

# Some features of salt-architecture in the medieval Sudanic cities: Taghaza in Mali as a model

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**ABSTRACT:** The Salt played a vital role in the life of west African societies, including the land of Sudan, from the dawn of their early history. In some cases, it was even more valuable than gold because of the lack of salt in most Sudanic kingdoms, such as Ghana, Mali & Songhai. The most famous of these Salinas was known as Taghaza, in addition to Ulil & Tatantatal, etc. They were related to what is called salt-architecture. We took Taghaza as an example of this rare architecture. West Africans used salt to preserve food, for healing and even for building houses, mosques and city walls. As the city of Taghaza, currently located in Mali, is in the most famous salt region, it is considered to be the best model of a salty city in west Africa. Salt contributed to the Sahara trade, known as the trade of salt and gold. Salt was indispensable for most inhabitants of West Africa. They lived near the salt quarries and used it mainly to build their houses and any other constructions they need.

**KEYWORDS:** Salt-Architecture, West Africa, Taghaza, salinas, Sahara

## Introduction

■ This paper aims to shed light on salt-architecture and discusses its main features in some of ancient cities exhibiting the traditional architecture of the Sudanic kingdoms, such as Ghana and Mali, which dates back to the Middle Ages. This topic still needs in-depth scientific research by the scholars of African studies as it may help to discover more secrets of African cultures & local traditions. We took Taghaza in Mali as the model city to explore the main features of salt-architecture

and to identify the extent to which this style was widespread in Sudanic cities. We aim to discuss this topic according to what is mentioned in Arab sources that talked about the salt city of Taghaza as well as drawing on the recent studies referring to it as well. The study tries to answer some questions, such as: what was the value of salt in medieval West Africa? Why did Taghaza become a perfect model of salt cities? What are the main features of its salt-architecture?

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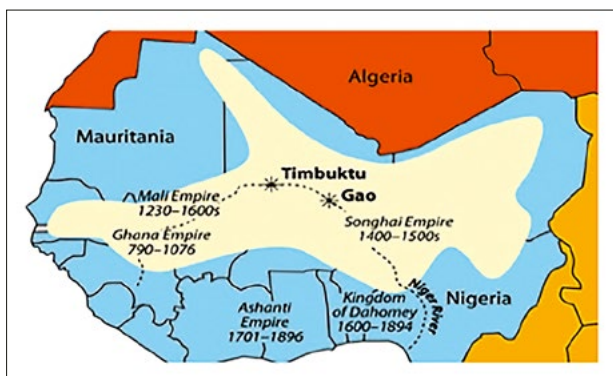
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## The value of the salt in West Africa

Salt played an important role in the life of the peoples in West Africa, or the area that was known as the land of Sudan (Figure 1). It was of irreplaceable value for them from the beginning of their known history (Ibn Hawkal, 2009, p.102). Therefore, it was not surprising that they sometimes considered it more valuable than gold (ibn Battuta, vol. II, p. 606), especially with the lack of salt slabs in most areas of the sub-Saharan kingdoms (Bovil, 2001, pp. 181–182). The name of these last salinas was not the same as those of the cities; Taghaza, Ulil & Tatantal, etc. (Figure 2). Salt as a mineral consists of crystalline compounds, often including sodium chloride (Kurlansky, 2003, p. 13). It could be sometimes found in liquids or dissolved in large proportions in the sea or in salty lakes, or it may be found in the form of rocky sediments, too.

**Figure 1.** A map showing the most famous Sudanic kingdoms in the Middle Ages



Salt has been of a great value across history due to people's demand for its use in different activities of their life (Bovil, 2001, p. 181), so it was not surprising that some peoples called it white gold (Grande Saline, Paris, p. 3). This indicates how important salt is in human life, especially to west Africans. In addition, Africans used it in different ways, which amazed anyone who saw it across the history. For example, they used salt slabs for construction. They were strongly influenced by the Sahara, its environment, and the lack of stones or mountains as well, this traditional architecture is called salt-architecture. The presence of salt quarries in some areas has led to the appearance of this unique architecture and the salt cities, where local people used salt to build their homes, as Ibn Battuta said about house and mosques erected from salt in

the city of Taghaza (Ibn Battuta, p. 606). The life of the inhabitants of the Sahara was closely related to salt, as their life could not continue normally without it (Ibn Hawkal, p. 102).

**Figure 2.** Taghaza location in the northwestern borders of Mali



Salt was used to preserve their food so that it would not spoil due to the high temperature of their land (Hirsch, 2017, p. 75). It is not surprising that it was of great value in most of the sub-Saharan. On the other hand, West Africans used salt as a medicine to treat many diseases as it can compensate the sweat of the body that may lead to infections due to the high temperature of their land (Kurlansky, 2003, p. 13). Among other benefits of salt one should not forget that it makes the taste of food better for the people in this country (Hirsch, 2017, p. 75). Relating to the spread of the habit of salting food, al-Idrisi said "In the Nile (meaning Niger river or Senegal river) there are types of fish & types of large and small whales, including most of Sudan's food, which they hunt, salt, and store (al-Idrisi, p. 20).

To realize the real value of salt in West Africa, it must be noted that the people of this land used it in commercial transactions, they used it as if it were a currency of gold or silver due to its market value in this land Ibn Battuta says: "With salt, peoples of Sudan deal, they also dispose of gold & silver" (Ibn Battuta, p. 606). For this reason, the merchants of the north would come to the areas of salt quarries with clothes or foodstuffs and other commodities, which were needed by the locals and they exchanged them for their value in salt (Leo the African, p. 526). That is why the rulers of Sudan, Ghana, Mali & Songhai, were keen to have good relations with the kings of the lands that controlled the Salt regions (Ibn Hawkal, p. 102).

**Figure 3.** A map showing the most famous Sudanic cities

al-Qalqashandi points out that salt was not found in the land of Sudan except in one region, i.e., the land of Takrur (Figure 7): “In this land (Takrur) there is the mineral of salt, and nowhere else in Sudan, in the south or in the two areas of Sijilmasa, is salt to be found” (al-Qalqshandi, p. 291). Several Arab historians recorded many stories about the lack of salt from the local peoples and African writers, who used to come to Egypt, during the pilgrimage to Mecca (al-Omari, p. 76). Anyhow, there were salt mines, according to recent studies, in very few areas of the Sahara, especially in the lands of current Mauritania, Mali & Senegal, such as Taghaza Salinas (al-Qazwini, p. 44), as well as in the Ulil region, located near the mouth of Senegal river, Tatantal salt and, in another salty area called Taodeni, to the north of Mauritania (Fage, 1969, p. 28). According to Ulil & Taghaza, they were among of the most famous regions of salt in the western Sahara. The sources mention that Ulil was an island that bore the name of the salinas known as Ulil (al-Idrisi, p. 17).

**Figure 4.** Slabs of salts cut in the Saharan quarries

Al-Idrisi said: “As for the island of Ulil, it is in the sea and close to the coast, and it has famous navigation, no other navigation is known in any country in the land of Sudan” (al-Idrisi, p. 17). According to others, Ulil is located in the desert of

Sanhaja, which is one of most famous Berber tribes that settled in the Sahara (Ben Omayra, pp. 118). It was probably located near the borders between the southwest of Mauritania, and the northwest of Senegal. However, the location of these Saltwaters is a matter about which hypotheses differ among the scholars.

Ulil is in turn considered to be as one of the oldest areas in the western Sahara, famous for the production of salt, which was exploited by the local inhabitants of the Sahara from ancient times. According to sources dating back to nearly the 10<sup>th</sup> century, these salinas indicated the extent of their prosperity thanks to salt (Ibn Hawkal, p. 102). Salt was extracted from Ulil, then slabs were carried to neighboring lands, boats came to the island of Ulil, then the workers put them on boats. Then the boats sailed along the Senegal river, which is the river that al-Idrisi mentioned as the Nile, then boats sailed to the land of Takrur (al-Idrisi, p. 17), to Ghana, and the land of Wangara (Figure 7), which refers to the area famous for gold in West Africa. Thus, they were well known as the gold of Wangara, which also refers to famous tradesmen, who were considered the masters of gold trade (Bovil, p. 258).

### The salt quarries of Taghaza and its value

In the 14<sup>th</sup> century, Ibn Battuta was one of the first to write about Taghaza (Figure 5) and its importance. He had visited it during his journey to western Sudan (Ibn Battuta, p. 606). Regarding the association of the local inhabitants of this region with salt and its trade, the source says: “They’re busy collecting salt throughout the year. The locker comes to them once every year, they sell salt, and they take from its price according to their expenses” (al-Qazwini, p. 25). The ruins of Taghaza are now located mostly in the north of Mali (Dhaif, 1995, p. 554). Some sources described Taghaza: “A town in southern Morocco, near the surrounding sea” (al-Qazwini, p. 25). This indicates that Taghaza may be located not far from the territory of Mauritania today, and not far from the Atlantic Ocean or the surrounding sea, implying that it is not located in the Western Sudan. We believe that the inhabitants of Taghaza began to exploit salt during the 11<sup>th</sup> century; it was used in the Sahara from ancient times according to Arabic sources. It is known that salt was scarce, especially in the Sudanic kingdoms (al-Qalqshandi, p. 291).



**Figure 5.** The location of Taghaza between the major routes of trade in the Sahara



Taghaza represents one of the most principal stations in the route of gold for traders coming from north Africa to western Sudan (Figure 5). According to some accounts, Taghaza is described as an isolated Sahara area, and it was inhabited thanks to salt (Leo the African, p. 526). During the rule of Askia Muhammed sultan of Songhai, in the 15<sup>th</sup> century, Taghaza and the area all around it was under his power owing to its great economic value to his kingdom (Fage, p. 27). Taghaza is about 25 days from Sijilmasa, south of Morocco (Ibn Battuta, p. 606), which means the distance of nearly 1000 km, where the term “day” is equivalent to about 40 km, or the distance that a caravan covers on its journey from the sunrise to the sunset. Taghaza was famous for the existence of salt mines; salt was extracted from them until the 16th century. Some sources mention that if an animal died in Taghaza or near it, and was thrown into the Sahara, it became salt. Al-Qazwini said: “It is surprising that this city is very swampy, means Sabkha” (al-Qazwini, p. 25). In Arabic, “sabkha” is the land with salt. Ibn Manzur wrote: “sabkha means the salty land, Sabkha means the place that is saturated, so salt grows, and the feet become dirty in it” (Ibn Manzur, vol. 4, p. 106). Perhaps the description of the land of Taghaza and its surroundings as swampy land confirms the extent of the richness of this region in salt.

Regarding some difficulties or dangers that workers may face in extracting the Salt, some sources say: “Taghaza miners have no food other than those brought to them from Timbuktu or Daraa, south of Morocco, which are located about 20 days from Taghaza” (Leo the African, p. 526). It means the distance of about 800 km. It happened that some of salt miners could be found starving dead in their huts, due to the lack of food. These miners in Taghaza may be forced to drink very salty

water near their work areas in case they ran out of freshwater reserves (Leo the African, p. 526). These common risks for miners indicated how difficult it was to work in such an isolated area in the heart of the Sahara. To show the importance of Taghaza and its role in salt trade, sources describe it as including the largest salt store in west Africa. It is said that there is a large store of salt that is dug into it and it is more valuable there than alabaster” (Bovil, p. 181). Describing the salt of Taghaza, Leo the African said: “It is an inhabited place where there are salt mines that are similar to marble quarries, salt is taken from pits built around them inhabited by workmen of salt. Those who practice this profession are not the residents of this spot, but strangers who come with the caravans, they continue to work as miners, they keep it until another caravan comes (Leo the African, p. 526).

### The flourishing salt trade in West Africa

Salt trade flourished during the kingdoms of west Africa, where north African merchants raced to obtain salt, taking it to the major and well-known commercial centers there, as Timbuktu, Gao & Djenne, etc. (Figure 7), and obtaining gold in exchange for salt. For this reason, this trade was known as the salt & gold trade (Fage, pp. 27–30). The caravans carried salt on their journeys towards the south, with each camel carrying about four slabs, according to the sources of the 16th century. (Leo the African, p. 526). Some sources from the 14 century, however, said that camels carried only two slabs of salt (Ibn Battuta, p. 606). This may be due to the weight of slabs, the strength of camels, and the length of the journey. We agree that the number of salt slabs on one camel depended on the weight of each, some recent photos show each camel in a caravan carried four slabs.

**Figure 6.** A caravan of camels carrying salt across the Sahara to West Africa



Sources indicate that the merchants of North Africa exchanged salt for gold in western Sudan (Figure 6). When northern merchants, Arabs or Berbers, took gold, the Africans took salt in exchange, a system known as “barter”, it was also known as silent trade. However, if they did not take gold, it meant that they were not satisfied with the deal. The Africans returned with a larger amount of gold, if other traders took it, the deal ended. In fact, it was a primitive type of trade that was common in the land Sudan during the early periods of the salt trade (al-Omari, p. 76; al-Qazwini, p. 26; Ibn Battuta, p. 606). Silent trade was known for its role in many other regions in Africa from ancient times, not only in the west, but also in east African markets. Certainly, the spread of silent trade was due to the lack of knowledge of northern merchants of the language of the west Africans, so the contact was difficult between both parties, till they started to have a translator with the caravans, or till northern traders knew the language of the Africans. Then, silent trade came to an end.

The caravans traveling to Taghaza suffered from the large number of insects, as well as the abundance of flies. Merchants used to take water with them, in preparation for entering the extended Sahara that followed (Ibn Battuta, p. 606). Ibn Battuta describes his stay in Taghaza saying: “We stayed there for ten days in an effort” (p. 606). These are very brief words, which indicate the condition of the merchants in Taghaza, and the hardships they experienced. Commercial caravans traveled from the area of more than 10 days walk, in a dry desert. Accordingly, the journey for the search of gold involved a lot of risks that the caravan had to be prepared for as much as they could. This clearly indicates the difficulty of traveling in caravans, the severity of the heat in such nature and harsh climate (Conrad, p. 8). That is why merchants preferred to travel during the winter, where the temperature dropped significantly as compared to the summer. One source said: “between Morocco and the land of Sudan, there is the Sahara with little water, difficult pastures, which are used only in winter (Ibn Hawkal, p. 102). Anyhow, it can be said that the prices of salt in the west African kingdoms are historical matters that raise controversy, especially with what is mentioned in the of sources with regard to the price of salt for gold (al-Omari, p. 76; Ibn Battuta, p. 606). Sometimes, the prices of salt in some areas rose remarkably, in response to the increasing demand for salt. It is not surprising that the value of salt in most sub-Saharan kingdoms was perhaps equal, or even greater than the value

of gold. In some Sudanic cities, historical sources said that one slab of salt could be sold by nearly 200 to 300 dinars of gold, during the 10<sup>th</sup> century for example (Ibn Hawkal, p. 102). Some sources of the 14<sup>th</sup> century mentioned that the people of Sudan exchanged a piece of salt with the same value and weight of the gold (al-Omari, vol. 4, p. 76).

### **The main features of salt-a architecture in West African cities**

After this in-depth discussion of what is mentioned in historical sources about salt and its trade, we can understand its value to the Africans, who used it for food, healing, etc. They even used it for building parts of cities, they could even build almost entire cities from salt. Henceforth, we started to use a new term of salt-architecture. It seems that salt-architecture flourished in some cities in West Africa, specifically where there were a lot of quarries of salt (Ibn Battuta, p. 606). People benefited from the nature of salt rocks in building houses & mosques, or any other buildings they needed. Perhaps the most prominent cities of them was Taghaza, where, according to a source from the 13<sup>th</sup> century, a man of confidence said that as he had entered Taghaza, he had found its walls built of salt rocks, The same was the case with the poles inside a city filled with salt, as were the roofs of its houses and doors (al-Qazwini, pp. 25–26). Sources refer to the spread of salt-architecture in some areas of the Sahara, especially where salinas were spreading, as well. It seems clear that this kind of architecture was a new traditional style that most people who did not live near salt mines were not used to. Therefore, some historians saw the existence of such architecture as remarkable constructions, and of course unusual (Ibn Battuta, p. 606).

Ibn Battuta, expressed his admiration for such architecture, which he was not accustomed to seeing during his travel to other lands. It was what fascinated him most about Taghaza, although most of his opinions about it seemed to be very negative (Ibn Battuta, p. 606). There is no doubt that salt-architecture was a style restricted only to those regions where there were many salt mines. There, the material for this type of architecture was available, which made it an easy mission to build from salt. At the same time, however, we do not have clear evidence of the existence of mosques or houses built of salt in other cities of the Sahara, similar to what was found in Taghaza, because of the lack

of salt. We believe that it is certainly due to the lack of salt in those aforementioned cities and their surroundings, especially in light of people's urgent need for salt itself, and their desire to buy salt at any price, even equal to gold sometimes.

In any case, the major cities in West Africa witnessed a diversity of architecture forms and patterns, as well as retaining some architectural features that distinguish them from other cities in the Islamic world, which corresponded to the simplicity of the local environment. We confirm that salt-architecture was known in ancient times, as according to a number of Greek & Roman historians Taghaza was not the first city to have been built of salt. Pliny the Great, who wrote about mines of salt rocks, mentioned that their houses were built from salt. In this regard, it must be noted that some well-known cities, even outside Africa, refer to the concept of salty city in their name, such as Salzburg & Hull-Stadt as well (Kurlansky, p. 44). I believe that this concept refers only to the fame of those cities for the presence of salt, perhaps also relating to the emergence of salt-architecture in these cities on a very small scale, but we do not have any clear evidence of this in Europe. The city of salt may mean that it is a kind of city which is famous only for salt mines, or it is not a condition that its buildings were built of salt, similar to cities in the Sahara that were erected almost exclusively of salt.

Salt-architecture is undoubtedly considered to be unique and it amazed anyone who saw it. It is distinguished by an innovative form, which was expressed by some historians who wrote about their astonishment in front of those buildings of salt. There is no doubt that local residents of those areas benefited as much as they could from the resources of salt rocks in the construction they needed, also due to the lack of an alternative material, especially stones. Perhaps they did not intend to build with the use mud-bricks, despite their spread in the neighboring cities in West Africa. It is certain that this architecture was popular only in the salt regions only, due to the ease of obtaining salt. This architecture was indicated by many Muslim historians, the most prominent of these sources spoke of the existence of it, giving us a description of it, and describing the flourishing of this traditional architecture: al-Bakri in the 11<sup>th</sup> century (al-Bakri, p. 867), al-Qazwini, the narration of Ibn Battuta, etc. Other sources, in turn, referred only to the existence of salt, without describing the architecture itself there, for example, Ibn Hawqal (10<sup>th</sup> century), as well as (al-Idrisi 12<sup>th</sup> century), Yaqout al-Hamawi (13<sup>th</sup> century), al-Omari (14<sup>th</sup> century),

al-Qalqshandi (15<sup>th</sup> century), and Leo the African (10<sup>th</sup> century) etc. One of the most prominent cities in which salt-architecture appeared was the city of Taghaza, as well as another area not far from it, which was known as Tatantal, which some think is the same as Taghaza. Although it is not certain, it is clear that salt architecture is widespread in it, and some of them are almost completely built of salt stones.

## **The early beginnings of the salt-architecture**

Salt-architecture existed from ancient times; people knew it from antiquity, because it was linked to the presence of salt mines, which were one of the common elements in nature. These salinas were becoming more frequent from one region to another, but we do not have lots of archaeological evidence. However, we will start by talking about architecture, and the emergence of one of the oldest salty cities known throughout history in light of the historical and archaeological evidence available to us. Although Ibn Hawqal (10<sup>th</sup> century) is one of the oldest historians who spoke about the salinas located west of the Sahara, specifically about Ulil, he did not give a clear indication of the urbanization in the city except for his words about the similarity between the city of Audghust and Ulil, without specifying which azimuth he meant exactly (Ibn Hawkal, p. 94).

What was the oldest of these cities of salt was Tatantal, which is believed to have been located mostly in the desert between Mali and the territory of Mauritania, in light of what is understood from the oldest sources that spoke about that salty city, dating back to perhaps before the era of the 11<sup>th</sup> century (al-Bakri, p. 867). al-Bakri is one of the oldest historians who talked about this architecture and the prosperity of this style in some areas in western Africa, especially in Tatantal, which, in turn, is considered to be one of the oldest salty cities known to us. It had a fort built of salt, and its houses were also built of it. They were the structures that were described as buildings of unusual style for them (al-Bakri, p. 867). As for this important historical account: "Among the strangeness of that desert is salt mineral and between it and Sijilmasa is a journey of 20 days" (al-Bakri, p. 866). This means that this city was about 800 km away from Sijilmasa, a city located to the south of Morocco. Then, al-Bakri talked about its name, continuing with a description of the salty city itself:



“Upon it was a fortress built of salt stones, as well as its houses, its outskirts, its rooms, all of that is the salt” (al-Bakri, p. 867).

**Figure 7.** A map showing Taghaza, Takrur, Wangara, Timbuktu and other places related to salt trade



Thus, it is a very important historical account, especially in its description of the city, the flourishing of salt-architecture and its value, as well as due to the importance of the author, al-Bakri, himself, and the early time period during which he lived in the 11<sup>th</sup> century. Accordingly, al-Bakri’s account emphasizes not only the existence of salt-architecture, as well as salty cities, but also refers to its prosperity in some areas of West Africa, similar to the Tatantal. It seems to us that this architecture spread in west Africa in general in a remarkable way starting from the era of the 11<sup>th</sup> century at least. It was not just a matter of constructing a few buildings or some constructions, that they were scattered here or there from the salt slabs by mere chance, but it was a city almost completely built of salt thanks to the availability of the building material near their homes.

## The salt-architecture in Taghaza during the 13<sup>th</sup> century

In addition to the sources of the 11<sup>th</sup> century, another account appeared in the following centuries, i.e., the one of al-Idrisi, the 12<sup>th</sup> century. He told us about Ulil’s salty region. Although he elaborated on it, he did not mention salty buildings there. He did not talk about the city of Taghaza, but he was interested in describing the location of the salt of Ulil, its fame for salt. As that it was an island located near the Atlantic Ocean, he spoke about the transportation of salt by boat to the neighboring cities (al-Idrisi, p. 17). Al-Idrisi’s words indicated that salt-architecture might not have been omnipresent in the city of Ulil, with perhaps just some modest

houses or caves made of salt. It was not in the form of a complete real salt city like other narrations talked with regard to Tatantal or Taghaza. Idrisi refused to talk about them, or he felt that it was not worthy being talked about.

During the 13<sup>th</sup> century, salt-architecture was clearly present in a number of areas located near the salt lakes in the African desert, where we had a model for one of the most important of these accounts, confirming the existence of one of most famous salty cities during this period, if not the most of this architecture in African desert at all, that of the city of Taghaza. As for the relevant narration referring to it, the historian al-Qazwini, who lived in the 13<sup>th</sup> century, he provides us with a priceless description of the salt-architecture in this city, its walls that were built of salt. He heard it from a famous judge from this land, or a man of confidence: “The jurist Ali Al-Janhani told me that he entered it and found the city’s wall built of the salt” (al-Qazwini, p. 25). Undoubtedly, the reference to the presence of a wall in one of the cities, i.e., Taghaza, which was erected of the slabs of salt clearly indicates the spread of that traditional architecture in the city. Then, he also mentioned another description that supported the idea about the spread of salt architecture in Taghaza: “Like all its walls, they were made of the salt” (p. 25). It is worth pointing out that this important source reference has its significance, especially in the use of “all” by its author, referring to all the walls of the city that were made of salt.

The above sources confirm the extensive use of salt for building the walls of Taghaza, and the population’s desire to build in this way. al-Qazwini’s mentioned other valuable additions in this regard, saying that the poles and roofs of the houses inside Taghaza, as well as their doors, were built of salt rocks, then he described them by saying: “They’re of salt plates covered with something of animal hide so that they do not split their edges” (al-Qazwini, p. 25). These important references in al-Qazwini’s description clearly indicate the spread of this architecture in this old Sudanic city. He also confirmed that local inhabitants used some hide of animals with salt slabs especially for the roofs of houses to protect them. Accordingly, his narration is one of the most interesting sources in this regard from the 11<sup>th</sup> century, in the days of al-Bakri, who we talked about with regard to the Tatantal. This style of architecture was widely known and spread to another desert area, i.e., Taghaza, about 200 km away from Tatantal, in the 2<sup>nd</sup> half of the 13<sup>th</sup> century, according to al-Qazwini.

## The salt-architecture in Taghaza during the 14<sup>th</sup> century

It is clear that the architecture or the existence of salt cities did not stop Taghaza during the following centuries, thanks to the existence of salt blocks and slabs in its local mines. To confirm this assumption, we have a valuable account about the persistent continuity of this traditional architecture, as well as the existence of salt cities during the 14<sup>th</sup> century. This appears clearly in the accounts of a famous Muslim traveler Ibn Battuta. It is worth noting that his description differs from the previous sources referring this architecture, as he spoke about the architecture of salt based on his own real observation, not just conveying his description of quoting from the other narrations heard from the people of land of Sudan, or from those who saw it, like the merchants. This gives special value of the description of Ibn Battuta, making it more reliable than those of other historians or travelers. He described the salt-architecture in Taghaza, which he visited in the years about 1352 (or 1353), about 753. He saw with his own eyes the unique buildings made of salt in the whole city. Ibn Battuta wrote about his negative attitude to the city and his resentment for coming to it, as he described it as not having any of the ingredients to reside there. He confirmed his discomfort in staying there during his coming with a commercial caravan. However, he said about Taghaza: "Then I traveled in the year fifty-three (753) to Taghaza". Then, despite all his negative words about it, the only thing that fascinated him about the city was its wonderful architecture: "...And among its wonders is that its houses and mosques that are built of salt stones" (Ibn Battuta, p. 606).

Thus, Ibn Battuta, shows his real admiration for this architecture. Surely, he had never seen such in his multiple and long travels all around the world, that lasted nearly a quarter of a century. This is why he described its houses and mosques that were built from salt as a real wonder. From what he said we may understand that nearly all houses in Taghaza were built of salt, as well as the mosques that he had seen there too, which indicates the existence of an entire city of salt. Thus, there is no dispute that the salt-architecture was unique style at that time. Not many people were accustomed to seeing such unusual houses and buildings of salt.

Concerning the salty houses in Taghaza, a scholar said in his interesting book about the history of salt: "In the year 1352 AD, Ibn Battuta reported that he had visited the city of Taghaza and narrated

that it had been built entirely of salt, including its great mosque (Kurlansky, p. 47). These words confirm the existence of a salty city in Taghaza during 14<sup>th</sup> century. Ibn Battuta said about Taghaza as well: "It is only inhabited by rusted slaves of messorufa, they dig on the Salt" (p. 606). About the conditions of construction and urbanization in Taghaza, one scholar says: "Often we imagine that the city is a white, shiny city, and although its design dazzled tourists later, salt stones were the only practically available material for construction" (Kurlansky, p. 47). Thus, the nature forced the residents of the city of Taghaza to build their buildings using the slabs of salt, despite its high price in the markets of the land of Sudan.

In the 16<sup>th</sup> century, there was another important account about the salt architecture in Taghaza, the one of the traveler Leo the African, who visited the city of Taghaza. He gave us lots of descriptions about its local inhabitants, their hard work in extracting salt slabs, but he did not tell us clearly about its salt architecture that as Ibn Battuta had done before. Leo the African talked about the hard life that the workmen of salt mines faced as he saw in his time, adding that these workmen were foreigners, not the locals of Taghaza. They extracted the salt and then saved it till caravans came of the north (Leo the African, p. 526). We can say that Leo the African was not as interested in the salt architecture of Taghaza as Ibn Battuta, perhaps because of the bad condition of buildings at his time, so he chose not to talk more about it.

## Conclusion

This study confirms the great value of salt in the lives of West Africans during the Islamic era, and that it was used in various aspects of their life. The importance of salt in West Africa extended to the fact that the local population in many cities resorted to using it for construction, because of the nature of those cities, being located near salt mines. They used salt slabs for building their homes, mosques, and various types of facilities, until we have what can be said to be cities of salt. Salt-architecture constitutes a unique architectural style in the West African region, which has its own characteristics that distinguishes it from other forms of salt-architecture in other countries.

The city of Taghaza, which is now located in the territory of Mali, is currently the most prominent example of the cities of salt that historical sources talked about through successive historical eras. This study shows the general features of



the salt architecture in West Africa, especially by talking about it in the light of what was mentioned in the historical sources and what was mentioned in the recent archaeological studies.

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