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Threats and Membership of Kandovan in UNESCO

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ABSTRACT

This research aims to explore the heritage and tourist zone of Kandovan in Iran, currently undergoing the UNESCO registration process, but facing rejection due to threats in the area. The primary goal is to offer valuable insights to the Kandovan municipality and officials, assisting them in recognizing and mitigating the prevailing threats to secure the designation of Kandovan as a UNESCO heritage site. The examination of the heritage zone in Kandovan, Iran, involved a comprehensive approach incorporating a literature review, interviews, and on-site observations. Interviews were conducted with Kandovan officials to inquire about the heritage criteria, existing challenges and threats, future initiatives, and notable transformations. Field observations were employed to assess the physical characteristics and layout of the heritage area, residents' interactions with the heritage sites, and issues affecting tourists, including accommodation shortages and architectural concerns. The findings of this study have identified the threats present in Kandovan, as acknowledged by UNESCO. The majority of these threats have emerged as a consequence of the expanding urbanization and tourism activities in Kandovan, emphasizing the need for effective management and controlled development in the area.

Keywords: Cultural heritage site, Impact of tourism, Conservation, and Deterioration.

INTRODUCTION:

Heritage areas, in addition to their historical significance, adhere to specific definitions and criteria outlined by UNESCO. It is crucial to note that not every old place or monument is automatically classified as heritage; rather, it must meet particular criteria set forth by UNESCO.

UNESCO Criteria for Heritage and Cultural Areas

The definition provided by the United Nations Educational, Scientific and Cultural Organization (UNESCO) characterizes cultural heritage as the enduring legacy encompassing both physical artifacts and intangible attributes of a group or community. These elements are inherited from preceding generations, actively preserved in the present, and bestowed for the well-being of future generations (Dela Santa and Tiatco, 2019). This perspective on cultural sustainability regards heritage as a fundamental source of identity and endeavors to safeguard it for the well-being of future generations (Lee & Chhabra, 2015). Certainly, not everything old is automatically deemed historical; significance varies based on local, state, or national importance. What holds importance to a particular society may not necessarily carry the same weight at the national level, yet it can still be deemed historical. Certain sites gain importance due to their exemplary architectural or engineering significance

(Tammie, 2018). UNESCO takes a keen interest in heritage sites, implementing protective and maintenance measures for their preservation. To secure a spot on the World Heritage List, locations must possess exceptional global significance and fulfill at least one of the ten selection criteria established by UNESCO. The criteria set by UNESCO for inclusion in the World Heritage List (UNESCO, 1992a) are as follows:

i. Showcase a masterpiece of human ingenuity and creativity.
ii. Demonstrate an essential exchange of human values over time or within a cultural region, particularly in developments in architecture, technology, monumental arts, urban planning, or landscape design.
iii. Possess unique or exceptionally significant evidence of a living or extinct cultural tradition or civilization.
iv. Exemplify an outstanding instance of a building type, architectural or technological complex, or landscape representing a crucial stage in human history.
v. Include traditional human settlements, land use, or marine use reflecting culture and human interaction with the environment, especially when vulnerable to irreversible change.
vi. Have a direct or tangible connection with events, living traditions, ideas, beliefs, and works of global importance in art and literature (preferably used in conjunction with other criteria).
vii. Encompass extraordinary natural phenomena or areas of unique natural beauty and aesthetic significance.
viii. Represent significant stages in Earth's history, including the record of life, critical geologic processes, or important geomorphic features.
ix. Represent important biological and environmental processes in developing and evolving terrestrial, coastal, marine, and freshwater ecosystems, along with animal and plant communities.
x. Include the most crucial natural habitats for in situ biodiversity conservation, particularly those housing globally valuable threatened species of outstanding scientific or conservation value.

Matera

Matera in Italy serves as an extraordinary testament to the ancient human capacity for adapting to its habitat. The houses within the caves were excavated into the tuff, featuring a downward slope strategically designed to capture the sunlight during winter and mitigate its impact in the summer (d'Ambrosio Alfano *et al.,* 2017). Furthermore, among the prevalent structures dating back to the Neolithic period in Matera are water reservoirs characterized by their enduring bell-shaped design. These structures provide evidence of the practice of collecting water for garden irrigation, highlighting the crucial role of water collection and distribution knowledge for sustaining life in arid regions (De Pascale & Bernardo, 2016; Fairooz *et al.,* 2024).

The city of Matera has held the status of a UNESCO World Heritage Site since 1993, meeting three specific UNESCO criteria. These criteria encompass:

Criterion iii: The Sassi and the Park of the Churches of Rupstrein in Matera stand as a remarkable illustration of a rock settlement, impeccably adapted to its geomorphological environment and ecosystem, spanning over two millennia.
Criterion iv: The city and park serve as exceptional instances of architectural and landscape complexes, portraying pivotal stages in human history.
Criterion v: The city and park represent an outstanding model of traditional settlements and land use, reflecting the evolution of a culture that has maintained a harmonious relationship with the natural environment throughout its history (UNESCO, 1992b). Additionally, Matera attained the recent designation as the European Capital of Culture in 2019 (Tropeano *et al.,* 2018).

The urban layout of Matera is rooted in its distinctive location, situated on the edge of a cliff that commands a deep valley of the same name, characterized by steep walls originating from the southern part of the Murge Plateau, sculpted over thousands of years by rainwater (**Fig. 1**). Tuff erosion along the valley has given rise to two interconnected hollows, forming expansive amphitheaters with lateral openings, following the descent of the valley. Although the dimensions of these cavities have evolved over time, it is evident that human habitation in this valley dates back to ancient times. Initially serving as rudimentary shelters, the caves gradually transformed into dwellings. Recognizing the potential for creating similar openings in tuff, humans increased the number of such houses, often placing them in softer

tuff layers. With the city's expansion, residences were excavated and constructed on the valley slopes, leading to instances where the roofs of lower houses served as courtyards for those situated above (d'Ambrosio Alfano *et al.,* 2017). Ultimately, as individuals ascended the valley wall and reached the brink of the gorge, they constructed their successive houses along the street, taking advantage of the lower slope of the land and, in certain areas, the transition from tuff formation to clay sands (Ivona *et al.,* 2019).

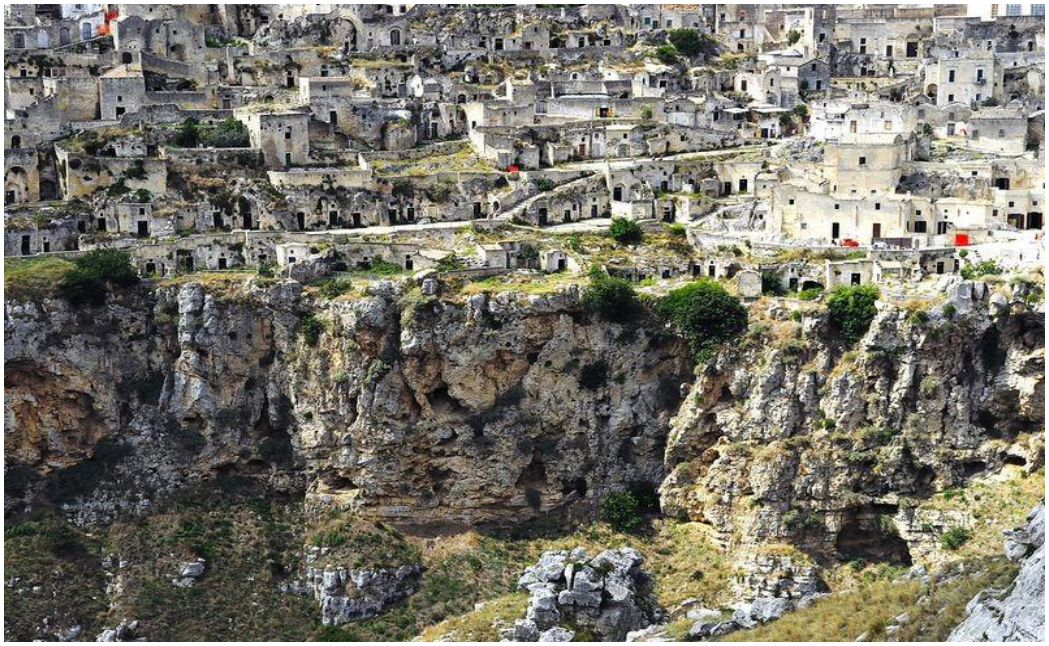

Fig. 1*:* Matera houses at the edge of the valley (https://www.dreamstime.com/stock-photos-sassi-image10790933).

In the late fourteenth century, the initial incongruous houses emerged in Sassi Matera. Over the next two centuries, these structures contributed to a fusion of architecture, juxtaposing affluent mansions with humble caves and resulting in a significant population surge. Constructions proliferated across the area, leading to the removal of certain elements that defined Matera's urban structure (d'Ambrosio Alfano *et al.,* 2017). This trend persisted until Matera gained recognition as a culturally impoverished area with numerous challenges. Subsequently, Matera undertook substantial efforts to transform itself, transcending national shame, and became the first city in southern Italy to achieve World Heritage Site status. This marked a remarkable transformation, propelling Matera from a relatively obscure town to one of the most prominent and artistically significant cities to visit (De Pascale & Bernardo, 2016). These transformations were facilitated through government legislation and oversight by UNESCO. The implementation of specific laws resulted in the relocation of residents to newly developed neighborhoods in the western suburbs of the city. The construction of these new areas coincided with the closure of houses in the old center, influenced by intricate political and cultural processes that involved the intervention of numerous intellectuals and urban planners in post-war Italy (Frediani, 2012). Matera successfully altered the destiny of a declining city by preserving its natural essence, emerging as a symbol of transformation and resilience (Sichenze *et al.,* 2006).

The city of Matera cultivated a novel culture in urban planning, emphasizing cultural investment grounded in crucial principles such as the reuse of existing infrastructure over new constructions. This approach was rooted in the principles of environmental sustainability and flexibility (De Pascale & Bernardo, 2016). Moreover, the reconstruction of Matera adhered to various parameters mandated by Italian law, encompassing climatic aspects of the site, the degree of thermal insulation, the incorporation of self-generating systems, technical specifications, installation of power plants, and the microclimate of indoor environments (Negro *et al.,* 2016). It is noteworthy that Matera has not received

any warnings from UNESCO regarding threats to its heritage.

Kandovan Heritage Site in Iran

Upon examining Matera and its distinctive features, a comparative analysis has been conducted with Kandovan in Iran. Despite facing challenges and unregulated development, Kandovan has not achieved UNESCO membership. It is imperative for Kandovan to undergo reform and controlled development to preserve its identity values, aligning with similar cities that have attained UNESCO recognition. Notably, the architectural uniqueness of Kandovan lies in being the last permanently inhabited cone-shaped settlement, acknowledged through its inclusion in Iran's National Heritage List (Haji Rasouli, Kumarasuriyar, & Nielsen, 2019). Despite the Kandovan cone-shaped houses enduring for over 850 years, substantial modifications have been made to accommodate the evolving needs of its residents (**Fig. 2**). Nevertheless, Kandovan has experienced a swift urbanization process in recent decades, resulting in profound changes and a decline in both its social structure and construction form (Hajirasouli & Banihashemi, 2020).

Fig. 2: Example of a Kandovan house (by the Author).

UNESCO Criterion for Kandovan

Kandovan possesses the potential and meets the criteria for UNESCO world registration. However, existing problems, changes, and deficiencies have hindered its inclusion in the UNESCO World Heritage list to date. Through field observations and interviews with Kandovan officials, it was identified that the UNESCO criteria for Kandovan's registration include:

Criterion iii: Kandovan exhibits unique or exceptional evidence of a cultural tradition or civilization, either still alive or disappeared. In the world, there are only three examples, and Kandovan stands as the sole inhabited instance.

Criterion v: Kandovan showcases traditional human settlements, land use, or marine use that reflects culture and human interaction with the environment, particularly when vulnerable to irreversible change. Notably, Kandovan utilizes nature itself as a dwelling.

Criterion viii: Kandovan represents a prominent example that signifies significant stages in Earth's history.

This is evident in its formation with volcanic lavas, their transformation into conical shapes, and their evolution into inhabited spaces over time.

Based on interviews with Kandovan officials, the region experiences a surge in tourist activity during the spring and summer. The estimated number of visitors reaches 10,000 people per day, surpassing the maximum capacity of 5,000 people per day. Consequently, local residents take on the responsibility of accommodating tourists by renting out their homes beyond what is required. Despite the promising potential for tourism industry growth, Kandovan faces various challenges, including insufficient infrastructure in the lodging, camping, and parking sectors of the industry (Khorasani *et al.,* 2017). As a response to the increasing demand, many locals have taken the initiative to construct dwellings and amenities to meet these needs. This often involves modifying existing cone-shaped residences or constructing new structures, a process undertaken without seeking input from officials and specialists (Haji Rasouli *et al.,* 2019). The uneven alterations and constructions, which deviate from the village's original architecture, exert a negative impact on Kandovan's distinctive and unique texture. These changes lead to the destruction of gardens and farms, compromising the village's original character (Khorasani *et al.,* 2017). Additional modifications involve the installation of amenities such as tap water, sewage systems, and

electricity. Furthermore, the original wooden doors and windows have been replaced with new metal ones. The introduction of modern equipment such as stoves and televisions, along with alterations in spatial arrangement, design, and usage, has impacted virtually all conical dwellings in Kandovan (Hajirasouli & Banihashemi, 2020). To meet the needs of tourists, local residents have diversified their economic activities. Some have established small shops, including tea shops and small eateries. Others have transformed their cone-shaped residences into museums, galleries, or shops. Additionally, some individuals have built new structures in the town, using them for various business and residential purposes. Concurrently, others have converted existing cone-shaped homes into short-term lodging accommodations for tourists seeking to spend a few nights in the village. These new vocations have gained popularity and financial benefits for the locals, especially with the increasing number of tourists (Haji Rasouli *et al.,* 2019). Consequently, a considerable number of indigenous cone-shaped buildings underwent transformation into stores, galleries, museums, and temporary lodgings catering to tourists and visitors. The rapid evolution in the organization and utilization of space has led to the loss of many traditional or original qualities in Kandovan's cone-shaped homes.

Moreover, the exterior additions have introduced an unfavorable contrast between the historic and modern elements. The accelerated pace of construction and development, particularly in areas closer to the main access road, has resulted in a continuous expansion of new additions, forming a barrier that conceals the conical architecture (**Fig. 3**).

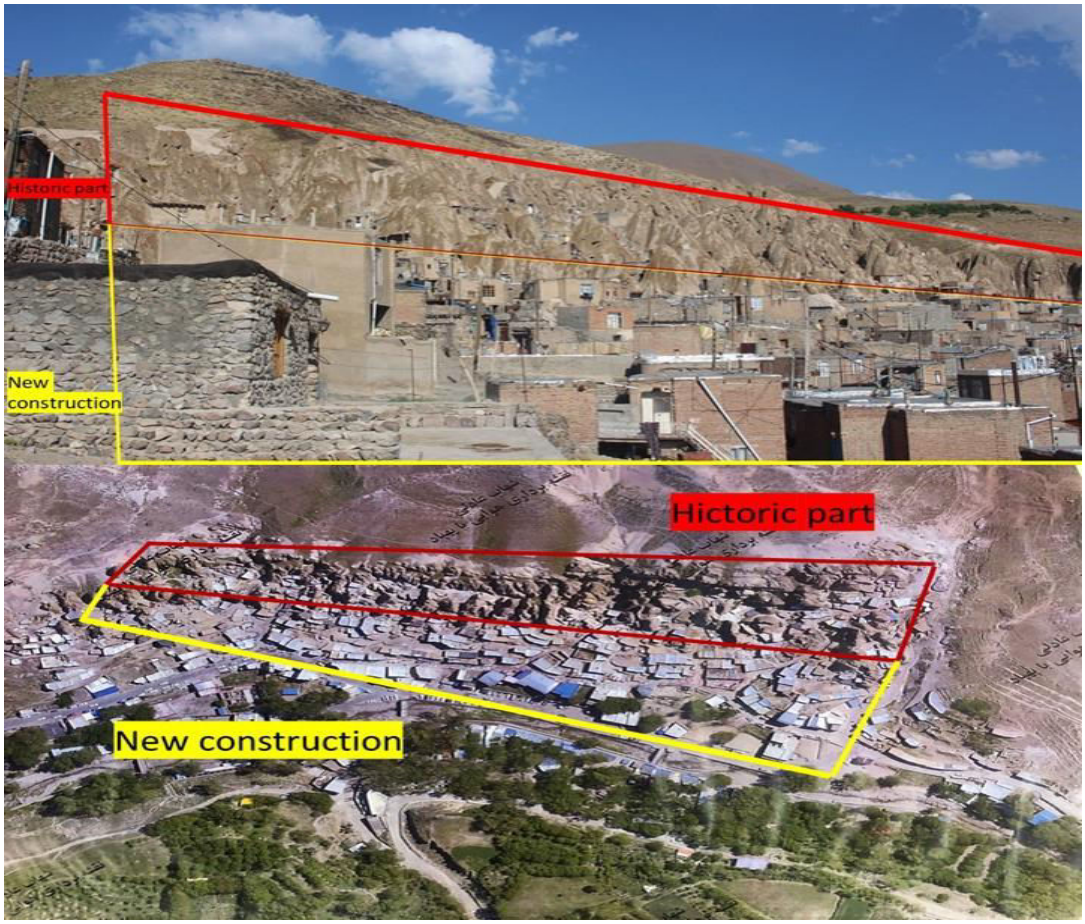

Fig. 3: Kandovan construction (Kandovan Municipal Archives, by the Author).

The extensive changes have posed a significant threat to the traditional lifestyle and unique architecture of this settlement (Haji Rasouli *et al.,* 2019). Consequently, in certain sections of the village, the sight of old conical houses has become impossible, replaced instead by new buildings of inferior quality and architecture that fails to align with the context of the existing structures (Khorasani *et al.,* 2017). Presently, the expansion of tourism has led to an increase in the quality of life

and expectations for the residents of Kandovan. However, it was observed during field investigations that the residents are not actively cooperating to revitalize the area. There is a deliberate effort to protect the area from becoming solely an economic hub, as such a transformation might result in the displacement of its native inhabitants. With more permits, there is a risk that all houses may be converted into accommodations for tourists, prompting the native population to migrate to larger cities. The abandonment of native inhabitants in these historical and heritage rocks could lead to severe damage to this unique region, given that one of its distinct features is the presence of a native population. The planning for the new part of the city, designed to absorb the population increase, has unfortunately been halted **Fig. 4**.

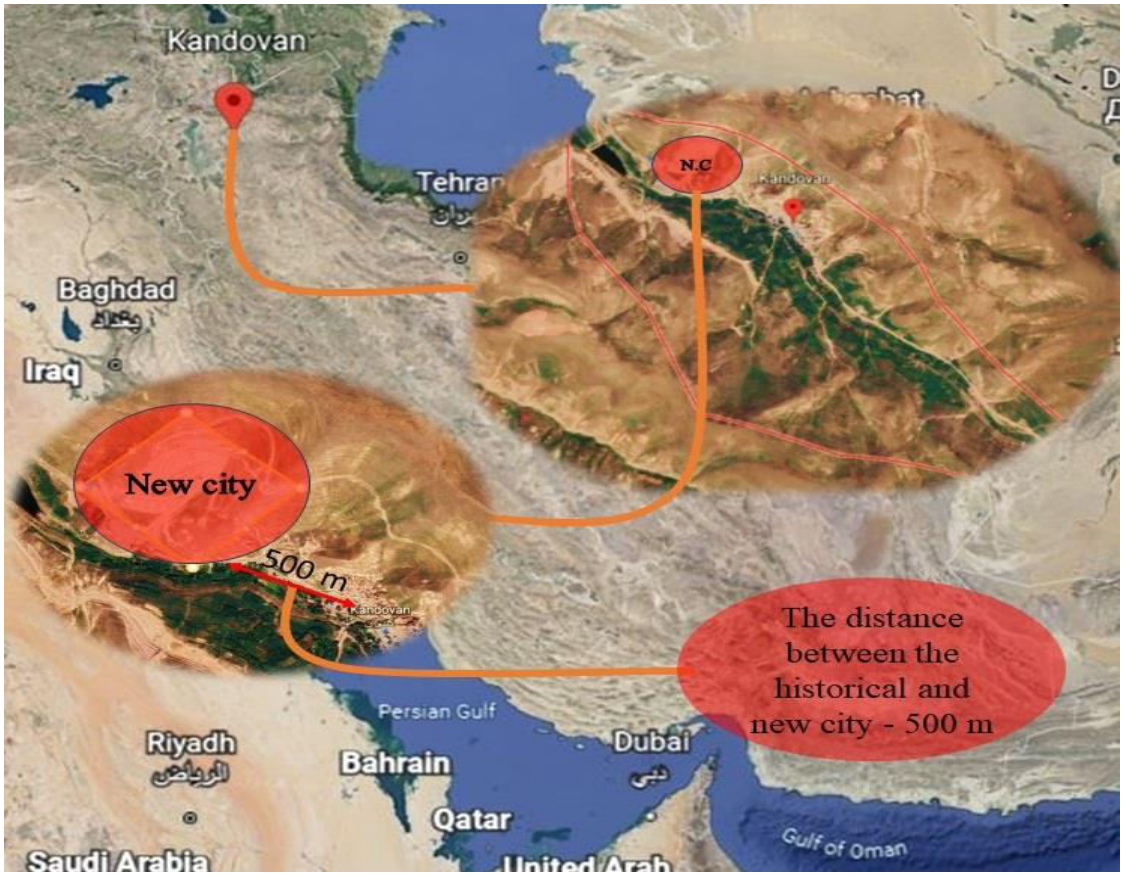

Fig. 4: Kandovan new city place (Google, n.d.) edited by the Author).

Threats for Kandovan

Kandovan holds the potential to be part of the UNESCO World Heritage Organization; however, several issues have hindered its membership. Field studies in the Kandovan heritage area, coupled with observations and interviews with officials, revealed that detrimental environmental changes have occurred in this heritage area. Atmospheric and humidity factors, contributing to erosion, have played a role in the destruction of this area. Due to inadequate protection measures, atmospheric elements and alterations made by residents to these stone cones have at times led to their deterioration and collapse. Such modifications are often undertaken to convert local accommodations into tourist lodgings. Additionally, the transformation of historical sites into tourist accommodations, without proper protection, results in changes in usage and appearance that contribute to the destruction and loss of the region's identity.

Furthermore, new constructions have emerged within these heritage areas, with around ten new buildings constructed among the historic structures, and an additional eight in the southern heritage area. Unfortunately, these new constructions not only alter the fabric of the heritage area but also diminish its identity. The changes and additions to fixtures have further altered the shape of the cones, posing harm to the fabric of Kandovan.

The UNESCO World Organization has identified 14 threats as primary risks to heritage areas, with each

of these threats encompassing specific subsets outlined in **Table 1**. It is essential to underscore that the mere presence of a single threat has the potential to impede the UNESCO registration of a heritage site. In an interview with the head of the Kandovan Tourism Organization, an exploration was undertaken to identify the threats and dangers present in Kandovan that hindered its UNESCO registration, as highlighted in the aforementioned table. **Table 1** encompasses a comprehensive compilation of all the mentioned threats. This table serves as the standardized list delineating threats and factors that impact the exceptional global value of World Heritage properties. It encompasses 14 primary factors, each inclusive of various secondary factors, providing a structured overview of the challenges faced by heritage areas (UNESCO, 2008). The threats specific to Kandovan are duly identified and marked within this table. These risks align with the threats acknowledged by UNESCO, emphasizing the imperative to either entirely eliminate or shield the heritage area from these identified threats. Presently, there is a necessity to reassess the measures implemented in Kandovan for rectification or protection of the heritage area, indicating the potential need for revisions and additional planning.

Table 1: The Standard List of Threats and Factors and Kandovan's Performance.

1	**Buildings and Development**	
Housing	• Urban high-rise/urban sprawl	✓
	• Encroachment/changes to the skyline	✓
Commercial development	• Skyscrapers	
	• Large shopping malls	
	• Encroachment/changes to the skyline	✓
Industrial areas	• Individual factories	✓
	• Industrial areas/parks	
	• Encroachment/changes to the skyline	
Major visitor accom modation and rela-ted infrastructure	• Major accommodation and related infrastructure (restaurants, hotels, ski resorts, golf courses, etc.)	✓
	• Major and permanent high-cost tourism facilities (cable cars, pontoons, observatories, chalets, jetties, fully serviced camping areas, etc.)	
Interpretative and visitation facilities	• Visitor interpretive facilities (visitor center, site museum, etc.)	✓
	• Signage etc.	✓
	• Trail hardening, (trail markers, etc.)	✓
	• Information booths etc.	
	• Minor picnic facilities	
	• Minor camping areas	
	• Moorings/marker buoys	
2	**Biological resource use/modification** The collecting/harvesting wild animals and plants (forestry, fishing, hunting and gathering) and harvesting of domesticated species (silviculture, agriculture, and aquaculture)	
Fishing/collecting aquatic resources	• Trawling	
	• Netting	
	• Line fishing	
	• Game fishing	
	• Collection/harvest fisheries	
	• Spearfishing	
	• By-catch/incidental take issues	
Aquaculture	• Marine	
	• Freshwater aquaculture	
Land conversion	• Agriculture (crops and livestock)	✓
	• Rural	
	• Forestry	

Livestock farming/ grazing of domestic cated animals	• Grazing on farms or by pastoral groups	
Crop production	• Deep ploughing	
	• New crops	
	• Intensification of planted agriculture	
	• Traditional crops	
	• Traditional systems	
	• Gardening	
Commercial wild plant collection	• Pharmaceutical trade	
	• Medicinal plants	
	• Fodder collection	
	• Thatching	
	• Mushrooms	
	• Bulbs etc.	
Commercial hunting	• Bush meat trade	
	• Organized game hunting	
Subsistence hunting	Subsistence, i.e., not for economic benefits, hunting. Use "native hunting and gathering" to show factors related to native hunting and gathering.	
Forestry/wood production	• Logging	
	• Pulp production	
	• All silvicultural operations	
	• Restoration/regeneration	
	• Sustainable wood harvesting	
collection of subsis-tence wild plants Use this question for indigenous hunting and gathering, not for economic gain**.**	• Food plants	
	• Medicinal plants	
	• Fodder collection	
	• Thatching	
	• Mushrooms	
	• Bulbs etc.	
3	**Other human activities** Note Use ' social and cultural functions of heritage' for effects on regional neighborhoods.	
Illegal activities	• Criminal extraction of biological resources (i.e., poaching)	
	• Blast fishing, cyanide fishing	
	• Criminal extraction of geological resources (mining/fossils)	
	• Illegal trade	
	• Illegal occupation of space	
	• Illegal excavations	✓
	• Illegal construction	✓
	• Looting	
	• Theft	
	• Treasure hunting	
	• Ghost nets (discarded fishing gear)	
Deliberate destruction of heritage	• Vandalism	
	• Graffiti	
	• Politically motivated acts	
	• Arson	
Military training		
War		
Terrorism		
Civil unrest		

4	**Transportation Infrastructure**	
Ground transport infrastructure	• Roads	✓
	• Car parks	✓
	• Railways, including easements	
	• Transport depots	
Air transport infra-structure	• Airports	
	• Airstrips	
Marine transport infrastructure	• Harbour & port facilities	
Effects arising from use of transport-ation infrastructure	• Effects of vehicle traffic on roadways	✓
	• Effects of shipping traffic in shipping routes	
	• Effects of air traffic	
Underground transport infrastructure		
5	**Climate change and severe weather events**	
Storms	• Tornadoes	
	• Hurricanes/cyclones	
	• Gales	
	• Hail damage	
	• Lightning strikes	
	• River/stream overflows	✓
	• Extreme tides	
Flooding		✓
Drought		
Desertification		
Changes to oceanic waters	• Changes to water flow and circulation patterns on a local, regional, or global scale	
	• Changes to pH	
	• Changes to temperature	
Temperature change		
Other climate change impacts		
6	**Sudden ecological or geological events**	
Volcanic eruption		
Earthquake		
Tsunami/tidal wave		
Avalanche / land-slide		
Erosion and silta-tion/deposition		
Fire (wildfires)	• Altered fire regimes	
	• High impact fire suppression activities	
	• Lightning strikes	
7	**Utilities or Service Infrastructure** Developments in energy utility infrastructure (e.g., gas, electricity, and water) and other service needs	
Water infrastructure	• Dams	
	• Locks	
	• Weirs	
	• Water tanks	
	• Pumping stations	✓
	• Introduction of new systems/ infrastructure	
Renewable energy facilities	• Thermal	
	• Wave	
	• Solar	
	• Wind	

Non-renewable energy facilities	• Nuclear power plants	
	• Coal power plants	
	• Oil/gas facilities	
Localized utilities	• Incinerators	
	• Cell phone towers	✓
	• Sewerage works	
	• Microwave/TV/radio towers	
Major linear utilities	• Power lines/easements	✓
	• Pipelines etc.	✓
	• Channels	✓
8	**Physical resource extraction**	
Mining		
Quarrying	• Rock	
	• Sand	
	• Aggregates	
Oil and gas		
Water extraction		
9	**Invasive/alien species or hyper-abundant species**	
Translocated species	• Fish stocking	
	• Inappropriate plantings	
	• Introduced soil etc.	
	• Dieback due to pathogens	
Invasive/alien terrestrial species	• Weed	
	• Feral animal	
	• Rodent	
	• Insect pest	
	• Bird pest	
	• Disease/parasite	
	• Micro-organism	
Invasive / alien freshwater species	• Weeds	
	• Invertebrate pests	
	• Fish pests	
	• Diseases/parasites	
	• Micro-organisms	
Invasive/alien marine species	• Weeds	
	• Invertebrate pests	
	• Fish pests	
	• Diseases/parasites	
	• Micro-organisms	
Hyper-abundant species	Natural species that affect the ecosystem due to ecological imbalance	
Modified genetic material		
10	**Local conditions affecting physical fabric** Environmental or biological elements that promote or contribute to the methods of deterioration of the fabric of heritage sites. Since the effects of decay cannot be attributed to a single factor, consider all elements. Use "air pollution" for air pollution. Use "Climate change and extreme weather events." For extreme weather, including flooding. For tourism activities, "Tourism/Visitor/Recreation Impact."	
Wind	• Erosion	✓
	• Vibration	
Relative humidity		✓

Temperature		
Radiation/light		
Dust		
Water (Rain/Water table)		
Pests		
Micro-organisms		
11	**Pollution** All types of pollution (residential or commercial), garbage, and solid waste.	
Pollution of marine waters	• Ocean dumping • Bilge water discharge • Solid debris in marine environments	
Ground water pollution	• Oil/chemical spills • Industrial effluent • Agricultural runoff • Household sewage/waste • Acid sulphate soils • Effluent discharge • Mine/tailings runoff	✓
Surface water pollution	• Acid rain • Mine/tailings runoff • Agricultural runoff	
Air pollution	• Excessive smoke or different airborne particles • Dust • Regional effects of emissions from the use of fossil fuels	
Solid waste	• Mine tailings • Litter • Industrial waste • Household rubbish	
Input of excess energy	Any input of heat and light, including inappropriate urban lighting, heat pollution, etc., disrupts ecosystems.	
12	**Social/cultural uses of heritage** Social factors play a role in the processes of deterioration of heritage sites. Some uses may have a positive impact because they reinforce specific values (e.g., rituals, religious), while others may compromise ascribed values and can lead to the destruction of a heritage site. For the impacts of tourism infrastructure and tourism activities in 'Tourism/Visitor/Recreation Impact,' use 'Major Visitor Accommodation and Related Infrastructure' and 'Interpretive and Visiting Facilities.'	
Ritual/ spiritual/ Religious and associative uses	• Ritual/spiritual/religious uses and associations • Festivals/performances	✓
Society's valuing of heritage	• Values change that lead to new uses of heritage resources. • Expand / add to current uses of heritage resources • Conflicting values • Abandonment	
Indigenous hunting, gathering, and collecting		
Changes in traditional life methods and knowledge system	• Loss of knowledge and traditional methods related to heritage	✓
Identity, social cohesion, transformations in population and local community	• Changes to identity and social cohesion • Changes in livelihoods • Migration to or from site • Changes in local population and community	✓ ✓ ✓ ✓
Impacts of tourism/	• Inappropriate/non-existent interpretation (not an impact) • High levels of visitation	

visitor/ recreation	• Increase of vendors inside/outside site • Building community support, sustainable livelihoods	✓
13	**Management and institutional factors**	
Management System/ Management Plan		
Legal framework		
Low impact research/ monitoring activities	• Visitor surveys • Water sampling • Non-extractive surveys • In-situ surveys	
Governance		
High impact research/ monitoring activities	• Sample by using destructive techniques • Research related to the removal of features or species (i.e., extraction)	
Management activities		
Financial resources		
Human resources		
14	**Other factors**	
	Any additional factors not already covered in the above list.	

In the contemporary context, the recognition of the value of heritage has led to the oversight and protection of heritage and cultural areas by diverse organizations. UNESCO, as a pivotal entity, establishes standards to designate regions as cultural and heritage sites, rendering UNESCO membership a hallmark of identity and value for heritage areas. Membership signifies an area that either remains free from problems and threats or has successfully resolved past challenges or prevented their escalation, bestowing global credibility and heightened recognition. The heritage area of Kandovan, with its distinct character spanning nine centuries, has encountered challenges in recent years. Shifts in lifestyle and socio-cultural factors have prompted alterations that undermine its indigenous and regional values. Evolving financial expectations among the people of Kandovan have instigated changes in the fabric of their living environment, resulting in challenges such as modifications to the original form, external extensions to conical stones in residences, shifts in usage, construction of new structures, introduction of urban infrastructures, and the substitution of local materials with new ones.

CONCLUSION:

The continued habitation of residents in Kandovan attests to the enduring viability of these historical and heritage conical structures. While acknowledging the inevitability of changing resident expectations in the contemporary world, the destruction of a valuable and unique area is deemed unacceptable. Lessons drawn from Matera, Italy, showcase how a heritage area, even when dilapidated, can be preserved by creating a new area and relocating residents nearby. The smaller size of Kandovan makes a similar process of reconstruction and prevention more feasible. However, relocating inhabitants, especially in the case of Kandovan, the only inhabited conical-shaped stone area globally, poses challenges to preserving its social heritage. In a world experiencing constant growth in social and cultural expectations, historical regions must adapt to change. While planning and constructing a new area near Kandovan to relocate residents is a potential initial step to eliminate existing threats, efforts are crucial to maintain the Kandovan community in their traditional houses after rebuilding. The disappearance of threats in Kandovan could pave the way for UNESCO membership, enhancing its prestige and global recognition.

AUTHOR CONTRIBUTIONS

A.R. designed the study. A.R.; and S.G. performed the methodology and data analysis. A.R. composed the manuscript. All the authors checked and approved the final manuscript.

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CONFLICTS OF INTEREST:

The authors are declared obviously and have no conflict of interest.

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