing and promotional materials and activities presents Kuldiga as a lively town in Courland to experience contemporary culture in a model approach towards sustainable lifestyle and tourism - Development and implementation of new tourism programs to explore and promote the Duchy of Courland and Semigallia)		•			
	Organised interesting events for the residents and visitors for promoting the Duchy of Courland and Semigallia (Referred to: A diverse, interactive and exciting set of marketing and promotional materials and activities presents Kuldiga as a lively town in Courland to experience contemporary culture in a model approach towards sustainable lifestyle and tourism - Organising attractive events to explore and promote the Duchy of Courland and Semigallia)		•			
	Elaborated new tourism offers for families with children (Referred to: A diverse, interactive and exciting set of marketing and promotional materials and activities presents Kuldiga as a lively town in Courland to experience contemporary culture in a model approach towards sustainable lifestyle and tourism - Development of a tourism offer of modern art, sports and future science adventures to target families with children)		•			
	Increased number of visitors (Referred to: A diverse, interactive and exciting set of marketing and promotional materials and activities presents Kuldiga as a lively town in Courland to experience contemporary culture in a model approach towards sustainable lifestyle and tourism - Development of a tourism offer of modern art, sports and future science adventures to target families with children)		•			
	Improved quality of the technical infrastructure regarding accommodation and other tourism services (Referred to: A diverse, interactive and exciting set of marketing and promotional materials and activities presents Kuldiga as a lively town in Courland to experience contemporary culture in a model approach towards sustainable lifestyle and tourism - Continuing the upgrade of technical infrastructure and therefore promoting the development of accommodation and other tourism services)		•			
	Number of educated owners of tourism companies and their employees (Referred to: A diverse, interactive and exciting set of marketing and promotional materials and activities presents Kuldiga as a lively town in Courland to experience contemporary culture in a model approach towards sustainable lifestyle and tourism - Promotion of education of the owners of tourism companies and their employees about heritage issues)				•	

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Site	Indicator(s)	Sustainability indicator (Number)	Economic pillar	Environmental pillar	Social pillar	Cultural pillar
	Increased level of knowledge of the specialists involved in tourism business regarding heritage issues (Referred to: A diverse, interactive and exciting set of marketing and promotional materials and activities presents Kuldīga as a lively town in Courland to experience contemporary culture in a model approach towards sustainable lifestyle and tourism - Promotion of education of the owners of tourism companies and their employees about heritage issues)				•	
	Elaborated an in-depth study regarding the present situation, implemented consultations regarding the best solutions to the problem (Referred to: The conservation and maintenance policy for Kuldīga old town and its natural environment supports the authenticity, safeguarding, research and use, of craft skills, historic buildings and landscape through accessible capacity-building opportunities, specialist advice, transparent regulations and added resources - Provision of sustainable wastewater management solutions, ensuring the establishment of a system for collecting and discharging rainwater, as well as the renewal of the drainage system)			•		
	Elaborated plan of sustainable rainwater management in the old town (Referred to: The conservation and maintenance policy for Kuldīga old town and its natural environment supports the authenticity, safeguarding, research and use, of craft skills, historic buildings and landscape through accessible capacity-building opportunities, specialist advice, transparent regulations and added resources - Provision of sustainable wastewater management solutions, ensuring the establishment of a system for collecting and discharging rainwater, as well as the renewal of the drainage system)			•		
	Elaborated an in-depth study regarding the present situation, implemented consultations regarding the best solutions to the problem (Referred to: The conservation and maintenance policy for Kuldīga old town and its natural environment supports the authenticity, safeguarding, research and use, of craft skills, historic buildings and landscape through accessible capacity-building opportunities, specialist advice, transparent regulations and added resources - Improvement of the effectiveness of the sewerage system in the old town)			•		
	Elaborated plan of sustainable wastewater management in the old town (Referred to: The conservation and maintenance policy for Kuldīga old town and its natural environment supports the authenticity, safeguarding, research and use, of craft skills, historic buildings and landscape through accessible capacity-building opportunities, specialist advice, transparent regulations and added resources - Improvement of the effectiveness of the sewerage system in the old town)			•		

Site	Indicator(s)	Sustainability indicator (Number)	Economic pillar	Environmental pillar	Social pillar	Cultural pillar
	Number of interactive games elaborated and presented to public (Referred to: A diverse, interactive and exciting set of marketing and promotional materials and activities presents Kuldiga as a lively town in Courland to experience contem porary culture in a model approach towards sustainable lifestyle and tourism - Development of modern technology-based interactive games to help tourists get to know the old town of Kuldiga and the identified attributes related to the Outstanding Universal Value of the property)					•
	A data base of such games elaborated (Referred to: A diverse, interactive and exciting set of marketing and promotional materials and activities presents Kuldiga as a lively town in Courland to experience contem porary culture in a model approach towards sustainable lifestyle and tourism - Development of modern technology-based interactive games to help tourists get to know the old town of Kuldiga and the identified attributes related to the Outstanding Universal Value of the property)					•
	Virtual exhibition elaborated and published, available to both residents and visitors of Kuldiga (Referred to: A diverse, interactive and exciting set of marketing and promotional materials and activities presents Kuldiga as a lively town in Courland to experience contem porary culture in a model approach towards sustainable lifestyle and tourism - Elaboration of a virtual exhibition with comprehensive information of the Duchy of Courland and Semigallia and its special values of in Kuldiga)					•
	Achieved awareness of Kuldiga as a world heritage site and as a recognised trade mark according to public surveys (Referred to: A diverse, interactive and exciting set of marketing and promotional materials and activities presents Kuldiga as a lively town in Courland to experience contem porary culture in a model approach towards sustainable lifestyle and tourism - Promotion of Kuldiga as a world heritage site and as a recognised trade mark)		•			
	Achieved awareness of Kuldiga as the best representation of the Duchy of Courland and Semigallia (Referred to: a diverse, interactive and exciting set of marketing and promotional materials and activities presents Kuldiga as a lively town in Courland to experience contem porary culture in a model approach towards sustainable lifestyle and tourism - Implementation of informative and promoting (awareness-raising) activities)					•
	Elaborated attractive new tourism programs for promoting the Duchy of Courland and Semigallia (Referred to: a diverse, interactive and exciting set of marketing and promotional materials and activities presents Kuldiga as a lively town in Courland to experience contem porary culture in a model approach towards sustainable lifestyle and tourism - Development and implementation of new tourism programs to explore and promote the Duchy of Courland and Semigallia)		•			

Site	Indicator(s)	Sustainability indicator (Number)	Economic pillar	Environmental pillar	Social pillar	Cultural pillar
	Increased number of visitors (Referred to: a diverse, interactive and exciting set of marketing and promotional materials and activities presents Kuldiga as a lively town in Courland to experience contem porary culture in a model approach towards sustainable lifestyle and tourism - Development and implementation of new tourism programs to explore and promote the Duchy of Courland and Semigallia)		•			
	Organised interesting events for the residents and visitors for promoting the Duchy of Courland and Semigallia (Referred to: a diverse, interactive and exciting set of marketing and promotional materials and activities presents Kuldiga as a lively town in Courland to experience contem porary culture in a model approach towards sustainable lifestyle and tourism - Organised interesting events for the residents and visitors for promoting the Duchy of Courland and Semigallia)				•	
	Increased number of visitors (Referred to: a diverse, interactive and exciting set of marketing and promotional materials and activities presents Kuldiga as a lively town in Courland to experience contem porary culture in a model approach towards sustainable lifestyle and tourism - Organised interesting events for the residents and visitors for promoting the Duchy of Courland and Semigallia)		•			
	Elaborated new tourism offers for families with children (Referred to: a diverse, interactive and exciting set of marketing and promotional materials and activities presents Kuldiga as a lively town in Courland to experience contem porary culture in a model approach towards sustainable lifestyle and tourism - Development of a tourism offer of modern art, sports and future science adventures to target families with children)		•			
	Increased number of visitors (Referred to: a diverse, interactive and exciting set of marketing and promotional materials and activities presents Kuldiga as a lively town in Courland to experience contem porary culture in a model approach towards sustainable lifestyle and tourism - Development of a tourism offer of modern art, sports and future science adventures to target families with children)		•			
	Improved quality of the technical infrastructure regarding accommodation and other tourism services (Referred to: diverse, interactive and exciting set of marketing and promotional materials and activities presents Kuldiga as a lively town in Courland to experience contem porary culture in a model approach towards sustainable lifestyle and tourism - Continuing the upgrade of technical infrastructure and therefore promoting the development of accommodation and other tourism services)		•			

Site	Indicator(s)	Sustainability indicator (Number)	Economic pillar	Environmental pillar	Social pillar	Cultural pillar
	Clearly set priority groups of tourists (Referred to: a diverse, interactive and exciting set of marketing and promotional materials and activities presents Kuldiga as a lively town in Courland to experience contem porary culture in a model approach towards sustainable lifestyle and tourism - Highlighting motivated cultural tourists as a priority group, for whom a respectful attitude towards heritage values, the local community and a characteristic desire to explore are important motivations for the trip)		•			
	Improved tourism infrastructure, especially regarding camper vans (Referred to: a diverse, interactive and exciting set of marketing and promotional materials and activities presents Kuldiga as a lively town in Courland to experience contem porary culture in a model approach towards sustainable lifestyle and tourism - Promoting improvement of camping sites by attracting entrepreneurs, designating a specific intended place among the discussed alternatives, reducing the number of spontaneously created places)		•			
	Number of provided additional car parks (Referred to: a diverse, interactive and exciting set of marketing and promotional materials and activities presents Kuldiga as a lively town in Courland to experience contem porary culture in a model approach towards sustainable lifestyle and tourism - Finding an integrated solution for the creation of car parking spaces at the town's eastern gate, giving the car park an internationally recognised name)		•			
	Improved quality of the tourism infrastructure (Referred to: a diverse, interactive and exciting set of marketing and promotional materials and activities presents Kuldiga as a lively town in Courland to experience contem porary culture in a model approach towards sustainable lifestyle and tourism - Improvement of town's sign system to the main parking. Creation of an accurate visual communications material with the main car parking spaces and alternative directions)		•			
	Improved satisfaction of both tourists and local residents (Referred to: a diverse, interactive and exciting set of marketing and promotional materials and activities presents Kuldiga as a lively town in Courland to experience contem porary culture in a model approach towards sustainable lifestyle and tourism - Auditing and communicating the necessary changes to key digital map navigation systems)				•	
	Improved quality of the tourism infrastructure (Referred to: a diverse, interactive and exciting set of marketing and promotional materials and activities presents Kuldiga as a lively town in Courland to experience contem porary culture in a model approach towards sustainable lifestyle and tourism - Creation of an efficient system for regulation the public traffic during the Town Festival and other major public events)		•			

Site	Indicator(s)	Sustainability indicator (Number)	Economic pillar	Environmental pillar	Social pillar	Cultural pillar
	Improved satisfaction of both tourists and local residents (Referred to: a diverse, interactive and exciting set of marketing and promotional materials and activities presents Kuldiga as a lively town in Courland to experience contem porary culture in a model approach towards sustainable lifestyle and tourism - Monitoring changes in the traffic flow)				•	
	Improved satisfaction of tourists (Referred to: a diverse, interactive and exciting set of marketing and promotional materials and activities presents Kuldiga as a lively town in Courland to experience contem porary culture in a model approach towards sustainable lifestyle and tourism - Finding a solution to reduce the flow of traffic in the old town, evaluating driving habits of the local populations, delivery of goods, in the consultation process with local entrepreneurs and inhabitants)		•			
	Improved satisfaction of tourists (Referred to: a diverse, interactive and exciting set of marketing and promotional materials and activities presents Kuldiga as a lively town in Courland to experience contem porary culture in a model approach towards sustainable lifestyle and tourism - Introduction of an electronic free parking communication system with a car meter and an easy to-understand display at the intersection of P120 and P121 roads- in the square at the beginning of Stendes Street)		•			
	Improved satisfaction of tourists (Referred to: a diverse, interactive and exciting set of marketing and promotional materials and activities presents Kuldiga as a lively town in Courland to experience contem porary culture in a model approach towards sustainable lifestyle and tourism - Promotion of a wider spatial distribution of tourists by diversifying the alternatives of the town experience)		•			
	Improvement of the traffic flow in the old town of Kuldiga (Referred to: a diverse, interactive and exciting set of marketing and promotional materials and activities presents Kuldiga as a lively town in Courland to experience contem porary culture in a model approach towards sustainable lifestyle and tourism - Further development of accessibility of the environment as a whole, using a universal design approach that does not create barriers for visitors, raises the quality of the overall experience)			•		
	Improved quality of the tourism infrastructure (Referred to: a diverse, interactive and exciting set of marketing and promotional materials and activities presents Kuldiga as a lively town in Courland to experience contem porary culture in a model approach towards sustainable lifestyle and tourism - Further development of accessibility of the environment as a whole, using a universal design approach that does not create barriers for visitors, raises the quality of the overall experience)		•			

Site	Indicator(s)	Sustainability indicator (Number)	Economic pillar	Environmental pillar	Social pillar	Cultural pillar
	Improved satisfaction of both tourists and local residents (Referred to: a diverse, interactive and exciting set of marketing and promotional materials and activities presents Kuldiga as a lively town in Courland to experience contem porary culture in a model approach towards sustainable lifestyle and tourism - Maintaining a regular dialogue with the local community, especially the residents of Kuldiga old ISM town, representatives of NGOs, gaining feedback on the impact of tourism, on solutions to prob lem situations)				•	
	Improved quality of the tourism infrastructure (Referred to: a diverse, interactive and exciting set of marketing and promotional materials and activities presents Kuldiga as a lively town in Courland to experience contem porary culture in a model approach towards sustainable lifestyle and tourism - Promotion of education of the owners of tourism companies and their employees about heritage issues)				•	
	Improved satisfaction of tourists (Referred to: a diverse, interactive and exciting set of marketing and promotional materials and activities presents Kuldiga as a lively town in Courland to experience contem porary culture in a model approach towards sustainable lifestyle and tourism - Promotion of education of the owners of tourism companies and their employees about heritage issues)				•	
	Elaborated an in-depth study regarding the present situation, implemented consultations regarding the best solutions to the problem (Referred to: The conservation and maintenance policy for Kuldiga old town and its natural environment supports the authenticity, safeguarding, research and use, of craft skills, historic buildings and landscape through accessible capacity-building opportunities, specialist advice, transparent regulations and added resources - Provision of sustainable wastewater management solutions, ensuring the establishment of a system for collecting and discharging rainwater, as well as the renewal of the drainage system)			•		
	Elaborated plan of sustainable rainwater management in the old town (Referred to: The conservation and maintenance policy for Kuldiga old town and its natural environment supports the authenticity, safeguarding, research and use, of craft skills, historic buildings and landscape through accessible capacity-building opportunities, specialist advice, transparent regulations and added resources - Provision of sustainable wastewater management solutions, ensuring the establishment of a system for collecting and discharging rainwater, as well as the renewal of the drainage system)			•		

Appendix VII

World Heritage Sites with the number of Sustainable Development Goals implemented and their qualitative characteristics.

Transnational	Serial	Typology	Continent	Region(s)	Year of inscription	Site
No	Yes	Landscape (Cultural, Religious)	Asia	Myanmar	2019	**Bagan**
No	No	Landscape (Urban water management)	Europe	Germany	2019	**Water Management System of Augsburg**
No	Yes	Landscape (Cultural)	Asia	Saudi Arabia	2021	**Ḥimā Cultural Area**
No	Yes	Landscape (Cultural)	Asia	Russia	2021	**Petroglyphs of Lake Onega and the White Sea**
No	Yes	Landscape (Cultural)	Europe	Germany	2021	**ShUM Sites of Speyer, Worms and Mainz**
No	Yes	Monument	Europe	Italy	2021	**The Porticoes of Bologna**
No	Yes	Landscape (Industrial)	Europe	United Kingdom, Northen Irland	2021	**The Slate Landscape of Northwest Wales**
No	No	Landscape (Cultural)	Europe	Germany	2023	**Jewish-Medieval Heritage of Erfurt**
No	Yes	Monument	Europe	India	2023	**Sacred Ensembles of the Hoysalas**
No	No	Landscape (Cultural)	Europe	Greece	2023	**Zagori Cultural Landscape**

Site	Sustainability section	Sustainability indicator (Number)	SDGs (Number)
Bagan	✓		4
Water Management System of Augsburg		1/22	3
Ḥimā Cultural Area	✓	1/85	10
Petroglyphs of Lake Onega and the White Sea	✓		4
ShUM Sites of Speyer, Worms and Mainz	✓		1
The Porticoes of Bologna	✓	1/14	10
The Slate Landscape of Northwest Wales	✓	33/101	1
Jewish-Medieval Heritage of Erfurt	✓	3/12	3
Sacred Ensembles of the Hoysalas	✓		4
Zagori Cultural Landscape			6

Tables

Figures

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