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Ecological Tourism as a Tool for Sustainable Urban Development Case Study: El Kantara, Algeria

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Abstract: Purpose. Tourism has a favorable impact on the economic development of a country. However, research now agrees that this also leads to the destruction of the ecological environment in which it is established. Its management operates increasingly with reference to the concept of sustainable tourism. The objective of this article is to propose a sustainable scenario of a transformation of the red village of the city of El Kantara into an ecological-tourist village.
Results. Ecological tourism plays an important role in sustainable urban development, the creation of a micromobility in the propose of ecological-tourism scenario taking into account the notion of the architectural walk in the site of El Kantara, which is rich in heritage, this scenario depends on gentle and non-polluting transport by the application of the method HQE²R which crosses the various dimensions of sustainable development with certain principles of action allowing the transformation of simple district to eco-district.
Scientific novelty. The scientific novelty of the study lies in the improvement of the proposal ecologic scenario for El kantara site on the basis of encouraging the concept of sustainable transportation and eco-tourism.
Practical value. The value of the study lies in the proposal of a new development technique on an urban scale, which is development through ecological tourism.
Keywords: Sustainable tourism, economic development, ecological environment, El Kantara

I. INTRODUCTION

Tourism is often the lifeline of developing regions and many countries, and the perspective offered by sustainable tourism and its various components is intended to be a solid and healthy basis for reducing its harmful effects [1].
The tourist world is no exception. Tourism has evolved to such an extent that the growth of tourist flows is not without consequences on the social and physical environment of the destinations visited [2]. From now on, it is necessary to better manage the development and expansion of tourism to apply the concepts of sustainable development [3].
In order to identify and explore the meanings, theoretical underpinnings, and potential ramifications of tourism in cities, a strong and cohesive research production has made a significant contribution up to this point. Diverse strategies (including ecotourism, responsible tourism, and pro-poor tourism, among others) have been influenced by the emphasis on pursuing sustainable tourism activities. Determining specific solutions to the challenging issue of how to promote and activate sustainable urban tourist activities is still challenging. The work was inspired by a number of experiments conducted around the world, particularly in Europe, including BedZED in England [4], Eva Lanxmeer in the Netherlands [5], and Vauban in Germany [6].
Amar Ghoul, former Minister of Regional Planning, Tourism and Handicrafts, estimated in 2015 that tourism is n alternative to revitalize the national economy in order to surpass the oil revenue.
The objective of this research is to revive tourism in the region of El Kantara by proposing an eco-tourism scenario.

II. CASE OF STUDY. EL KANTARA: A REGION WITH STRONG HISTORICAL POTENTIAL

El Kantara is a commune in the Wilaya of Biskra in Algeria. It is an oasis located in the south-west of the Aures, 52 km north of Biskra and 62 km south-west of Batna (see figure 1). The natural site of El Kantara and the Roman heritage have been classified and protected since 1923.
El Kantara is a town with a great wealth of heritage, including the Dachra Dhahraouia and itsCasbah, the Roman remains and the Lapidary museum or the European city. Part of the history of El Kantara is immortalized in literary texts and in the works of painters.

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Fig 1. Location of the El Kantara commune in the Wilaya of Biskra, source: geolocation on the map of Algeria, Authors 2023

A. The Souk (Rahba)

It is the market square or the centre of activity by excellence; it is now also the meeting place and place of reception for foreigners. (see figure 2)



Fig 2. Rahba in the commune of El Kantara, source: Authors, 2023

B. Skifa (Covered Area)

The component of the structure of the narrow corridors, it gives shade throughout the day, which allows tourists to sit down [7]. (see figure 3)



Fig 3. Skifa in the commune of El Kantara, source: Authors, 2023

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C. The Paths

It is through fairly narrow street networks, we note here that there are two main forms of circulation, the first follows the contour lines and the second descends in radius from top to bottom connecting the village gates. (see figure 4)



Fig 4. The forms of the routes in the municipality of El Kantara, source: Authors, 2023

D. Lapidary Museum

The museum includes many remains of the ancient Roman city, milestones, stelae, columns, inscriptions, pagan altars, statues, votive stones, cornices, religious dedications, epitaph of El Kantara and the region, which have disappeared today. Today looted or transported to other museums in the region [8]. (see figure 5)

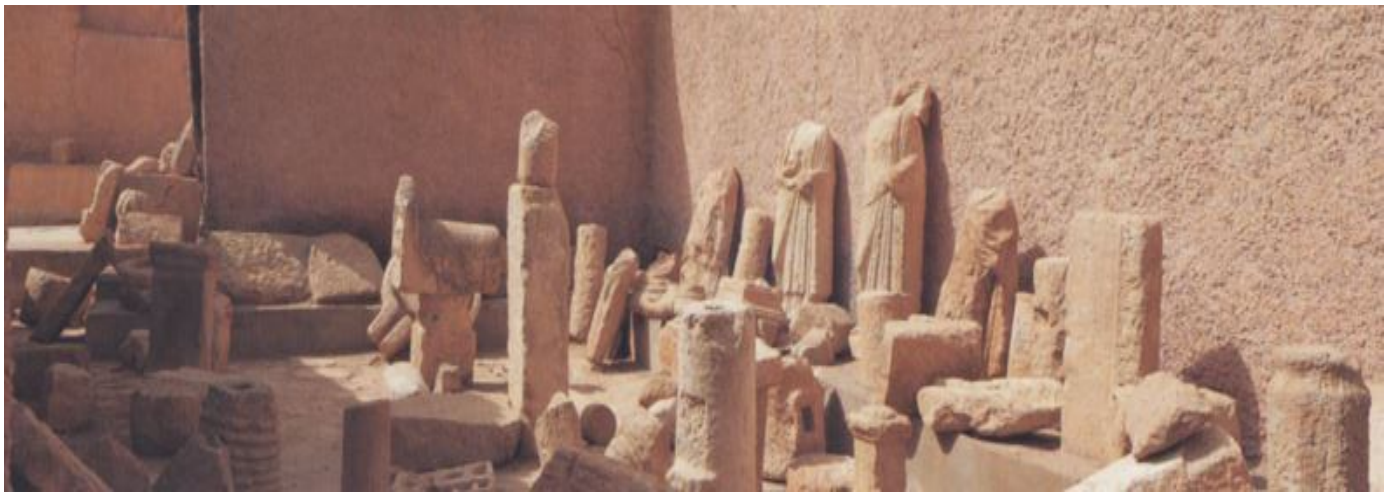


Fig 5. Lapidary Museum, source: Authors, 2023

III. MATERIALS AND METHODS

A. An Ecological-Tourism Scenario

In this section, we will propose an ecological-tourism scenario taking into account the notion of the architectural walk in the site of El Kantara, which is rich in heritage, as we have shown above.

This scenario depends on gentle and non-polluting transport by the application of the method HQE²R which crosses the various dimensions of sustainable development with certain principles of action allowing the transformation of simple district to eco-district [9]. These sustainability goals are decomposed into targets, sub-targets and indicators and form an ISDIS analysis system which is the process structure and its main tools [10]. (Table. 1)

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Table 1. ISDIS system, source: (Charlot-Valdieu & Outrequin, 2011) [11]

Objectives	*Targets*	*Under targets*
Resource	*1- Waste*	*Management of household and construction waste* *Use of renewable energies*
	2- Water	*Use of rainwater* *Rainwater management* *Sewerage network*
	3- Space	*Optimization of space consumption* *Requalification of brownfields and polluted sites*
	4- Materials	*Reuse of materials in construction / rehabilitation*
	5- Built heritage	*Enhancing the quality of architectural and natural heritage and natural Preservation / enhancement of the natural heritage*
Environment local	*6- Landscape*	*Quality of neighborhood entries* *Quality of street furniture*
	7- Housing	*Quality of buildings* *Quality of housing*
	8- Health and hygiene	*Neighborhood cleanliness* *Insalubrious buildings*
	9- Safety, risks	*Safety of people and property* *Local management of natural risks*
	10- Air	*Outdoor and indoor air quality*
	11- Noise	*Neighborhood noise* *Pollution sonore liée au trafic*
	12- Energy	*Energy efficiency (heating, ventilation)*
Diversity	*13- Population*	*Social and economic diversity*
	14- Function and activity	*Presence of Trade and Service Equipment*
	15- Housing	*Diversity of housing: size, nature*
	16- Education integration and employment	*Strengthening the role of the school in the district* *Fight against academic failure*
	17- Liaison with the city	*Accessibility to employment, services and equipment*
	18- Attractiveness of neighborhood	*Attractive activity or facilities in the neighborhood*
	19- Displacement	*Implementation of non-polluting and efficient systems*
Social link	*20- Social cohesion and participation*	*Participation of inhabitants in decisions and neighborhood projects* *Involvement of the inhabitants in the sustainable neighborhood process*
	21- Solidarity and social capital	*Participation of the inhabitants in the development of a local economy* *Strengthening collective life*

IV. RESULTS AND DISCUSSION

In El Kantara, tourism is one of the main activities of the region. However, faced with the constant attendance of tourists at very specific stations of El Kantara such as the museum, Souk, which develop each year and are provided with numerous infrastructures (hotels, transport) which facilitate access to tourists.For this, in this scenario based on the HQE2R method, we will propose a soft and non-polluting transport called micro-mobility with the use of bicycles, E-scooters and carts [12; 13; 14; 15; 16;17] to facilitate movement from one place to another and reduce gas emissions. Tourists must park their car outside the village (see figure 6).



Fig 6. Eco-tourism transport scenario, source: Authors, 2023

Two tracks will be offered to create a well-determined route to introduce tourists to the red village, the first corresponds to tourists wishing to take a bicycle, the second intended for walking (see figure 7).

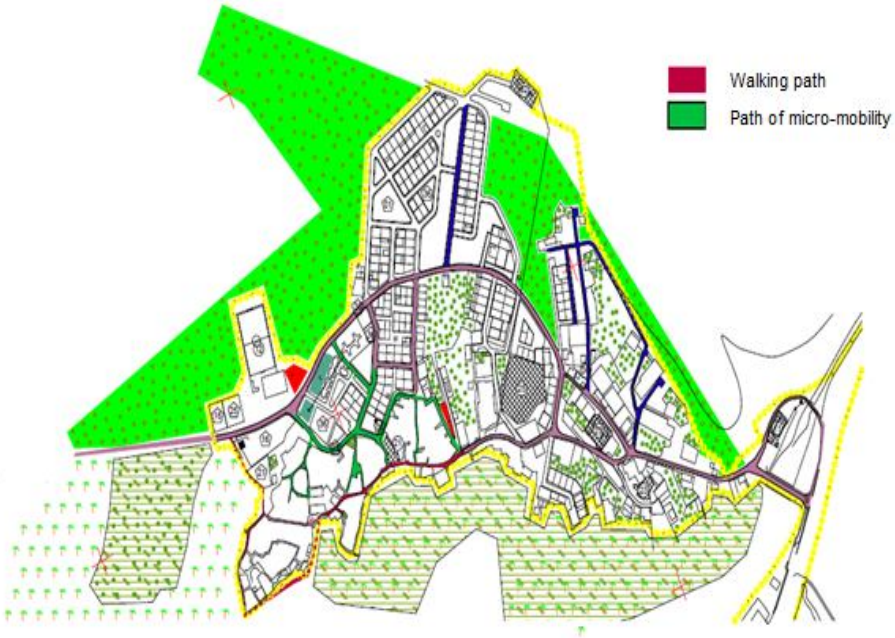


Fig 7. The two proposed tracks, source: Authors, 2023

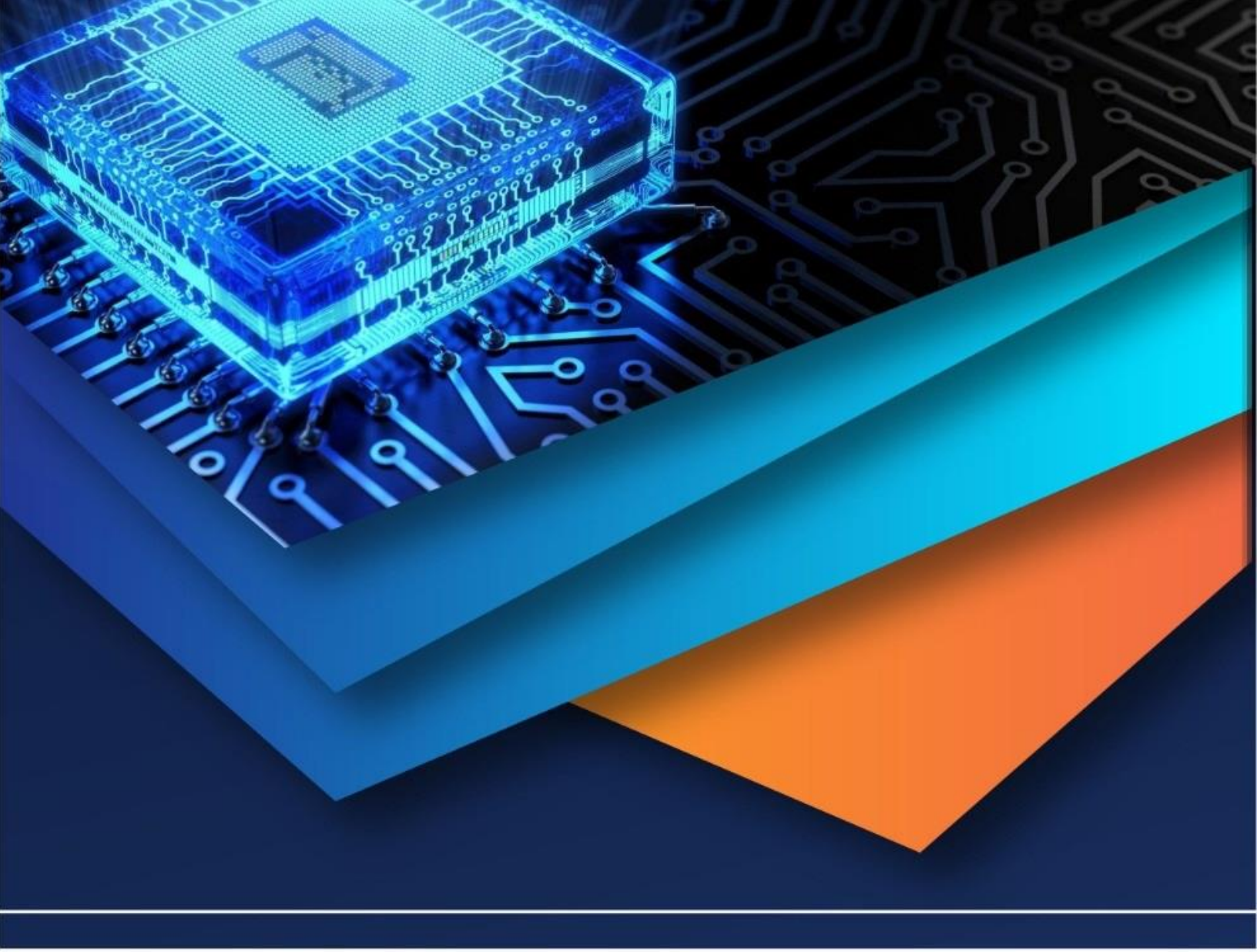
V. CONCLUSIONS

In many destinations, like the one on which we stopped, tourism often represents the last economic solution. Ecotourism involves clear and shared choices on the future of the region because such a scenario can improve the environmental and economic context and bring the whole region to life. Its territorial distribution, the only way to change the image of a destination, implies a strong public investment, which for the moment is not there.

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