

Supplying Tunis with water
during the Hafside era
(XIIIth-XVIth century)

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INTRODUCTION

Being precious and rare in a country suffering a scarce rainfall, water has always been an important issue in the Arabic literature even before the event of Islam when their territory was limited to Arabia and afterwards when their empire reached the edges of the Atlantic in the west and China in the east.

Water is vital and is also necessary for ritual ablutions, it was used to refresh houses, gardens and patios ; It was a highly sought-after facility which only the city and its suburbs could afford. That is why when describing a city, ancient geographers used to talk about the number and importance of its baths and systems adopted to supply it with water.

The Andalusian El-Abdari reported during the VIIIth century the lack of drinking water in Tunis : « If only Tunis was endowed with rich hydraulic resources, this city could have been unique in the whole Orient and Occident”. He also mentioned the rush for fountains where Tunisians and foreigners, who did not have at home wells or tanks, looked for water.

Historical sources tell us that up till the Hafside era, Tunis was supplied with water mainly through wells (bir) or storm water which is collected and stocked in tanks located in houses' basement (majil). Nowadays, houses, schools, zaouias, mosques and baths in the old medina are still equipped with such wells and tanks which are the live remains of those old centuries when water was an exceptional fact.

Some of the advantages offered by the location of Tunis are its relatively rich ground water and an average rainfall sufficient to fill houses' tanks except for long drought periods as it was, probably, the case during El-Abdari's visit to Tunis in 1289. Said ground water which was neither deep nor brackish allowed the small city spread over the eastern hillside down to the lake to survive with the support of storm water.

When Tunis became the capital of Ifriqiya during the Hafside era (XIII- XVI century) it was necessary to increase the water input through more diversified and high-efficient hydraulic systems.

HYDRAULIC STRUCTURES BEFORE THE XIV CENTURY

During the XVth century, Tunis was considered as a large Mediterranean metropolis with its 250- hectare surface area and 180.000 inhabitants.

The palace and residences of the Sultan, princes, army majors, senior civil servants and middle-class citizens (landowners, craftsmen, shopkeepers...) were numerous within an urban system which reached a high perfection degree.

Large mosques grew in number as the urban growth went along, passing from one large mosque in the XIIth century (El-Zitouna mosque) to five in the XIII century then nine in the XVth century. The first school (Chamma Giyya) in North Africa was built in Tunis in the XIIIth century and then several schools followed all along the Hafside era. Zaouias swarmed in all districts favouring the establishment of Sufism and Maraboutism. The souks which were well-stocked with all types of products (mainly luxurious handicraft

articles) showed the existence of a well-off social class which spares no expense for comfort.

Tunis' impressive walls opened on to a pleasant countryside where the kingdom's Sultan and dignitaries owned residences which were a delight for the travellers of that time such as Adome, Abdel-Bassit Ibn Khalil (Egyptian) and Ad-Dammimi (poet).

As for the historian Ibn Khaldoun, he wrote the following:

" [Al-Mustansir] set up a garden named Abu Fihir in the neighbourhood of the city the fame of which crossed the country's borders. It contains a forest-dense vegetation with a part of the trees used as a lattice fence whereas the remaining part grows freely. These groves are crossed by flower beds, ponds, greeneries adorned with small monuments making up a delightful sight [...]. Within these meadows, a large park was used as a border line for an ornamental lake which is so sprawled that it seems to end up in the sea. Water was brought there via an aqueduct. The pipeline starts in a location near the sky and gets into the garden in the form of a wall so that water coming out from a large vent ends up in a deep square stone basin and flows through a short channel down to the garden's fountain. The Sultan's ladies were less inclined to walk on the shore of this ornamental lake than to go on a swing for interminable speed competitions. At each end, two houses, one big and the other is smaller, are supported by white marble pillars with marble mosaics . Ceilings are solidly built with wooden panels superbly trimmed with arabesques. The Sultan was so attracted by the mixture obtained this way by pavilions, porticos, fountains, palaces and streams flowing in the shade of trees that he gave up forever the brothels built by his predecessors".

Abou Fihir garden built in the middle of the XIIIth century by Al-Mostansir was the Sultans' paradise all along the Hafside era. Ras Tabia was also renowned for its beautiful houses and huge gardens. At the beginning of the XVth century, Bardo's and La Marsa's residences (Abdalliya palace) were built with inspirations from the enchanting royal palaces of Alhambra with their parks and gardens where water, which is the eternal source of life, represented the most magic element.

Houses in the city of Tunis had rooms with very low windows opening on the patio which includes most of the time a round fountain ; Ruffino described this architectural aspect during the XVIth century and reported that staying in patios was a delightful experience because of the fresh water coming from wells and tanks.

Wells

Before the Hafside era, in addition to the central Medina which has several wells, historical sources seemed to favour the northern part of the city (Bab Souika) over the southern part (Bab Jazira). Inhabitants living near "Bab As-Saqqain" (The door of water carriers) were supplied, in the XIth century, from a fresh water well called Bir Abou Qifar,

whereas the lands cultivated outside Bab Carthage were irrigated using wells with norias (bir Swani Aï-Mari).

Al-Idrissi noted the existence, during the XIIth century, of two important wells, Al-Abdari reported « the gazelle » well (Bir Adh-Dhubyane) as being the most abundant well of Tunis, whereas "Bir Sidi Suflyane" used to be a never-ending source in the XVth century and up till the XVIth century, the troops of Don Juan the Austrian discovered several wells which were used by fondouks' inhabitants in the Christian area of Bab Al-Bhar.

Baths (hammams) needed huge quantities of water and required, then, deep and abundant wells. Surprisingly, Sultans and leading state dignitaries did not order the building of such baths which are a purely Islamic institution. Nonetheless, baths witnessed a remarkable development caused by the urban expansion.

Other than souk Al-Grana's hammam built, during Xth century, by the Judge of Tunis for the poor and orphans, we can mention Ar-Ramim hammam built during the XVth century in Bab Souika by Mohammed Ibn Ar-Ramimi from Almeria and Zarkoun Hammam located in Zarkoun street near the Christian district. Sources have it that there were other hammams which are, today, scarcely identifiable: one is located outside Bab menara, the other near Al-Hawa mosque, a third one belonging to Sidi Sijoumi's zaouia. Regarding the fourth hammam located in Al-Falqa souk (Negres street), historians reported his owner's story: during Sidi Ben Arous era, the hammam fell into ruins because of its dried up well. The owner implored the marabout who did the miracle and the well became abundant again and the owner prosperous. A similar miracle is reported by historians concerning Sidi Abou Al-Hassen Ach-Chadli, the renowned sufi of the XIIIth century. Wells were dried or filled up by virtue of his companions' baraka. These anecdotes show the importance of water and its security in Muslim's everyday life.

To give water to those who are thirsty is a charity recommended by Islam it is also a duty for those in charge of the city and mainly the Sultan.

So how did Sultans meet the ever-growing needs of the capital's population ?

Aqueducts

In order to supply Carthage with water, Romans were bound to look for it far away from their big city in mount Zaghuan (6 kilometers from Tunis). Water was transferred through aqueducts which building had started during Hadriens era (between 120 and 123) and completed by Septime Sévère (193-211). These aqueducts were partially destroyed by Arabs when Carthage was besieged and the Fatimide restored parts of it.

The most important works were carried out in the middle of the XIIIth century by Al-Mostansir, the Hafside caliph, who tried to resolve the issue of water shortage (mentioned by Al-Abdari twenty years later) by using again antique aqueducts while adopting them to the needs of Muslim cities. Two sections were left in ruins between Ariana and Carthage and two new adductions were built : the first one transports water towards Tunis and the other transports it towards Abou Fihri garden which marvellous ornamental lake was described here above by Ibn Khaldoun

Within the city, a network of lead pipelines transferred water towards a fountain which was erected at the same time as the aqueduct on the eastern side of El-Zitouna mosque.

Before getting into the city, the aqueduct's water was either steered towards Abou Fihri and Ras Tabia gardens or removed by the Kasbah inhabitants for their private use. This explains the crowd around the Zitouna fountain recounted by Al-Abdari.

He mentioned also that : « only a limited quantity [of Zaghouan's waters] was reserved to the Zitouna mosque » and that Al-Mostansir's aqueducts did not work very well despite the efforts of Al-Mostansir's brother to restore them.

Did this situation last all along the XIVth century or did it get better ? The only fact we are sure about is that under the reign of Abou Faris Abdelaziz (1394-1434) (796-837 of the Hegira) the political stability and economic stability were at the origin of several projects and works. Afterwards, all Sultans who reigned during the XVth century and at the beginning of the XVIth century marked their term of office by one or more hydraulic structures of common interest.

HYDRAULIC WORKS AS OF THE XIVth CENTURY

Works of common interest covered the central medina and mainly the southern and western outskirts (Bab Al-Jazira and Rabdh Al-Soltane) where Hafside sovereigns showed their innovative spirit. These outskirts represented, then, new districts with meagre ground waters and needed new hydraulic resources in order to survive and flourish. This was not the case for other districts such as Bab Souika which ground waters were abundant enough to meet the needs of its population.

Two ways were privileged for the implementation of these hydraulic works.

Tanks and foggaras

The new districts of Bab Al-Menara and Bab Aj-Jadid were the first to benefit from the hydraulic works undertaken after those ordered by Al-Mostansir during the XIIIth century because the whole political elite of Hafside, Almohade, Andalusians from the first wave (XIIIth-XIVth centuries)...settled there.

These works, initiated by the Sultan Abou Faris Abdelaziz, include an underground tank (majil referred to as « Musalla ») built by Abou Zakaria the 1st under the Musalla Al-Idayn in Al-Murkadh district. The tank was supplied through the waters of the Musalla impluvium or those of the hillside hosting the Al-Gorjani cemetery.

Zarkachi described it in following words:

It is unusual to find such a large-scale building. It supplies two fountains one of which is provided with copper pipes and water was pumped up from the first and drawn from the other using a goatskin or a similar utensil."

Yet, it should be noted that the tanks in El Kasbah (Hafside's city residence) which were restored during the recent works of the underground parking, could have competed in terms of size with the majil mentioned by Zarkachi.

The second structure of Abou Faris is a watering place completed in 1395 (789 of the Hegira) outside Bab Jadid which remains has disappeared.

As for Bab Al-Jazira district, it was provided with one of the most important hydraulic systems thanks to Sultan Abou Amr Othmane. The water conveyance in hanchir Hamza was completed at the end of his reign in 1476 (881 of the Hegira). Water was brought from the present Bir Al-Kassaa hills. These hills, formerly named Jbel Hamza, are located in the southern part of the city. The place is still known, today, as Bhirat Hamza. Water was transferred to the fountain of Bab Aliwa.

The "Kum Al-Uta" foggara is a system of water conveyance leading to a tank near Bab Laalouj. The works carried out between 1472 and 1476 (877 and 881 of the hegira) aimed at transferring to Tunis Kum Al-Uta's waters which is a location near the connection point between Hadrien's aquaduct and Al-Mostansir's.

Waters were caught by a foggara system in the acquifer included in the alluvium of the southern side of Jbal Lahmar. The drainage towards the aqueduct was done through an underground tunnel connecting several lines of wells. The tank receiving these waters could have been under the Charles Quint plateau or in the present location of the Lycée Technique where a well (Bir Al-Ahwadh) could have existed at the base of the aqueduct's arches.

Another foggara built under Abou Faris, brought the waters of Kum Al-Ita waters back to the Bardo palace.

Distribution within the city

Other than the quantity of water consumed on the spot by neighbouring populations, it seems that a part was steered towards the Kasbah whereas the remaining part was transferred within the city through pipelines to supply several internal basins, fountains and water places.

As for the distribution of such structures inside the city, we should mention that the commercial district located around Ez-Zitouna mosque benefited from a special care from the Sultans of the XVIth century as well as the princes area of Bab Menara and Rabdh As-Soltane. The Great Mosque (a big water consumer) explains probably the concentration of all these sovereigns' efforts who were looking, through their allocations, for a popular gratitude and a divine blessing.

We should mention, yet, the existence of basins and ponds in Sidi Mardoum square (Jewish district ?), in Bab Saadoun district and a reservoir (Siqaya) facing Sidi Mahrez Ibn Khalaf's home.

We should also mention the ablution room referred to as Midhat As-Soltane which was ordered by Sultan Abou Amr Othmane (XVth century) and is a wonderful work of art built with Kadhal stone and two-colour marble. It is located in impasse Abdessalam, souk Al-Attarine, facing the Great Mosque where waters, brought by a pipeline towards lateral fountains and a central fountain, were heated in winter.

CONCLUSION

This ablution room (midha) shows that despite the advantages granted to the population living in southern and western districts, the medina's hard core had continued to benefit from the Sultans' favours.