

## The Ottoman Era Houses in Biskra City, Algeria

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### Abstract:

The historical development of the city of Biskra, located in the southeastern part of Algeria, was the result of different and various civilizations overtime that produced different urban fabrics and different housing typologies. The houses from the Ottoman period known as vernacular architecture is characterized by its emergence inside the palm grove where it is organized in the form of scattered groupings around the old city. The seven neighborhoods that emerged as villages in the form of compacted tissues at this period still exist today with most of their houses intact. A survey has been conducted at three of these seven neighborhoods during the summer of 2018 as part of the doctoral research. This paper will present the results of the survey of the fifteen houses conducted. The aim is to identify the main characteristics of the spaces in the houses and to interrogate the existence of a typology of Ottoman houses in Biskra city. The findings indicate that these houses consist of three main spaces: “*sguifa*” the entrance space, “*wastedar*” the central space for the daily use, and “*bitt*” the multifunctional room used for sleeping eating and receiving guests. The paper will argue that these houses that form a part of cultural heritage of Biskra can also be interpreted as a common heritage of Ottoman history.

**Keywords:** Biskra, houses, survey, Ottoman, heritage.

### 1. Introduction

The city of Biskra has a very rich and ancient history, which have many abounding civilization dating back to 8000 J.C. The oldest remains were were discovered in 1986 during excavations on the sites where is Biskra university center lies today and the site where the construction for the extension of contemporary city (Agli, 1988). The city had different names among which we find the name of SEKRA (Sugar) which is explained by the abundance of its famous dates called (*Deglet-Nour*) by the local name, whose this Arabic name means finger of light.

Biskra city, characterized by its geographical situation, by its hot and arid climate, its natural resources and especially agricultural lands, and its richness of water, has been one of the main roads of Sahara and major trade route to the south (Adad, Zerouala, 2002). Therefore, it has been home for many civilizations, from Romans to Arabs, until the French colonization. Thus, different urban fabrics and housing typologies have been produced within the city. The core of the city of Biskra has evolved through four main important periods: the pre-colonial (Ottoman period), the colonial, independence and the contemporary period. This paper will focus on the Ottoman period houses.

The region of Biskra was invaded by Ottoman armies ruled by Hossein Ibn Agha in the year 1541 and their occupation was only military (Agli, 1988). Turkish garrison was settled in Biskra city, built a fort to be able to control the water of irrigation and expropriated the best gardens. The epidemic of 1650 gave rise to the birth of seven new settlements; M'cid, Gueddacha, Bab Dareb, Bab El Fath, Ras El G uerria, Korra, Medjniche, scattered inside the palm grove. These seven villages compose the ancient groupings that took shape and evolved following the regulating route constituted by the irrigation canals (Côte, 2005).

The houses from the Ottoman period are scattered within the palm groves, around the old city: "It is a human work based on an autarkic economy, which has challenged the weather and the harshness of the conditions of the desert environment" (Adad, Zerouala, 2002). The houses from Ottoman period that will be referred to as vernacular houses from now on have a rural character and it's a symbolic place which designed with respect to the environment and the ecosystem by living in harmony with all its components.

A survey has been carried out on 15 houses from three neighborhoods: M'cid, Bab dareb, and Gueddacha, during the summer 2018 as part of the doctoral research, to identify the main features and characteristics of the spaces of these vernacular houses (Adad, Zerouala, 2002).

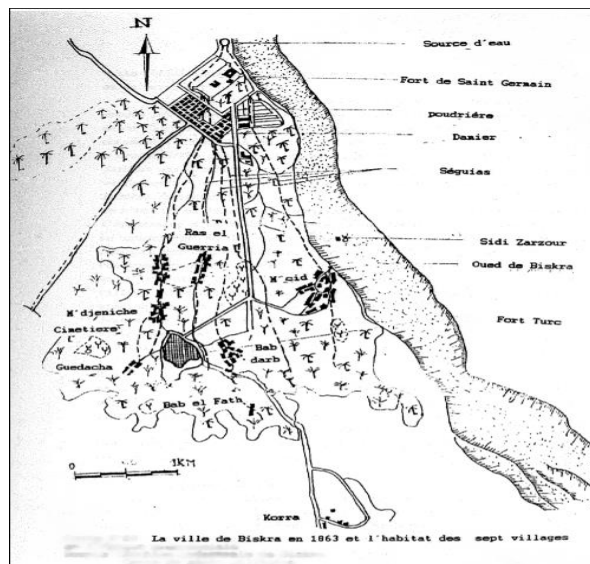
The comparative study has shown that these houses share the same properties and the same spatial anatomy. Among the properties of the vernacular houses is the versatility of activities in one space. This paper will discuss the existence of a typology of Ottoman houses in Biskra city, and argue that these houses that form a part of cultural heritage of Biskra can also be interpreted as a common heritage of Ottoman history.

## **2. Ottoman era**

The Ottoman Turk occupied more deeply the country; garrisons and pashas settled in various cities in the country could be divided into three regions: Oran, Medea and Constantine which is the most extensive.

Biskra invaded by the Ottomans commanded by Hossein Ibn Agha in 1541, and their occupation was only military (Agli.N, 1988). Turkish garrison settled down in Biskra city, where they built a fort to be able to control the market of the dates, irrigation water, and the palm grove and also to protect itself from the external danger. The fort was erected on rocky soils and elevated land for the purpose of self-defense, and also for fertile soils. The Ottoman Empire remained in the city three centuries until the French colonization in 1830.

During the Ottoman rule, in 1650, around 7000 people died because of the plague epidemic, and the rest of the inhabitants had to leave the fort and settle in groups scattered inside the palm grove organized in the form of scattered groupings around the old city. This resulted with the birth of the seven historical villages: M'cid, Bab Darb, Bab El Fath, Ras El Guerria, Korra, Gueddacha, Medjniche (fig01). These seven villages situated in the south of the today's city still exist until today as neighborhoods with most of their houses intact. These vernacular neighborhoods are characterized by the compactness of their habitat for climatic reasons, its situation inside the palm grove and the existent of *saguia* (irrigation canal) which supplies palms and inhabited areas with drinking water. The palm grove and the *saguia* are considered as the important structuring elements of the urban fabric for the vernacular neighborhoods for the city of Biskra.



**Fig 1.** Map showing the seven villages in Biskra in 1863

### 3. The vernacular houses

Vernacular houses by definition have always tried to respond to diverse factors such as the climate, the religion, the socio-cultural factors, and the tradition of its community of builders (Saouli, 1989). The vernacular housing in Biskra city also is characterized by its perfect integration inside the

palm grove as scattered groupings, its contact with the water stream and the palm grove has generated a specific urban structure and a typology of habitat of the vernacular nucleus. This architecture is the genie of “a human work based on an autarkic economy, which has challenged the weather and the harshness of the conditions of the desert environment” (Adad & Zerouala, 2002). The vernacular house has a rural character designed with respect to the environment and the ecosystem to live in harmony with all its components (fig02).



**Fig 2.** Vernacular house in M'cid Neighborhood.

The house' spatial layout is based on some social, cultural, and religious aspects. It defines the interior as a space reserved for women. The vernacular houses in Biskra is a symbolic place, each space fulfilling its role perfectly (Adad, Zerouala, 2002). Generally each space related to economy of the household is located at the ground floor, such as: the stable for raising animals (goats, hens), and underground the makhzen (depot) for storage and drying dates (Adad, Zerouala, 2002). On the ground floor the spaces are arranged around the central space (*wasteddar*) where the daily activities take place and the family gather in. The '*wasteddar*' is a covered space, whose considered as structuring space which articulates all spaces in the house and which are organized around it, contained an opening on the ceiling and it is the source of light and air to the house, it can be used for a variety of uses such as space for cooking meals, napping, resting, watching TV, and family meeting that could occur both during the day and night (Adad, Zerouala, 2002). It's the structuring space of the house; all the spaces are arranged around this central space. The '*sguifa*' provides the access into the house and considered as a transition and filter space. It has the role of being a screen prohibiting the direct view to the interior of the house, thus allowing the door to be left open all the time during the day (Sriti, 2012). The rooms (*bitt*) are multifunctional spaces for a number of activities: sleep (nap), rest, eat, study similar to general Ottoman houses. The additional spaces include bathroom (*hamam*), the toilet (*rmaya*), and the stable (*couri*).

#### 4. The case and the sample:

The present study conducted includes samples from the Ottoman period houses in three neighborhoods: “Bab dareb, M'cid, and Gueddacha” situated at the southern part of Biskra city(fig03). Being located in an arid area with hot climate, the neighborhoods are distinguished by their integration inside the palm grove and vernacular houses characteristics. The area of M'cid is about 920 ha, where 5991 inhabitants live. It contains 751 dwellings built by the mud bricks. Bab dareb is not populated as the M'cid neighborhood, 4354 inhabitants, and has an area 71,56 ha, and has only 556 dwellings. Gueddachais the smallestone in terms of the area. Herethe total number of dwellingsis 407 with 2493 inhabitants.

The urban fabric of the sectors studies is characterized by their irregular urban form random, and interaction with the palm forest, the absence of a clear urban plan, and random distribution and dispersal of buildings without continuity and heterogeneity. Today most of the houses are in bad condition. The original fabric is renewed in several places by demolition and reconstruction of new houses on the site of the old ones (Sriti.L,2012).

The houses studied are characterized by the use of local material of construction and traditional technique of construction.

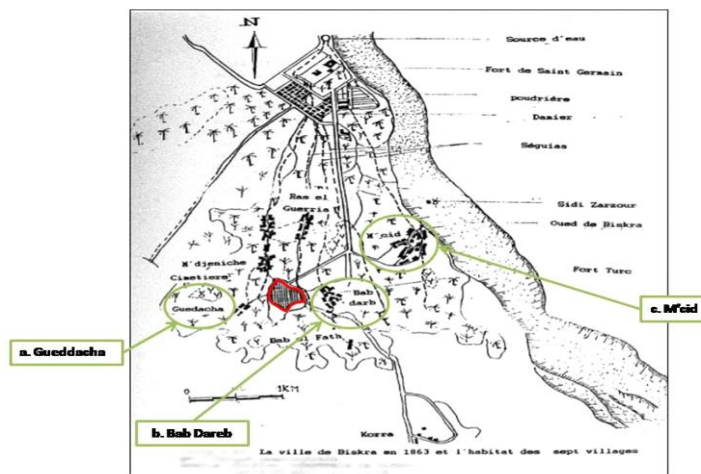


Fig 3. Situation of three neighbourhods M'cid, Bab Dareb , Gueddacha

## **5. The architectural survey**

The survey was conducted in the summer of 2018 as part of the doctoral research and includes 15 houses; seven houses from Mcid neighborhood: H<sub>T1</sub>, H<sub>T2</sub>, H<sub>T3</sub>, H<sub>T4</sub>, H<sub>T6</sub>, H<sub>T14</sub>, H<sub>T15</sub>, four houses from Bab dareb neighborhood: H<sub>T8</sub>, H<sub>T9</sub>, H<sub>T10</sub>, H<sub>T13</sub>, and four houses from Gueddacha neighborhood: H<sub>T5</sub>, H<sub>T7</sub>, H<sub>T11</sub>, H<sub>T12</sub> (Table 01). These houses were chosen according to the historical, temporal, and architectural value (the structure, materials of construction, and the architectural aspect) where the residential tissue adapted to its context. The houses are examined in term of site planning, spatial configuration, and socio-economic factors.

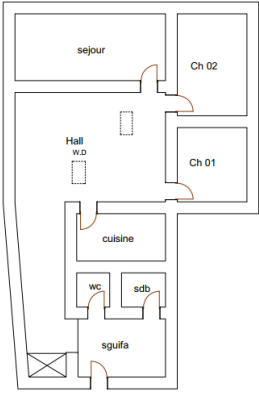

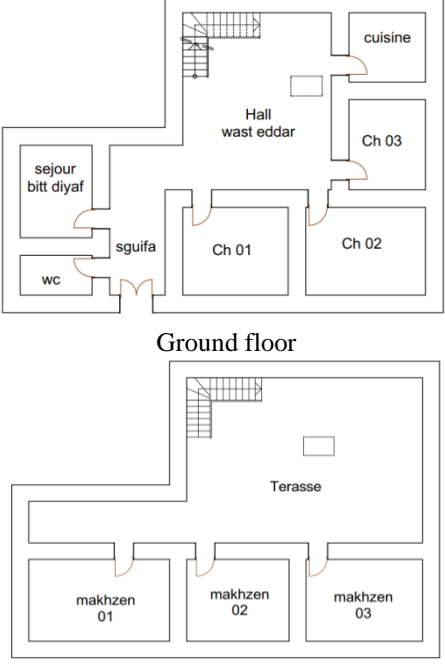

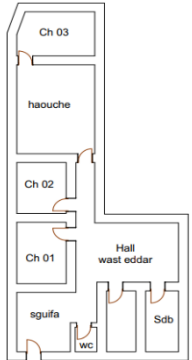

The aim of this survey is to provide a documentation of the vernacular houses to assist in examination of the spatial organization of the houses. The current state of the houses as well as existing ways of living also documented. The economic, cultural, and social aspects that related to the way of life in the original house layouts have been examined through the literature review. The survey enabled to provide the documentation for the representation of the main features of the spatial configuration and has also provided insights to the vernacular houses of the old city of Biskra. The traditional technique of the survey is used, which only needs conventional instruments. Besides, a spatial measurement of different rooms has been conducted, as well as documenting the spatial layout of the rooms, how they are organized in relation to each other. Finally, sketches were turned into plans as they are redrawn using the software Archicad. (Table 01)


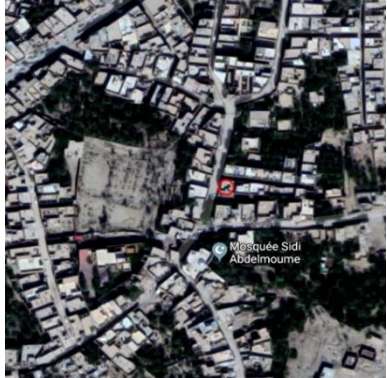
Due to the difficulty of accessing into all the houses since some of the inhabitant didn't allow strangers to disturb their privacy inside the house, a number of the plans are barrowed from the documentation of houses by second year architecture students and some plans from another doctoral research.

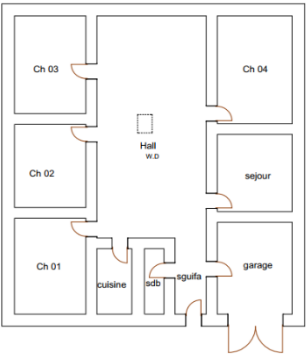

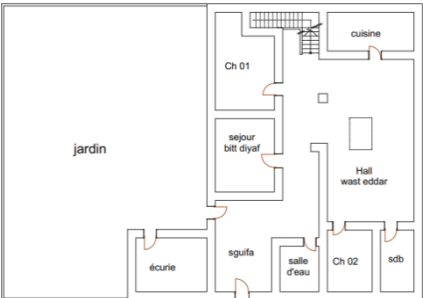
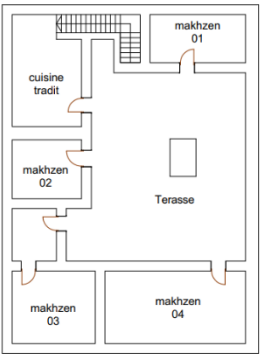

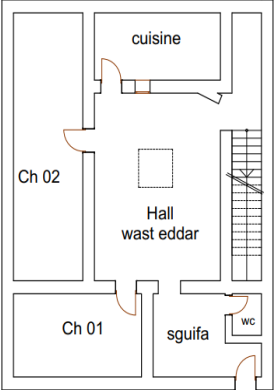
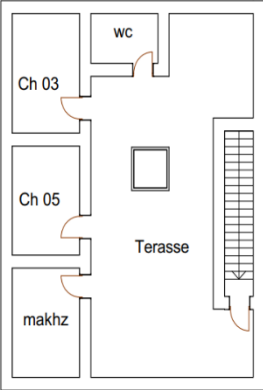

**Table 1.** The 15 house plans used in this research.

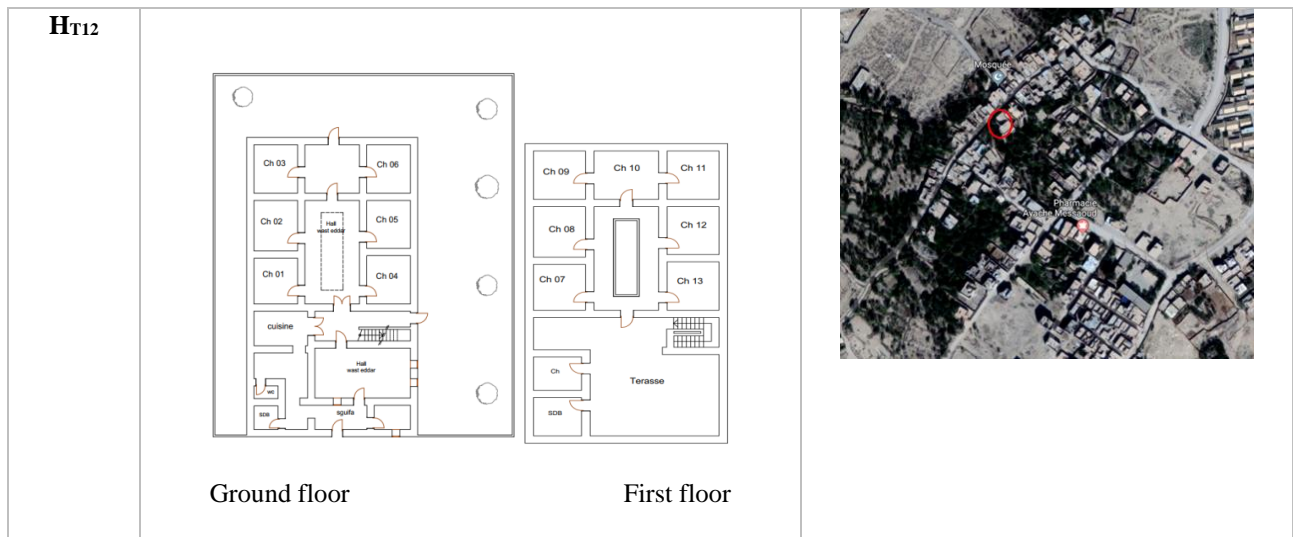
Houses	Plans	Mcid neighborhood
H <sub>T1</sub>	<p style="text-align: right;">Ground floor</p> <p style="text-align: right;">First floor</p>	

<p><b>Hr2</b></p>	 <p>Ground floor</p> <p>First floor</p>	
<p><b>Hr3</b></p>	 <p>Ground floor</p>	
<p><b>Hr4</b></p>	 <p>Ground floor</p> <p>First floor</p>	

<p><b>H<sub>T6</sub></b></p>	 <p>Ground floor</p>	
<p><b>H<sub>T14</sub></b></p>	 <p>Ground floor</p> <p>First floor</p>	
<p><b>Houses</b></p>	<p><b>Plans</b></p>	<p><b>Bab dareb neighborhood</b></p>
<p><b>H<sub>T8</sub></b></p>	 <p>Ground floor</p>	

<p><b>HT9</b></p>	 <p>Ground floor</p>	
<p><b>HT10</b></p>	 <p>Ground floor</p>	
<p><b>HT13</b></p>	 <p>Ground floor</p>	
<p><b>Houses</b></p>	<p><b>Plans</b></p>	<p><b>Gueddacha neighborhood</b></p>

<p><b>H15</b></p>	 <p>Ground floor</p>	
<p><b>H17</b></p>	 <p>Ground floor</p>  <p>First floor</p>	
<p><b>H11</b></p>	 <p>Ground floor</p>  <p>First floor</p>	



### 6. The Urban Scale

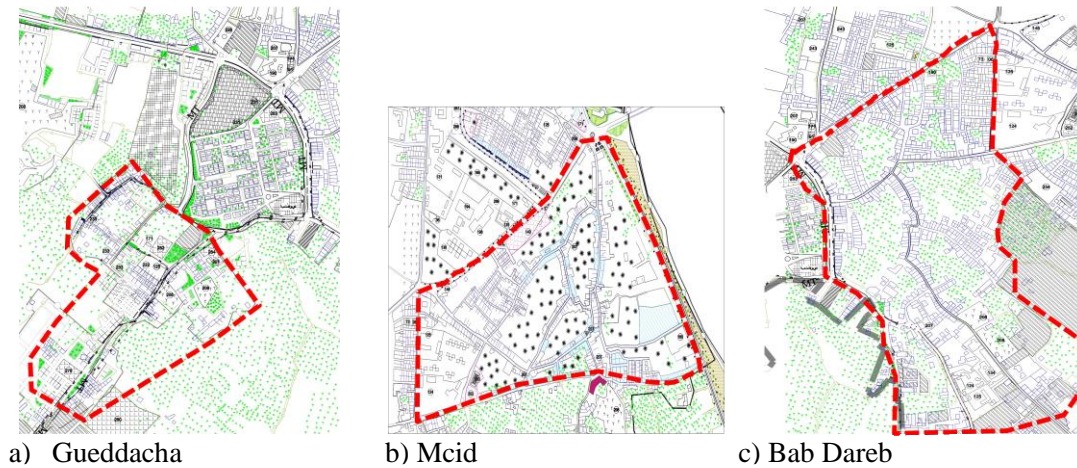
These three neighborhoods; M'cid, Gueddacha, and Bab dareb situated in the southern part in the city of Biskra, their geographic situation in contact with structure elements: the palm grove and the water stream (*saguia*) (fig04), which supplies the palms and the inhabited areas with the drinking water in which the houses are arranged on the both side of the *saguia*.



Fig 4. The Saguia of the structuring elements

The urban structure of these three neighborhoods is characterized by compactness and linearity of its fabric (fig05). For climatic reasons, their street patterns are principally made of deep, narrow and winding streets. The lack of major axes made the connectedness with the other parts of city less integrated. The rest of the roads and alleys scattered within the fabric are the paths and corridors within the palm forests and residential complexes, and is not paved and twisted and suffer from the accumulation of sand. The palm grove, embedding the house grouping, is considered as an important

component of the urban fabric, by creating a microclimate to comfort inhabitants and buildings (houses) from the harsh weather i.e. summer sunrays – a real inside and outside thermal comfort of the vernacular urban fabric of the city of Biskra.



**Fig 5.** Map show the compactness of urban fabric of Bab Dareb neighborhood.

The main street served as a set of alleys that constituted secondary network of roads. The irregularity of the road network makes the urban space less legible. One of the features of the old fabric is the hierarchy of space: street, alley and dead end, with a tendency to respect inhabitants' privacy needs.

## 7. Architectural scale

In this section, the findings obtained from the analysis of the different houses' plans, are briefly discussed in terms of spatial configuration and its situation in the fabric. It is quite interesting to note that the vernacular houses of Biskra city provide an architectural heritage, and in particular they are sustainable constructions adapted to the climate and environment context. This fact is best manifested in the construction materials and in the structural elements such as the “*rozna*” or the opening in the ceiling of the central space ‘*wasteddar*’ that is manually operable (opening/ closing) to regulate zenithal light and ventilation according to daily and seasonal comfort requirements (fig06).



**Fig 6.** Pictures showing the rozna on the roof in the wasr eddar of H<sub>T11</sub>, H<sub>T15</sub>.

“*Wasteddar*” is considered as the main space for the most daily activities: cooking, eating, watching, napping, resting, and family gathering. It is the pivot of the movement and distribution in the house. In this space women spend their time during all day. It is the space through which the whole house is articulated. It is a regulatory space par excellence, in which the vernacular house is based on the centrality of its spatial organization. Based on the in-situ investigation, today, the functions of the “*wasteddar*” are reduced because of the adding of new spaces such as the kitchen, living room, guest room, and bed-room. This change refers to the evolution of the social life and the openness to the other cultures. It is also connected directly to the “*sguifa*” (vestibule) as the houses: H<sub>T1</sub>, H<sub>T4</sub>, H<sub>T5</sub>, H<sub>T8</sub>, H<sub>T9</sub>, H<sub>T10</sub>, H<sub>T11</sub>, H<sub>T12</sub>, H<sub>T14</sub>, H<sub>T15</sub> shown in the table 01 above, among these houses: H<sub>T9</sub>, H<sub>T12</sub>, H<sub>T15</sub> the “*wasteddar*” and “*sguifa*” are separated by a door, but the houses H<sub>T2</sub>, H<sub>T3</sub>, H<sub>T5</sub>, H<sub>T6</sub>, H<sub>T7</sub>, are connected to a transition space that gives to the *wasteddar*, the *sguifa* considered as a boundary between the exterior and the internal space, as well as a transition and filter space: it provides the intimacy for the inhabitant and especially for women, in which men or strangers stay in until they get the permission from the women inside the house. We notice that all the houses of the sample contain the “*sguifa*” which indicates that is one of the main structure elements of the spatial organization of the houses layout and it’s imply of the important of the privacy for inhabitants inside their houses, and it is presented in different shape and size in each house in the sample.

Each house is designed based on the social life, size of the family and it needs. As well as responding on the climatic criteria, comfort, and economic state. The houses reflect the way of life suggested in that time.... Through the observation of the houses plan, we notice that the houses have different sizes, that indicate to the economic state of the household as well the size of the family (extended family), the houses H<sub>T1</sub>, H<sub>T2</sub>, H<sub>T7</sub>, H<sub>T12</sub>, H<sub>T11</sub> have the highest area in the sample and have one complete ground floor and partial first floor and in some cases have a back garden as H<sub>T2</sub>, H<sub>T3</sub>, H<sub>T4</sub>,

H<sub>T7</sub>, H<sub>T12</sub>, and that refers to the large number of family and the economic status (rich family), the houses H<sub>T1</sub>, H<sub>T2</sub>, H<sub>T4</sub>, H<sub>T7</sub>, H<sub>T11</sub>, H<sub>T12</sub>, H<sub>T14</sub>, H<sub>T15</sub> composed from two floors linked by staircase located in the hall “*wasteddar*”, and the houses H<sub>T3</sub>, H<sub>T5</sub>, H<sub>T6</sub>, H<sub>T8</sub>, H<sub>T9</sub>, H<sub>T10</sub>, H<sub>T13</sub> have only one ground floor, small area, and less number of spaces compared by the other houses.

One of the main features in the houses is the hierarchy to the use of the spaces by visitors and inhabitants, in which the guest room ( *Bitt dyaf*) located at the entry hall, as we see in houses (H<sub>T1</sub>, H<sub>T2</sub>, H<sub>T4</sub>, H<sub>T7</sub>, H<sub>T11</sub>, H<sub>T13</sub>, H<sub>T14</sub>) because men (strangers) could not penetrate into the house, in addition women need to veil themselves front of strange man ( non-muhram), the *sguifa* is the indication of that separation between visitors / inhabitants , exterior/ internal space, therefore its control the access into the house or vice-versa.

The kitchen in which women were expected to cook, mostly located in the back of the house layout, in other word is located away; to keep the privacy of women inside the house, in general the kitchen situated at the ground floor.

The ablution spaces “the toilet and the bathroom” are located at the entry hall, connected to the *sguifa* and beside the guest room in all the houses for the visitors to preserve the privacy inside the house.

## **8. Material of construction and Constructive system**

The vernacular houses have been built by local materials integrating the environmental context. The inhabitants built their houses based on different conditions; climate protection, defense, introverted, and that manifested in the way the houses built in which are open towards interior, move towards the center. One of the main characteristic of the vernacular houses of Biskra is the absence of the openings on the facade, or just very small openings as the shown in the figure 07. The houses constructed by traditional techniques using the stone for the bedrock, the wood of palm trunks for the joinery (doors, windows) and pillars, beams, joists, the earth and mud brick for walls (fig07), in which is fortunately one of the worst heat conductors, thus, the comfort of the inhabitants inside the house depends much on the thermal properties of the walls and roof (Hassan,1970).

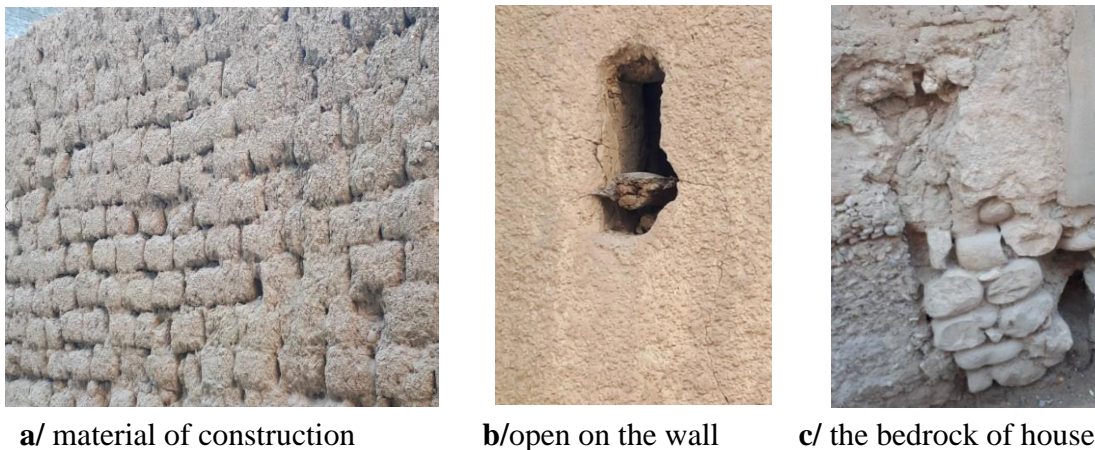


Fig 7. The material and technique of construction.

## 9. Conclusion

The vernacular houses constructed during the Ottoman era in Biskra city are characterized in this paper and examined as an heritage for the city. The characteristics of the houses include a combination of the local material, climate conditions (hot and dry), living style, the traditional construction techniques and the spatial organization of internal space. The result of this examination indicates that these vernacular houses share some common features both in urban and architectural scales. In the urban scale these characteristics include the absence of openings in facades, the compactness of the fabric in which no house appears isolated in the fabric, the alleys where the houses located are narrow and small, the houses all built by local material and traditional techniques to adapt themselves in the local environment and climate conditions. In the architectural scale; they are characterized by their introverted layout where the rooms open toward the central space inside the house called “wasteddar.” This space is considered as the main space in the house layout, and has a social dimension as it shapes the daily life especially for women. As a result we can suggest that these vernacular houses constituted a shared pattern of spatial configuration based on the concept of the privacy which is manifested in the spatial organization that shapes the inhabitants behavior inside their houses.

The socio-cultural, technological and socio-economic factors that shape the vernacular houses have changed over time and this change had an effect on the spatial organization of the houses. The uses of some spaces are modified and some other spaces are added to adapt to the new social life. Even the size of families is changed from extended to nuclear families and that explain the number of rooms that have been abandoned or became just places to storage inside the houses. Based on the in-situ investigation it is recognized that most of the original owners rented or sold their houses, and the

reason for them to leave their houses was because of the bad state of the houses or other family reasons such as the death of the parents, or building another new home.

Until today, it can be seen that the main organizing principle of these houses, i.e. the spatial arrangement in terms of centrality and organization of spaces around the '*wasteddar*', has been kept its significance. One can even suggest that even the newly constructed houses carry this same principle. Thus, this type of house layout should be considered as part of the city of Biskra's heritage which would have a social dimension for the inhabitants of the city of Biskra.

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