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SUSTAINABLE DEVELOPMENT AND TOURISM OF URBAN HERITAGE: AN IMPERATIVE FOR THE FUTURE. CASE OF DACHRA HAMRA IN EL KANTARA, BISKRA, ALGERIA

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ABSTRACT

In Algeria, as in the rest of the world, urban heritage, specifically historical centers, attracts many visitors due to their heritage significance. However, the growth of tourist flows and the attractiveness of these cities are dependent on the conservation, enhancement, and sustainable preservation of this heritage.

The original core of the city of El Kantara in Biskra, Algeria, Dachra El Hamra, remains inhabited and is distinguished by its unique architecture and urban organization. This village is regarded as a cultural model of great value. From a tourist perspective, Dachra El Hamra holds particular interest as both tangible and intangible heritage. This interest is heightened by its integration within lush landscapes, characterized by date palm orchards thriving at the foot of its majestic cliffs and impressive gorges.

The village of Dachra El Hamra remains at the center of concerns for local authorities and communities. The objective of this study revolves around this urban heritage, considering the criteria of sustainable development while promoting local and international tourism. To achieve this, we developed an evaluation using the RST02 grid, supplemented by a direct questionnaire conducted with the stakeholders involved in its management.

KEYWORDS

Dachra Hamra, Urban Heritage, Enhancement, Sustainable Development, El Kantara, Biskra

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1. Introduction

Heritage and tourism are closely intertwined. In his work *Heritage and Tourism: Histories, Places, Actors, and Issues*, Olivier Lazzarotti attempts to explain the relationship between heritage reality and tourism, conceived as a practical whole: the enhancement of heritage facilitates, or even prepares, the development of tourism. In their book *Heritage, Tourism, and Territory*, Hassan Faouzi and Olivier Lazzarotti (Faouzi.H and

Lazzarotti.O. 2021) explain that while heritage is fundamental to tourism, the latter also plays a crucial role in the enhancement and protection of heritage by accelerating its valorization.

On his part, Marc Chesnel, in his work *Urban Cultural Tourism: Planning and Enhancement Strategies* (Marc Chesnel, 2001), notes that certain cities renowned for their architectural heritage and the events they host have transformed into attractive tourist destinations. Whether well-known or less famous, these cities offer visitors innovative experiences. They also organize themselves to attract diverse clientele, enrich their offerings, and extend the length of tourist stays.

Around the world, due to increasing competition among destinations and new market demands, territories have initiated and are currently developing strategic and marketing plans. The services and infrastructure offered by a territory must be consistent and focused on sustainable development.

In their work *"Tourism, Culture, and Sustainable Development"*, David Picard et al. emphasize that the concept of cultural heritage encompasses the heritage remnants of less developed countries, where permanent and monumental structures exist (Robinson.M and Picard.D, 2006).

According to experts, tourism will be a major global industry in the 21st century, with an approach that should be both commercial and enriching for individuals. Algeria offers a wide diversity of attractions, combining historical sites, natural wonders, and cultural riches. It is experiencing significant growth in tourism in 2024, positioning itself as a top destination for international travelers. Here are key figures for Algerian tourism in 2024:

- 800,000 foreign tourists visited Algeria in the first quarter of 2024.
- The total number of visitors in 2024 is projected to reach 1.2 million tourists.
- Algeria welcomed 3.3 million visitors in 2023, including 2.2 million international arrivals. Algeria experienced the third highest tourism growth in Africa in 2024, with a 17% increase compared to 2019 (Algérie Tourism, 2024).

The El Kantara region in Biskra, Algeria, presents interesting statistics regarding tourism, with a rising trend in visitors. According to data from the local municipality (APC) in El Kantara, this ancient Roman city, formerly known as Calceus Herculis, has several assets that could position it as a leading tourist destination. To achieve this goal, it is essential to enhance existing potentials, such as artisanal activities, the Roman bridge, the red village, the post office, as well as hiking trails leading to Metlili's mountain and the geological formation of Dachra El Hamra (red molar), which stands out in a lunar landscape.

The development of tourism also requires the construction of adequate infrastructure, particularly hotels. Currently, the Youth Hostel is the only establishment providing accommodation for tourists and travelers passing through El Kantara.

At the national level, the success of tourism development has posed a challenge. To align its issues with land use planning, both nationally and locally, Algeria, in collaboration with its public and private partners, has defined strategic guidelines for various timelines through the development and tourism planning scheme (SDAT) established by the law on sustainable land development. Its implementation is divided into two phases: from 2010 to 2015, the new tourism policy was launched, and the period from 2015 to 2025 will focus on its consolidation.

The SDAT further develops and specifies the axes of sustainable tourism development outlined in the national land use-planning scheme (SNAT) for 2030, which is considered the primary reference framework. This policy is based on a strong commitment from the Algerian state to organize the territory within the framework of sustainable development and to create a sustainable tourism development policy capable of promoting an economy alternative to hydrocarbons. An additional important objective is to contribute to economic and financial balance by stimulating other sectors (crafts, transport, services, information technology, etc.).

In the same vein, the Wilaya Tourism Development and Planning Scheme (SDATW) is aligned with the specificities of the Wilaya while respecting the coherence of the orientations defined by land use planning instruments (SNAT, SDAT, SRAT, PAW, SDAAM).

Dachra El Hamra can be considered an example of a sustainable development approach, provided that the initiatives implemented respect these principles and promote a balance between heritage preservation, ecological integration, economic development, and community engagement.

In this context of change, several questions arise: **Can the red village of Dachra El Hamra be considered part of a sustainable development approach? To what extent do local initiatives protect traditional architecture and artisanal knowledge? What actions are being taken to transmit these cultural elements to future generations?**

Sustainable development is a fundamental principle in the management of modern urban resources. It revolves around the harmony between the needs of present generations and the preservation of resources for future ones (Brundtland, G. H. 1987). Urban heritage is essential for achieving this balance.

Dachra El Hamra (fig. 1 and 2) can embody a sustainable development approach if the initiatives respect and promote a balance among the four essential dimensions: the preservation of heritage, which emphasizes the importance of maintaining traditional architecture and knowledge; followed by ecological integration, which highlights environmentally respectful planning and sustainable management of natural resources. Local economic development focuses on creating jobs and income through crafts and respectful tourism. Finally, community engagement emphasizes the participation of residents and awareness of sustainable practices. According to Gehl, urban spaces provide citizens with the opportunity to engage in community initiatives, thereby strengthening social ties and human capital (Gehl, J. 2010).



Fig. 1: The Red Village Aerial View El Kantara Algeria (Mavic Pro Drone)

Source:

https://www.facebook.com/elhadje.kiko/media_set?set=a.2048055912129554.1073742052.100007754950262&type=3

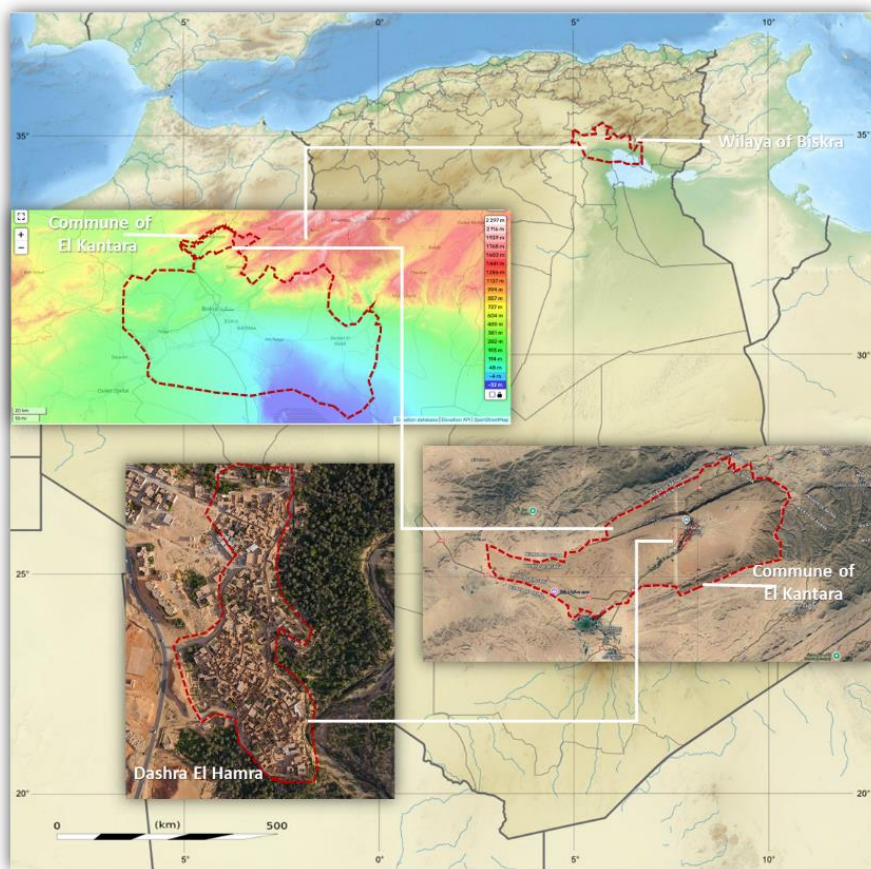


Fig. 2: Location of Dashra El Hamra, El Kantara, Biskra in Algeria.

Source: Authors.

2. El Kantara: Archaeological, Natural, and Traditional Richness (Dachra Hamra)

The natural site of El Kantara, located between Biskra and Arris and often referred to as the "Gateway to the South," is also known as the "Gateway to the Desert" and the "Golden Gate," a term introduced by the writer Eugène Fromentin. This site is distinguished by its stunning beauty and generates significant interest due to its geology, characterized by limestone formations dating from 35 to 83 million years ago, as well as its rich historical heritage (Claude, 2019).

El Kantara is a municipality with a rich heritage encompassing archaeological, natural, and traditional aspects. The gorges of El Kantara, a narrow tear in the landscape, reveal to those coming from the north all the beauties of the first oasis, nestled at the foot of an imposing cliff. This gorge separates two regions with contrasting features. El Kantara opens up to the desert. The Romans occupied the site, making this natural breach a strategic observation point. They liked to believe that this opening was created by a kick from Hercules.

Dachra Dhahraouia, or the red village, along with its Casbah, Roman ruins, the Lapidary Museum, and the European city, contribute to the rich heritage of the area. The natural site of El Kantara (fig. 3), along with the surrounding Roman heritage, has been classified and protected since 1923. It bears witness to the exchange of human values and the harmonious development of interactions between people and their environment over two thousand years of history.

The French writer and painter Eugène Fromentin (1820-1878) described the gorges of El-Kantara in these terms: «El-Kantara, the bridge, guards the pass and is, so to speak, the only gateway through which one can enter the Sahara from the Tell. This passage appears as a narrow tear, seemingly shaped by human hands, in an immense wall of rocks rising three to four hundred feet high. The Roman-built bridge spans this gap. Once you cross the bridge and walk a hundred steps into the gorge, you discover, via a steep slope, a charming village irrigated by a deep stream and surrounded by a forest of twenty-five thousand palm trees.» The rock paintings found in the surrounding mountains attest to the ancient human settlement in El Kantara, which seems to have always been a junction point between the north and south of Algeria, as highlighted by researcher Omar Kebbour in his study on «the historical and archaeological sites of the El Kantara region.»

The gorges are located to the north of downtown El Kantara, not far from the ancient red village or Dachra, naturally divided by the Oued Haï and National Road No. 03.



Fig. 3: El Kantara: Between Archaeological, Natural (the Gorges), and Traditional (Dachra El-Hamra) Sites

Source: Author Processing.

Formerly known as Dachra Dhahraouia, El Kantara, an important city of the Zibans, was referred to as the "red village" during the French occupation, translated as Dechra El Hamra, with red referring to the color of its earth and houses, as noted by researcher Kebbour. It presents itself as an open-air museum. Its often shaded alleys and typical houses, designed to withstand the summer heat and cold winter days, make it a unique place. Located in the northwest part of the El Kantara municipality, Dachra is classified as a national heritage site. It was founded in 1048 (fig. 4) by a group of Arab families who arrived during the Muslim conquests.

The archaeological and natural site of **El Kantara**, located between Biskra and Arris, known as the gateway to the South, is referred to as the "Gateway to the Desert" or "Golden Gate" by Eugène Fromentin. It is fascinating in its beauty and captivating due to its geology (limestone formations aged between 35 and 83 million years) and its history. The natural site of El Kantara, known as "**Calceus Herculis**" or "**Hercules' Heel**" by the Romans, along with the Roman heritage, has been classified and **protected since 1923**.

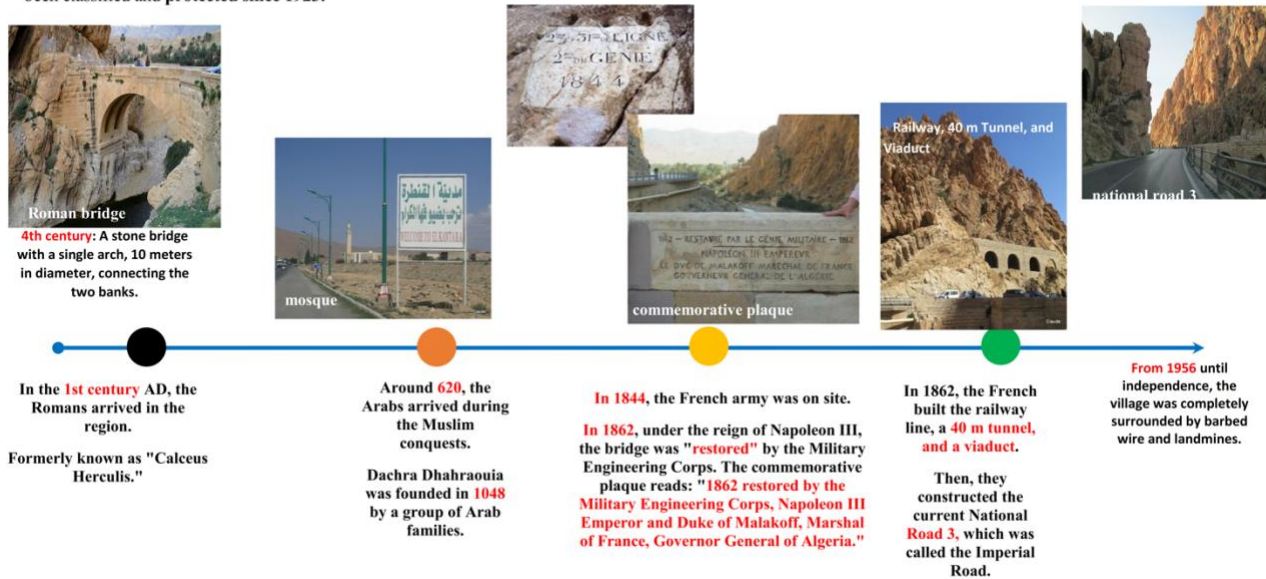


Fig.e 4: Temporal Axis and Position of Dashra El Hamra Founded in 1048 by a Group of Arab Families.

Source : The Site of El Kantara - Claude's Memories in

<http://les-souvenirs-de-claude.e-monsite.com/pages/le-voyage/hotel-el-kaid-et-le-site-d-el-kantara.html>

+Traitement auteurs.

3. Dachra El Hamra, Casbah, and Roman Ruins

The protected sector of the village "Dachra El-Hamra" (fig. 5), covering an area of five (5) hectares and eighty-nine (89) ares, is delineated in accordance with the plan attached to the original executive decree No. 13-185, following the guidelines.

To the north, it is bordered by Chaabet Eldaflaya over a length of 107.06 meters. To the east, by a palm grove owned by several proprietors over a length of 530.21 meters. To the southeast, by Oued el-Hay over a length of 139.76 meters. To the south, by another palm grove owned by several proprietors over a length of 313.93 meters. To the southwest, by communal road No. 15 over a length of 125.04 meters; and to the west, by residential housing (subdivision of 142 plots) over a length of 350.77 meters.

Oued el-Haï and the north-south route attracted the attention of our ancestors for settlement. It was intended to provide them with the security they sought and facilitate algaculture practices.

This historical site perpetuates traditions, as some families still live there. Tourists will undoubtedly experience a sense of well-being and discover the ancient history of our ancestors.

Dachra El-Hamra, or the red village, is an exceptional example of the progressive fusion of Arab-Muslim architecture and construction techniques. The urbanization of Dachra is characterized by several features, despite the austerity imposed by the harsh environment, which represents a social ideal of rationality and functionality. The space of Dachra presents a well-defined order with a pure and healthy style, exhibiting efficiency as remarkable as the simplicity of its art. The image of Dachra El-Hamra is striking, with its tightly clustered houses forming a regular order.

A striking red color distinctly sets the village apart from the palm grove that sprawls at its feet like a green carpet, extending its territory. The main structural elements of the urban space remain: the mosque, due to its role in worship, as a gathering place, and as a space for education. Surrounding this are the dwellings (courtyard houses). Pathways are provided by narrow, winding streets. The architecture of Dachra is shaped by social order, ensuring security and intimacy. The construction materials harmonize with the environment, as they are sourced locally, including the stone from Oued el-Hai and palm wood.

Traditional houses are constructed from "toub," a conglomerated material made from earth and shaped using a wooden mold. The roofs of the houses are flat and covered with cross-sectioned palm trunks, palm fronds, earth, and sometimes wicker.

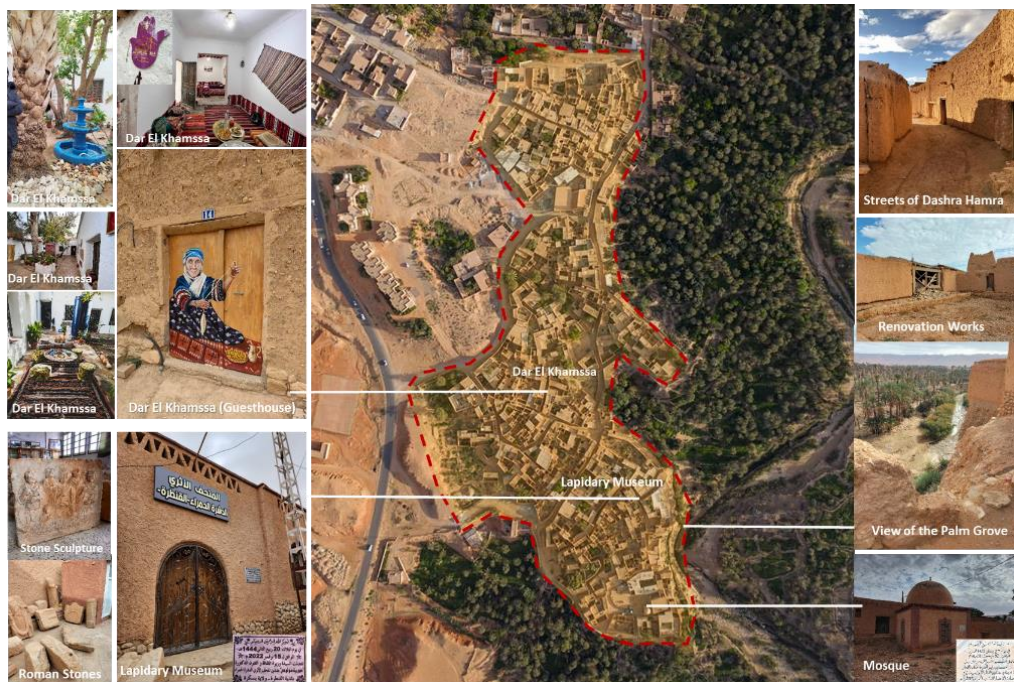


Fig. 5: Dashra El Hamra and Its Valorization.
Source: Authors 2023.

In the red village, there is a small Lapidary Museum (fig. 6). This museum was established by Gaston de Vulpillières (Marrou, H.I. 1933), an archaeologist, in 1920, who moved to El Kantara and dedicated 25 years of his life to archaeological research in El Kantara, particularly in the Skhouna area. The museum houses pieces of significant archaeological value.



Fig. 6: Lapidary Museum of Dashra Hamra
Source: Authors 2023

There is also a guesthouse, Dar el Khamesa (fig. 7), which offers unique accommodation experiences.

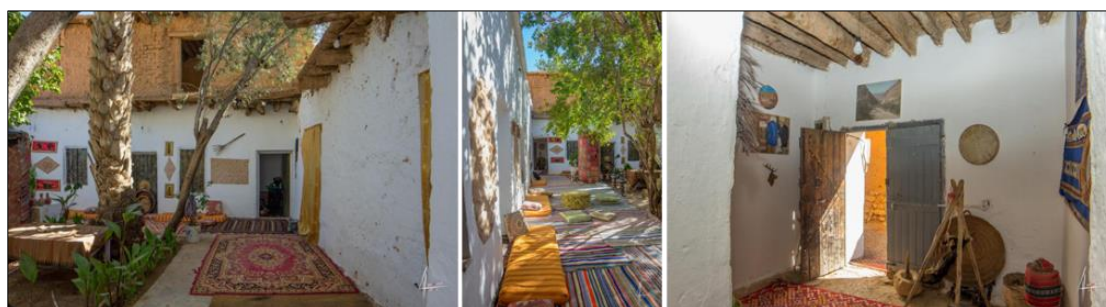


Fig. 7: Guesthouse Dar el KHAMESA

Source: <https://www.facebook.com/tahwissainfo/posts/la-maison-dh%C3%B4te-dar-el-khamsa-village-rouge-a-el-kantara-biskra-%D8%AF%D8%A7%D8%B1-%D8%A7%D9%84%D8%B6%D9%8A%D8%A7%D9%81%D8%A9-%D8%AF%D8%A7%D8%B1-/668646718194153/>

The original core of the city of El Kantara, Dachra El Hamra, still inhabited, serves as a "cultural model of great value" due to its unique architecture and urban organization. From a tourist perspective, this red village holds particular interest as both tangible and intangible heritage, especially as it is set against the stunning green landscapes of date palm orchards thriving at the foot of its majestic cliffs and striking gorges.

4. Methodological Approach

The impact of the village Dachra El Hamra on the city of El Kantara and in relation to users has led us to conduct an evaluation concerning the various **economic, social, spatial, environmental, and governmental** dimensions and interfaces.

To this end, our methodological approach relies on the application of the RST02 grid. This tool is designed for questioning and analysis, aimed at highlighting the strengths and weaknesses of a project in relation to sustainable development criteria (OQADD) (CERTU, 2006). The RST02 grid, designed to evaluate various projects, requires the formulation of questions and the prioritization of criteria based on the project's objectives and its local context.

Table 1 lists the dimensions and corresponding criteria selected for our case study.

The use of this evaluation grid for the urban heritage of Dachra El Hamra in El Kantara, Biskra, was carried out collectively by a project team administratively named the steering committee. This one is composed of several involved stakeholders, including the respective directorates of environment, public works, transport, tourism and crafts, culture, the Directorate of Urbanism, Architecture and Construction (DUAC), civil protection, Sonelgaz, and the Directorate of Water Resources.

5. Results and Discussion

The red village of Dachra El Hamra provides a unique opportunity for the practical application of the principles and interfaces of sustainable development.

5.1. Dachra El Hamra: A Prime Ground for the Application of Sustainable Development

The red village, located in El Kantara, is a fascinating example of human adaptation to a rigorous environment, representing a unique space where various sustainable development initiatives converge. The potential of this urban heritage is explored according to the five dimensions and interfaces of sustainable development: economic, social, spatial, environmental, and governmental.

The use of the RST02 grid required a detailed study with rigorous data collection and in-depth analysis. This was not merely a straightforward application of the grid, but an adaptation and contextual interpretation.

Through an in-depth analysis of these dimensions, we highlight the strengths of the red village as a living laboratory for the implementation of sustainable development principles.

Table 1.
Dimensions and Criteria Selected for the Case Study

| Dimensions | Selected Criteria |
|--------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| Governmental Dimension | Legislation to Protect Heritage |
| | Integration of Heritage into Urban Planning to Ensure Its Integrity Against Future Developments. |
| | Establishment of Public Funds to Finance the Restoration and Conservation of Heritage. |
| | Consultation of Stakeholders, Including Heritage Experts. |
| | Establishment of Performance Indicators to Measure the Effectiveness of Preservation Policies. |
| Social Dimension | Involve Local Communities in the Management, Conservation, and Valorization of Heritage. |
| | Create Adequate Infrastructure to Welcome a Diverse Audience. |
| | Promote Activities that Encourage Intercultural Dialogue and Solidarity. |
| | Recognize and Celebrate the Diversity of Cultures and Traditions within the Community. |
| | Integrate the Narratives and Practices of Underrepresented Groups in Heritage Storytelling. |
| | Encourage the Development of Economic Activities Related to Heritage, Such as Local Handicrafts and Sustainable Tourism. |
| Economic Dimension | Establishment of Grants and Funds for Restoration and Conservation. |
| | Creation of Tourist Infrastructure and Services that Support the Local Economy. |
| | Job Creation in Sectors Related to Conservation, Tourism, and Culture. |
| | Collaboration Between the Public and Private Sectors for the Funding and Management of Preservation Projects. |
| | Encouragement of Private Initiatives that Support Heritage Conservation. |
| | Analysis of the Economic Impact of Heritage Conservation and Valorization Projects. |
| | Adoption of Modern Technologies to Improve the Efficiency of Conservation Projects. |
| Environmental Dimension | Protection of Natural Habitats Around Heritage Sites to Preserve Biodiversity. |
| | Integration of Sustainable Natural Resource Management Practices. |
| | Promotion of the Use of Eco-Friendly and Local Materials in Conservation and Restoration Work. |
| | Development of Sustainable Transportation to Access Heritage Sites (Public Transport, Bicycle Paths). |
| | Creation of Trails and Pedestrian Infrastructure that Minimize Environmental Impact. |
| Spatial Dimension | Establishment of Protection Zones Around Heritage Sites to Limit the Impacts of Surrounding Activities. |
| | Definition of Protection Perimeters to Preserve the Integrity of Historic Landscapes. |
| | Promotion of Agricultural Practices and Land Management that Preserve These Landscapes. |
| | Development of Strategies to Address the Impacts of Climate Change on Heritage Sites. |
| | Implementation of Mitigation Measures to Protect Heritage Infrastructure. |

Source: RST02 Grid and Author Processing.

5.1.1. Economic Dimension:

During the exhibition titled «A Gentle Look at El Kantara,» held from February 23 to 25 at Dachra El-Hamra, El Kantara in Biskra, the Minister of Tourism and Handicrafts emphasized the importance of involving the ministries of Tourism and Handicrafts, Culture and Arts, and Veterans and Rights Holders in presenting the shared cultural heritage. He also called for enhancing the role of tourist guides to promote the sector, providing tourists with an overview of the sites and allowing them to understand various archaeological, urban, social, and cultural aspects of the heritage.

On the site of the restoration project for certain buildings in Dachra El Hamra, the importance of revaluing archaeological sites and making them sources of income was emphasized, given that the tourism sector is a significant source of wealth creation and an important economic resource. Currently, the manager of the guesthouse Dar el KHAMESA also serves as a tourist guide. Additionally, an exploitation permit has been granted for a form of accommodation within local homes. This approach will help promote traditions,

strengthen ties among community members, and support and encourage investment in the tourism sector. A small pottery factory using clay from the surrounding areas produces traditional items that are sold locally.

Tourism is closely linked to handicrafts. Various artisanal specialties exist, including weaving, pottery, ceramics, and palm wood carving, which are part of the local heritage that the men and women of the region have managed to preserve.

The distribution of income, particularly from guided tours (fig. 8), generated by these local economic activities remains minimal and needs to be assessed.



Fig. 8: Guided Tour.
Source : Authors 2023.

5.1.2. Social Dimension:

The red village serves as a place of social cohesion (fig. 9) and well-being for tourists. It facilitates the integration of various urban communities while providing spaces for cultural activities, particularly within the guesthouse Dar el KHAMESA and throughout the oasis. The red village is a haven of peace that has inspired many poets. André Gide remarked about these places: «I came, spring appeared in the branches, we stroll, and we are free of thought. »

The narrow alleys of the village strikingly resemble those of Kabyle villages, diverging and then converging in the main square—a space conducive to discussions, sharing moments of relaxation, and enjoying coffee or tea while contemplating the horizon. Furthermore, it offers a space where citizens can engage in community initiatives, thereby strengthening social ties and human capital.



Fig. 9: Traditional Organized Trip
Source: Bivouac at the Red Village, El Kantara in Biskra from October 13-15, 2022

5.1.3. Spatial Dimension

The protected sector of the village known as "Dachra El-Hamra," named for the color of its earth (fig. 10), is considered a model of authentic Arab-Berber architecture, given its construction style, doors, layout of alleys, organization of houses, local building materials, and architectural character aligned with nature, traditions, and customs.

The urban and spatial distribution of the population and the economic life of the red village have primarily been shaped by the climate. The appropriate environmental and climatic conditions contributed to the establishment of Dachra El Hamra: its proximity to Oued el-Haï and the security provided by the relief

morphology (casbah). Tourists find this location, with its pleasant mild climate, conducive to relaxation and leisure, while also preserving the integrity of the historical landscape.



Fig. 10: Traditional Space : Rigorous Adaptation
Source : Authors 2023.

5.1.4. Environmental Dimension

Dachra El Hamra is an urban ecosystem in itself, and its management relies on environmentally respectful practices. Its often shaded alleys and typical houses, characterized by functional structures, are designed to withstand the intense summer heat as well as the cold winter days. Traditional houses are constructed from "toub," a conglomerated material made from earth and shaped using a wooden mold to achieve a uniform form. The roofs of the dwellings are flat, covered with cross-sectioned palm trunks, palm fronds, earth, and, in some cases, wicker (algeriatours.dz, 2024).

The use of eco-friendly and local materials during conservation and restoration efforts is sourced from the surrounding areas. Ecological accessibility is ensured through the development of sustainable transport options to access the site (public transport, cycling paths, or even donkeys). The presence of paths and pedestrian infrastructure minimizes the environmental impact.

On its part, the palm grove (fig. 11) plays a crucial role in Saharan agriculture, acting as the pivot around which life within the oasis is organized. It serves as a factor of social stability by promoting the sedentarization of local populations. This integration of the palm grove into the socio-economic fabric of the Saharan community underscores its importance not only for agricultural production but also for maintaining social and cultural ties within this society.

The incorporation of sustainable natural resource management practices is realized through the traditional irrigation system known as Séguia, which consists of hand-dug galleries in the valley palm groves. Irrigation was historically achieved through wells dug into the water table. Currently, the modernization of water extraction methods has enabled access to water through deep drilling.



Fig. 11: Dashra El Hamra: An Urban Ecosystem.
Source : Authors 2023.

5.1.5. Governmental Dimension

The establishment of laws and regulations to protect the cultural and historical heritage of Dashra El Hamra and its environment dates back many years. The Gorges of El-Kantara were classified in 1923, and the Lapidary Collection (Roman ruins in the museum) was classified on December 20, 1967. In contrast, the Red Village (Dachra El Hamra) is protected within the designated sector under the references of executive decree No. 13/185 dated May 6, 2013 (Official Journal No. 26 of May 15, 2013). According to the president of the municipal people's assembly of El Kantara (APC), the red village is covered by an urban planning instrument known as the "POS El Kantara," established in 2003.

Additionally, the establishment of a permanent plan for the safeguarding and enhancement of this protected sector is currently underway. This plan aims to create standards for the conservation and restoration of the heritage site. In line with this initiative and as part of the heritage enhancement policy, the Delegated Ministry for Economic Recovery inaugurated the first phase of the Dashra Hamra revitalization project on December 2, 2002. Furthermore, on November 15, 2022 (fig. 12), the Minister of Culture and Arts also inaugurated the Lapidary Museum of Dashra Hamra.



Fig. 12: Inauguration Steles

Source: Authors 2023

5.2. Evaluation of Sustainability Criteria

The criteria were determined based on the nature of the project, which is a shared urban heritage, in agreement with all involved stakeholders. According to the RST02 grid, the defined sustainability classes (CERTU 2006) are as follows: 0 for criteria not considered; 1 for criteria moderately considered; 2 for criteria fairly well considered; and 3 for criteria well considered. The average is automatically calculated.

The evaluation results (tab. 02) indicate that the dominant percentage, reaching nearly the average (31.58%), of the sustainability criteria is respected. The lowest-ranked category (8.77%) remains the economic dimension.

In agreement with the stakeholders involved in the restoration and conservation project of this heritage, this approach relied on the results from the performance table as well as the sustainability profile applied to Dachra El Hamra using the RST02 grid method.

The temperature curve can be extracted from this grid to classify activities, although it remains silent as it does not mention any significant figures. The classification of activities shows that the environmental dimension holds the top rank due to the historical and cultural heritage preserving its originality adjacent to a vast palm oasis, followed by the spatial dimension.

The economic dimension ranks last, attributed to the lack of consultation and participation from civil society on one hand, and on the other, the absence of tourist infrastructure or promotion that could increase visitor influx. **The sedentary lifestyle and isolation of residents** also tend to make them less integrated into economic networks. The cultural and historical heritage of Dachra El Hamra is not leveraged through tourism, which limits the economic opportunities that could arise from it.

Table 2.
Sustainability Classes of Dashra El Hamra Village, El Kantara, Biskra

| Dimensions | Selected Criteria | Sustainability Classes | | | | | |
|----------------------------|--------------------------------------------------------------------------------------------------------------------------|------------------------|-------------------------------|--------------------------------|-------------------------|-------|---------|
| | | 0 not considered | 1 moderately considered | 2 fairly well considered | 3 well considered | Total | Average |
| Governmental Dimension | Legislation to Protect Heritage | | | X | | | |
| | Integration of Heritage into Urban Planning to Ensure Its Integrity Against Future Developments. | | | | X | | |
| | Establishment of Public Funds to Finance the Restoration and Conservation of Heritage. | | X | | | | |
| | Consultation of Stakeholders, Including Heritage Experts. | | | X | | | |
| | Establishment of Performance Indicators to Measure the Effectiveness of Preservation Policies. | | | X | | | |
| | | | | | | 10.00 | 2 |
| Social Dimension | Involve Local Communities in the Management, Conservation, and Valorization of Heritage. | | X | | | | |
| | Create Adequate Infrastructure to Welcome a Diverse Audience. | | | X | | | |
| | Promote Activities that Encourage Intercultural Dialogue and Solidarity. | | | X | | | |
| | Recognize and Celebrate the Diversity of Cultures and Traditions within the Community. | | | X | | | |
| | Integrate the Narratives and Practices of Underrepresented Groups in Heritage Storytelling. | | | X | | | |
| | Encourage the Development of Economic Activities Related to Heritage, Such as Local Handicrafts and Sustainable Tourism. | | | | X | | |
| | | | | | | 12.00 | 2.00 |
| Economic Dimension | Establishment of Grants and Funds for Restoration and Conservation. | | | X | | | |
| | Creation of Tourist Infrastructure and Services that Support the Local Economy. | | X | | | | |
| | Job Creation in Sectors Related to Conservation, Tourism, and Culture. | | | X | | | |
| | Collaboration Between the Public and Private Sectors for the Funding and Management of Preservation Projects. | | X | | | | |
| | Encouragement of Private Initiatives that Support Heritage Conservation. | | X | | | | |
| | Analysis of the Economic Impact of Heritage Conservation and Valorization Projects. | | | X | | | |
| | Adoption of Modern Technologies to Improve the Efficiency of Conservation Projects. | | | X | | | |
| | | | | | | 11.00 | 1.57 |
| Environmental Dimension | Protection of Natural Habitats Around Heritage Sites to Preserve Biodiversity. | | | | X | | |
| | Integration of Sustainable Natural Resource Management Practices. | | | | X | | |
| | Promotion of the Use of Eco-Friendly and Local Materials in Conservation and Restoration Work. | | | | X | | |
| | Development of Sustainable Transportation to Access Heritage Sites (Public Transport, Bicycle Paths). | | | X | | | |
| | Creation of Trails and Pedestrian Infrastructure that Minimize Environmental Impact. | | | X | | | |
| | | | | | | 13.00 | 2.6 |
| Spatial Dimension | Establishment of Protection Zones Around Heritage Sites to Limit the Impacts of Surrounding Activities. | | | | X | | |
| | Definition of Protection Perimeters to Preserve the Integrity of Historic Landscapes. | | | X | | | |
| | Promotion of Agricultural Practices and Land Management that Preserve These Landscapes. | | | X | | | |
| | Development of Strategies to Address the Impacts of Climate Change on Heritage Sites. | | | X | | | |
| | Implementation of Mitigation Measures to Protect Heritage Infrastructure. | | | X | | | |
| | | | | | | 11.00 | 2.20 |
| Total | | 0 | 5 | 17 | 6 | 57.00 | |
| Percentage | | 0.00 | 8.77 | 29.82 | 31.58 | 100 | |

Source: Authors in Application of the RST02 Grid.

The evaluation (fig. 13) of the aforementioned heritage clearly shows that the environmental dimension has reached its peak, followed by the spatial, governmental, and social dimensions, with the economic dimension lagging behind. This is due to the recent revitalization of the first phase and the fact that the preservation plan has not yet been fully implemented. The combination of historical, social, and economic factors contributes to the perception of a lack of economic dimension within the heritage of Dachra El Hamra.

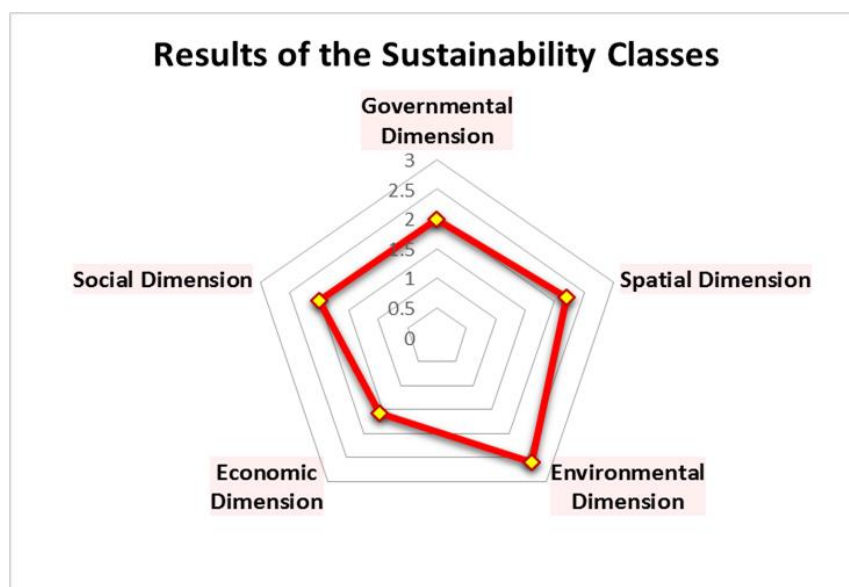


Fig. 13: Evaluation of Dashra El Hamra (Red Village) According to Sustainability Classes.

Source: Authors with Application of the RST02 Grid.

6. Conclusions.

The aim of this work is to assess the sustainable tourism valorization of this urban heritage. The sustainable development of Dashra El Hamra in El Kantara requires an integrated approach that considers the governmental, social, economic, environmental, and spatial dimensions. Collaboration among authorities, local communities, and economic stakeholders is essential to ensure a sustainable and prosperous future for this village.

Characterized by a specific identity tied to its history, culture, and nature, the red village, or Dashra El Hamra, represents an ideal space for the application of sustainable development principles due to these characteristics and its integrated management. By taking into account the economic, social, spatial, environmental, and governmental dimensions and interfaces, it offers a holistic framework that can inspire other urban heritage sites around the world.

The use of the RST02 grid for Dashra El Hamra allows for a structured evaluation tailored to local needs, thereby promoting sustainable development that meets community expectations while preserving and conserving historical, cultural heritage and its environment. This methodological approach is essential to ensure that urban heritage sites align with sustainability objectives, **attractions, and sustainable tourism valorization.**

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