

The Future of Ksourien Heritage in the Face of the Experiences of Safeguarding

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Abstract

The restoration of the Ksar Bnis Abbas has turned upside down its meaning and identity, its specific style is gone. On the other hand we have the Ksar of Taghit which is currently occupied by their original inhabitants, these two Ksar animated the cultural tourism in the city of Bechar and the city of Bnis Abbas are the subject of our study. The purpose of this article is to seek the feasibility factors of restoration that preserves the memory of our Saharan heritage and see its impact on the historical value.

The methodology adopted was based on a visit to the sites of intervention, made the selection criteria of screening and properties of restored houses with a comparative study between urban and architectural characteristics. The results of the research showed that the restoration of Ksar Taghit was feasible; their urban and architectural properties have the great architectural wealth; that they possess in tourism; given that it is the owners, who shared in the restoration of their houses. In addition to giving practical recommendations to establish the major factors for a feasible restoration in the future urban and architectural context of vernacular architecture.

Key words: Ksour, Heritage, Restoration, vernacular architecture, Architectural identity.

INTRODUCTION

The heritage this notion constitutes a real potential of the development, it is a means to fulfill a number of the artistic, aesthetic needs, and it is therefore a source of several values of existence. Heritage is a testimony to history and to being a landmark in time and space; it is a source of inspiration for architecture and urban planning (Hanafi et al., 2021).

The heritage remains a common and ethical notion that has moved from individual value to collective value, from sectoral to global (Hammoudi, 2014). Cultural heritage is divided into two main chapters: tangible and intangible. It is an evolving resource that supports identity, memory, and a sense of belonging (Jong, s. 2018)[1]. This heritage is necessary to adapt and deal with this hostile environment even in its spatial and social dimensions (Cheikha, H. Zmerili, N. 2018 - 2019). Heritage enables social cohesion, enhances social well-being, improves the attractiveness and creativity of regions, and promotes socio-economic regeneration and poverty reduction. It increases the long-term benefits of tourism. We must take up the challenge of conserving this fragile and non-renewable resource for present and future generations.

In this paper, we will study the tangible heritage built. The urban or architectural heritage, constitutes the memory of a city, in other words a testimony of its landscape character, as the overall landscape reveals the typical image of a city (Cady, 2017). Built heritage is part of the history and memory of a city, and history would be discontinuous without it (Wang, 2011). Urban heritage, in the minds of most planners and managers, is monuments (Steinberg, 1996) [2]. The urban heritage in Algeria represents an extremely varied reality of the Sahara [3]. The Ksour represents a heritage of undeniable wealth. Historic preservation and heritage conservation are two mainstream concepts related to the sustainability and renewal of historic houses (Kan, and all. 2022). The Ksar is an ancient name of the Saharan city. It represents the ancient Medina in the desert melted, in the highest point of land for defensive reasons; and surrounded by oases that make the source of life [4]. Occupying strategic places at the

Ksar Taghit

The Ksar Taghit was built in the 11th century on a rocky mound at the foot of the great western erg [5], surrounded by walls, Figs. 3, 4. This location avoids the consequences of the floods of the river “Zouzfana”, to be more secure. It was classified as national heritage in 1999; with 120 houses currently deserted by its inhabitants. The latter have restored their houses and transformed them into spaces reserved for economic and tourist activities including tearooms, rest areas and guesthouses. The Ksar is a center of seasonal tourist attraction at the national and international level during the month of March and especially at the end of December.



Figure 3. Ksar Taghit [https://fr.wikipedia.org/wiki/Fichier: Ksar_Taghit](https://fr.wikipedia.org/wiki/Fichier:Ksar_Taghit)



Figure 4. The summit of Ksar Taghit <https://www.aps.dz/regions/139459-le-vieux-ksar-de-taghit-a-bechar->

Ksar Bnis Abbas

Bnis Abbas is the capital of Saoura, located 247 km south of Bechar, our Ksar is built since the 18th century, and this site was chosen by human groups, following the presence of a source of abundant and fresh water. Because often, the water of the Sahara is slightly brackish (Alkama.D. 2006). The Ksar is integrated on the line of force of the slope upwards; it is melted with an almost rectangular shape after the Ksar of Taghit and to the other ksour of southwestern Algeria, Figure.5.



Figure 5. Ksar Bnis Abbas, Authors

RESULTS AND DISCUSSION

About of the Ksar Taghit

The Constituents of Ksar Taghit

Ksar Taghit is built by fundamental elements; a Mosque, “Djemâa” [6], “Zgag” [7], the residences, a well [8], “Derb” [9], Drieb[10], and a defensive wall, two (02) doors.

Building Products from Ksar Taghit

The construction of the Ksar Taghit is carried out by three (03) natural biological products; earth, stone, and palms.

Construction System of Ksar Taghit

The entire structure is made of palm trunks and leaves to strengthen the buildings. The posts are made of palm tree trunks; the floor is also made of palms trunks and leaves.

The Urban Composition of Ksar Taghit

The Ksar only communicates with the outside world through two gates: one giving south to the cemetery, the other

north to the palm grove. The Ksar of Taghit is organized around the Mosque, which by its centrality and its size appears as the ordering element of all this urban organization. The exceptional element plays the role of landmark and symbol with a single minaret that makes the visual signal designating the Mosque. The single Mosque is associated with three nearby public squares that called "Djemâa".

The "Djemâa" is an institution and its urban interpretation is the space where the assembly of notables who managed the community's interests met. This space seems to be the privileged place of rest, meetings and commercial exchanges. The "Djemâa" is also the center of articulation of four "Droub" or districts of the Ksar. It is accessible from all sides of the Ksar. There is a rational relationship between the three plazas constituting the "Djemâa", based on a geometric layout: the three spaces are identical in their shape and size. They are differentiated by their position. Inversion, rotation and translation have been used in their design, the main axis of the Ksar named "Zgag", Fig. 6.

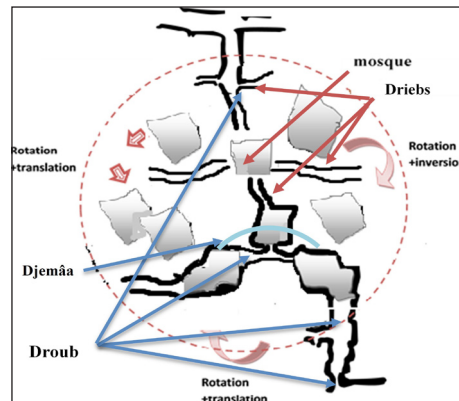


Figure 6. Articulation diagram of the spaces of Ksar Taghit, Authors

Sequential Study of the Composition Axis

We have noticed that there is a play of light, dark / light in the "Zgag", it invites visitors to orient themselves towards one of the two doors of the Ksar. The "Driebs" leading to the different "Droub" constitute more important dark passages and All along the route, going from the south gate to the north gate, the user instinctively maintains the same orientation by always taking successive deviations to the left. This central axis connects the plazas of "Djemâa", the Mosque, and the various "Droub". Few houses have direct access to this axis, Figs, 7, 8.

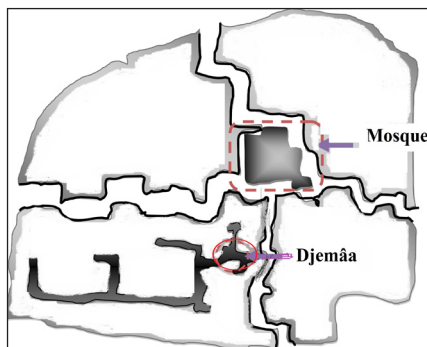


Figure 7. The Gathering spaces, Authors

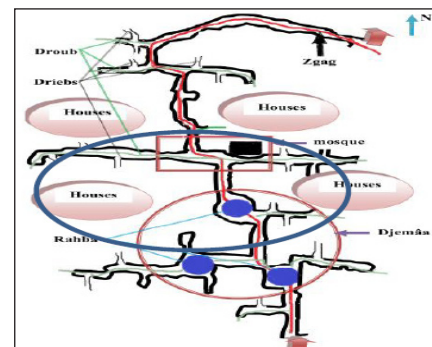


Figure 8. dedicated spaces for public and private use, Authors

Urban composition of the Ksar Taghit

The Ksar is composed of three urban element; ordering elements, exceptional items, and elements currents.

Ordering Elements

The hierarchy of spaces is conceived by order; *Zgag*, *Derb*, *Drieb* and *Eddar* [11]. The urban organism at the scale of the Ksar is "Zgag" the main axis that crosses the three "Djemâa" squares, and the organizer of the Ksar. The path that orders the houses is "Drieb". On the scale of housing, it is "West Eddar" [12], which plays the role of ordering element and distributor of "Biout" [13]. "West Eddar" is a multifunctional element, articulating the interior space, and it has exceptional functions in the daily life of citizens.

Exceptional Items

The exceptional element of the Ksar is the Mosque its spiritual element, the entrance door of the “Derb” is the second exceptional element. The third exceptional element at the level of the house is the staircase.

Elements Currents

The current elements are the houses, all repetitive that respond to different types.

The Geometrical Frame

The geometric framework of the Ksar is structural, based on the plot and road layout. It develops and it is presented on a grid in which all forms of space are inscribed. Constitutes an orthogonal, two-dimensional east west, north-south grid. The spacing of the grid is explained by the span of two to three meters of the girders networked. The Ksar of Taghit responds to a spirit of planned system.

Architectural Composition of the Houses

“Eddar”, refers in its mode of organization to the oriental house. It is an introverted house built on two levels, with an interior courtyard. A single door on the blind exterior wall allows contact with “Eddar” and “Zgag” through “Skiffa”[14].

Organization of an Ordinary House in the Ksar of Taghit

“West Eddar” Fig. 9, the multifunctional space at the first floor level. It makes the distribution thanks to its central position, it is the most enlightened and airy place by “Ain-Ed-Dar”[15], then it has predictive for the domestic activities such as weaving, cooking, sorting dates, Around the “West Eddar”. We found the “Biout” [16], “Kousina”[17] , Fig. 10, “Beyt El Aoula” [18], et “Beyt El Diaf” [19], Fig.11, “Beyt Echiah”[20] .

Organization of a Tourist House in the Ksar of Taghit

The Ksar of Taghit is fully restored. This restoration is done by the inhabitants of this Ksar, they used local materials, plus other durable materials; stone for the walls, electricity for artificial lighting, and they introduced sanitation for the evacuation of wastewater ... etc. With respect for the original appearance of the Ksar.

These inhabitants made this restoration for tourist reasons in order to preserve and revalorize the urban and architectural heritage of Ksour. One inhabitant took the initiative to restore his house and reserved a part for the exhibition, Fig. 12, and sale of crafts, Figs, 13, 14.



Figure 9. "West Eddar", Authors



Figure 10. "Beyt El Diaf", Authors



Figure 11. "Kousina", Authors



Figure 12. Sale of crafts, Authors



Figure 13. Sale of crafts, Authors



Figure 14. The exhibition, Authors

ABOUT OF THE KSAR BNIS ABBAS

The Current State of the Ksar

In 1957, the colonial installation of the indigenous population spread out on the plateau, which deserted the inner part of the Ksar of their inhabitants. In the post-colonial period and via the zoning system that was established in the urbanization program, the occupation of the plateau was accelerated by a voluntary intervention. It was during this period that the Ksar was uninhabitable. Currently the Ksar is abandoned in poor condition.

The Constituents of KsarBnis Abbas

Ksar Bnis Abbas is constitute by fundamental elements, Fig.15 ; a Mosque, Fig. 18,"Djemâa",Fig. 16,Rahba, "Zgag", the residences,a well, "Derb", "Drieb", a defensive wall and four control towers, Fig. 17, four (04) doors.

Building Products from Ksar Bnis Abbas

Three (03) natural biological products carry out the construction of the Ksar Bnis Abbas,; palms, stone, and earth.

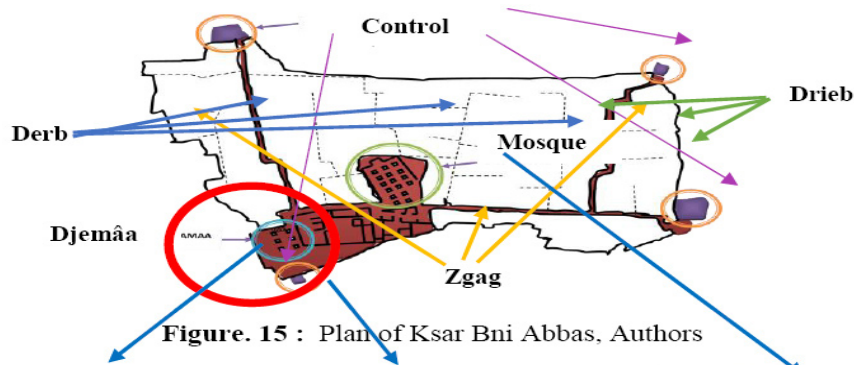


Figure. 15 : Plan of Ksar Bni Abbas, Authors



Figure 16. "Djemâa", Authors



Figure 17. control tower, Authors



Figure 18. The Mosque, Authors

Construction System of Ksar Bnis Abbas

The entire structure is made of palm trunks and leaves to strengthen the buildings. The posts are made of palm tree trunks; the floor is also made of palms trunks and leaves.

Sequential Study of the Composition Axis of Ksar Bnis Abbas

The urban space of the Ksar of Bni Abbas is structured by the mosque located in the heart of the Ksar surrounded by three (03) "Zgags"; structuring the space. The first "Zgag" connects the first door with the second one, passed by "Rahba" and "Djemâa", the second "Zgag" connects the second door with the third door, and the third "Zgag" connects the first door with the fourth door. A defensive wall, with four (4) control towers, surrounds the Ksar, Figs.19, 20.

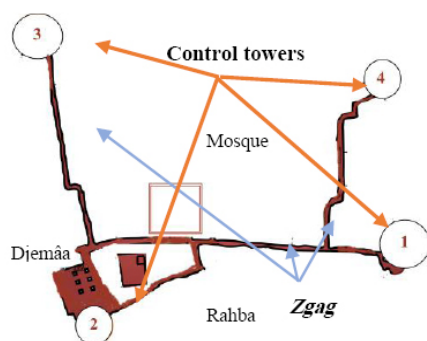


Figure 19. The Composition Axis, Authors

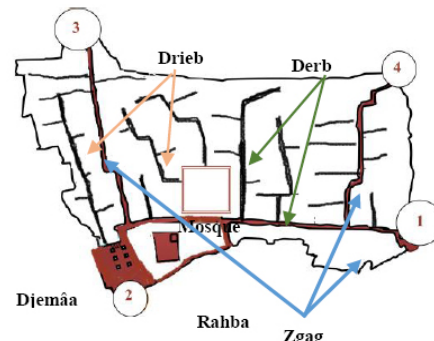


Figure 20. dedicated spaces for public and private use, Authors

Urban composition of the Ksar Bnis Abbas

Ksar Bni Abbas is also composed of three urban elements: the command elements, the exceptional elements and the current elements.

Ordering Elements

Zgag, Derb, Drieb and Eddar constitute the hierarchy of spaces the three “Zgag” orders the mosque Rahba, “Djemâa”. Derb orders the agglomeration and “Drieb” which orders the houses. At the scale of the habitat, it is “West Eddar”, which plays the role of ordering element and distributor of “Biout”.

Exceptional Items

The exceptional element of the Ksar is the Mosque its spiritual element, Rahba is space of commerce service; “Djemâa” is a space for meetings, and four (4) towers for the control of the security of the Ksar.

Elements Currents

The current elements are the houses, with different types, fig. 21.

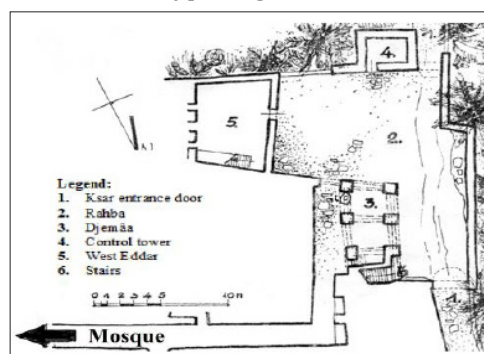


Figure 21. spaceinterior - exterior of Ksar Bni Abbas, https://www.pierreseche.com/AV_2012, with Authors intervention

The Geometrical Frame

The structure of the Ksar is based on the layout of the plots limited by the grid of the paths. It is presented by a grid. It is an orthogonal grid. The Ksar of Bni Abbas responds to a spirit of planned system.

Architectural Composition of the Houses

The composition of the house “Eddar”, of Ksar Bni Abbas resembles the composition of the house of Ksar Taghit introverted system built on two levels, with a courtyard inside. A single door on the blind exterior wall allows contact “Eddar” with and “Zgag”.

Organization of an Ordinary House in the Ksar of Bni Abbas

The central space in the house is “West Eddar”. It distributes the spaces; “Biout”, “Beyt El Diaf”, “Beyt El Aoula”, “Kousina”, and “Beyt Echiah”. It is located below “Ain-Ed-Dar”.

Organization of a Tourist House in the Ksar of Bni Abbas

Within the framework of the preservation and the revalorization of the national urban heritage are architectural Ksourien; thus for tourist economic reasons; the project of the restoration of the Ksar Bni Abbas was launched by the State. Given its historical and strategic value in the Saoura. They established an improvement on the functional level. However, unfortunately the result was undesirable.

A change in the urban and architectural design has been distinguished. They have built a tourist village made up of bungalows, each of which includes:

- A kitchen.
- Bedrooms.

- A bathroom.
- A sanitary.

They used new materials, which are:

- The ceramic in the water rooms, Fig. 22.
- Cement.
- Ornamented wood in the Moroccan style, Fig. 23.

Besides, they have installed networks such as:

- Sewerage networks.
- Drinking water networks.
- Electricity networks, Fig.24.



Figure 22. The ceramic, Authors **Figure 23.** Ornamented wood, Authors **Figure 24.** Electricity networks, Authors
The result of the restoration of Ksar Bni Abbas

The Ksar of Bni Abbas has lost its historical value; the external image represents its Saharan architectural vocabulary while inside we have a paradox, materials and construction techniques not compatible which deteriorates the image of the Ksar. Therefore, they did not preserve this heritage and replaced it with other constructions that do not correspond to our traditions, Figs. 25.26.27.



Figure 25. The degradation of Kousina, Authors

Figure 26. The degradation of zagg, Derb and Drieb Authors

Figure 27. The degradation of staircase, Authors

Comparison Between the Two Case Studies

Status of Specimens

We will present the administrative statue with the size of the specimens in Table. 1:

Table 1. Status of specimens

statue \ Ksar	Bni Abbas	Taghit
Administrative	wilaya	Chief of Daïra
State of Ksar	In ruins	Gradient
Type de préservation	Rehabilitation of a large part of the Ksar	Restoration of some housing and public space.
Result	No success	Success

Composition Urbaine

The urban composition of the two specimens is presented, in Table. 2:

Table 2. The urban composition

<div>Ksar</div> <div>The composition</div>	Bni Abbas	Taghit
Components of the set	Ksar, colonial district, and the sprawl	Ksar, extension, social housing, housing estates
Size of the Ksar	About ten dwellings	About a hundred dwellings
Remarkable elements	The Mosque Djemâa Rahba control towers The enclosure wall Covered and open passage The palm grove	The Mosque Covered and open passage Djemâa The enclosure wall the medersa The Ksar built on a rock The palm grove
space prioritization	Zgag –Rahba- Djemâa- Derb - Drieb -Eddar	Zgag - Djemâa- Derb – Drieb - Eddar
State of the Palmeraie	very good condition	poorly maintained

CONCLUSION

The Ksar is an agrosystem that integrates the complementarity of water, the palm grove, and the indigenous habitat that influences the feasibility of the habitat/inhabitant relationship with a rationality of space and climatic comfort juxtaposed with rites and daily uses. Subsequently the Ksar is not intended to become a hotel or a vacation village for foreign tourists. On the other hand, it is an open-air museum a very rich architectural vocabulary.

Especially the awareness of the need for preservation of a Ksar requires indeed:

- A real attachment of the population to these ancient elements.
- A knowledge of their value and symbolism -other than by the frequency of tourist visits
- A perception of what the enhancement could bring to the citizens, notably through economic spin-offs.

Too many daily survival concerns beset the inhabitants of the ksour for them to be able to broaden their assessments. Because a wide information, a participation in the projects, an interest in the activities of accompaniment of the future restored set are always beneficial.

NOTES

[1] It plays a key role in the achievement of sustainable development.

[2] This concept often excludes historic towns and residential areas, which represent urban heritage.

[3] The first studies carried out by the French military officers Martin in 1908, and Echallier in 1972, particularly in the South-West, reveal the unity and the differences, the unity appears above all in the process of implantation, the localization, and the organization model of the streets. The differences relate essentially to the morphology of the fundamental unit making up the Ksar.

[4] The grounds were often rocky and very high.

[5] Is Continuous sand dunes.

[6] Rahba, it is the public place.

[7] The street.

- [8] The well serves as a public fountain.
- [9] The course.
- [10] The house.
- [11] The patio.
- [13] The rooms.
- [14] Chicane entry space designed to break the view to the heart of the house and preserve privacy.
- [15] A small opening in the roof.
- [16] Beyt is room; the plural is "Biout".
- [17] Kitchen.
- [18] Small pieces are provided for grain storage, dates, fodder and water jars.
- [19] Living room; one for men other for women.
- [20] Stable for the breeding of goats, sheep, and the donkey.
- [21] Coranic school.

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