

## **The Influence of the Architecture of Mosques on Town Planning**

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**Abstract:** The structural organization of Muslim cities and traditional dwellings had been formed under the influence of life-style on one hand, and some requirements of Islam on the other.

In discussing the urban structure of Muslim cities, we should bear in mind that although the landscape and the climatic factors played a major role. Social factors were also important. Religion, in particular, has greatly affected the way of life and thus indirectly influenced town planning structures, having formed vernacular urban architectures in the Muslim world.

Research on a number of towns and settlements in Central Asia has shown that the formation of historical settlements, which had appeared after the Arab conquest in the 8<sup>th</sup> century, was influenced to some extent by the requirements of Islam. For example, the majority of all religious and administrative buildings were oriented towards the main holy place of Makkah.

One should bear in mind that Central Asia is situated to the Northeast of Makkah. This is why the Mihrab of the mosque was located in the southwestern wall, while the northeastern façade was the mosque's main façade. Such erection of buildings created a square and streets along where they stood.

It is necessary to underline the fact that the main mosque "*namazgah*" was the dominant element in the squares of the town settlements, and that further development in the structure of the town depended greatly on the site organization of the main square, that's the location of the mosque.

The influence of religion is also found in the vernacular architecture of Central Asian dwellings. As it's known, the Muslims must observe five commandments, one of them is the "*namaz*", a prayer that must be performed five times in a 24-hour period. With regard to that, main rooms in the house (sitting and living rooms) had Mihrab, more often than not, in the western walls of such rooms. All these requirements were taken into consideration while locating living rooms and services on a site. This is why these factors had a significant influence on both house designs and town planning.

In the last years, researchers have come to the conclusion that the destruction of traditional town forms and social organization is a loss for town settlements in Central Asia. Researchers in a number of historical town settlements of the region justified the viability of the traditional tenor of life. Urgent necessity to maintain this tradition makes it imperative for architects to consider this tradition in their designs.

### **Introduction**

The formation of Central Asian cities has, during their history, been influenced by a number of factors. These were the regional climate, landscape, social traditions and a mode of life, on one hand, and some of Islamic regulations, on the other hand. The aforementioned regulations had undoubted influence upon both town planning and the development of a Muslim traditional house.

In particular, it is related to the cities, which were either built on the new sites, or were revitalized after the arrival and establishment of Islam in the 8<sup>th</sup> and 9<sup>th</sup> centuries AD.

A congregational mosque always dominated the central square of the city. The arrangement of principal buildings determined the placement of the main streets and the square. So, further development of towns depended much on the planning of the main square and on the placement of a congregational mosque. This trend is also seen at other levels of the urban structure. Placement of the Friday mosques and the smaller residential mosques affected the development of streets and the centers of residential quarters.

Pre-Muslim cities did not follow the influence of religion through some squares and centers of residential quarters. Previous planning structure was not cancelled at all but harmoniously interlaced with new architectural objects of urban environment. If a new mosque was to be built, for instance, in an existing square, the configuration of this square was left alone. To match a new mosque with the existing architectural complex, the main façade of this mosque used to be made quite solemn.

The architecture of both traditional mosques and dwelling houses were inspired by the Islamic regulations. It meant that a house is a logical continuation of a mosque. The concept of arrangement is equally traced in both the traditional dwellings and in mosques.

To pray (*namaz*) every day, one of the main rooms in a house (living room, premises, etc.) had, in most cases, a domestic niche "*mihrab*" to pray, which was oriented towards Makkah. Besides, *Shariat* demanded that all these regulations were to be taken into consideration in the house-planning, sitting rooms and premises in the yard. Residential quarters consisted of houses, the primary units, and residential quarters and streets, in addition to a square, which made the whole city. Thus, the impact of religion on town planning is clearly seen at all the levels of urban structures.

### Historical Background

As contemporary towns and cities developed in Central Asia, researches more than often had to examine the traditional structure and social organization of the Islamic cities. They have to do so in order to find out succession of town planning principles and to elaborate theoretical background for saving original appearance of these cities and the mode of life of their populations. There had been several factors that affected the development of the Islamic cities in Central Asia: the landscape, the climatic factors, and social and living traditions, on one hand, and the demands of Islamic religion, on the other hand. All these factors affected to a certain degree town planning and the development of the traditional Islamic dwelling houses.<sup>[1]</sup>

Researches conducted in Central Asian cities proved that the Islamic religious standards affected the development of both previously existed and reconstructed cities and newly built ones, after the Arabian conquest when Islam spread far and wide in the region, i. e. from the 8<sup>th</sup> through 9<sup>th</sup> centuries AD. In these cities, a congregational mosque dominated the central square. It should be mentioned that Central Asia is situated northeast from Makkah. So, a *mihrab* is placed into the southwestern wall of a mosque, and the eastern portal thus is a main one. The inhabitants of the Khorezmian oasis used to consider the southern side to be sacred, and they placed *Mihrab* into the southern wall, while the northern portal was the main one.<sup>[2]</sup> The arrangement of principal buildings gave direction to the main streets and central square, and the further development of town planning structure depended much on planning arrangement of the main square, i.e. on the location of a congregational mosque. This town-planning trend is traced at the other levels of urban structure - the arrangement of congregational (Friday's) and residential quarter mosques influenced the building-up of streets and centers of residential quarters.

Research by the author which were conducted in Central Asian towns showed that this trend is more emphasized in small towns rather than in big cities, since small towns were built either on territories uninhabited before, or in places where any inhabited settlements were completely destroyed by conquerors. The planning structure of these small towns existed during the 8<sup>th</sup> and 9<sup>th</sup> centuries AD. They remained very much the same until today. In the cities and towns, which sprang up before the Arab conquest, the influence of Islamic religion is seen in the formation of some squares and residential quarter centers. The previously existed structure was not rejected, on the contrary, it provided some balance between new architectural objects and the firmly contoured structure of the urban fabric. For instance, if there had been a need to build a new mosque at an existing square, the arrangement of objects around the square remained untouched, but the mosque was located so as to make its facade richly decorated. Even if it was not possible to build an entrance from the square, because the direction of the *mihrab* would not be consistent with the traditionally prescribed one, the entrance was designed according to a more complicated scheme.

In the Central Asian traditional dwelling buildings, the influence of Islam is also seen. Mosque is considered God's house, a building where humans should feel a divine presence. In the Islamic culture, architecture of a dwelling is inspired by the architecture of the sacred building, i.e. the mosque. A dwelling house is a logical continuation of the mosque, in the conceptual aspects of both space and form. As many may know, every Muslim is obliged to observe five commandments, one of which is to pray five times a day - to practice *namaz*. This is the reason why primary premises, or rooms, in dwelling houses were often provided with room niches for prayer (which were also called *Mihrabs*), oriented to Makkah, where the Holy Quran was kept.<sup>1</sup>

*Mihrabs* were located in front of the entrance door, or perpendicularly to the wall in which this entrance was placed. There is a prohibition for facing Makkah when sitting in the toilet. All these requirements were taken into consideration when designing living and economic premises in a courtyard. *Shariat*, or Islamic law, forbids Muslims to overlook their neighbors. It led to focusing on the courtyard design, where facades were neglected with regard to architectural details. Typical houses looked like bare walls with only a door and a simple facade, in most cases, with no windows towards public areas. Thus, the whole system ramified making straight angles between alleys, streets, and main streets, so as to maximize the number of houses per a unit of square area. One could get into houses walking along narrow streets, which crisscrossed each residential quarter. In most cases, two or three families used one narrow street. In the historical sections of towns and cities, streets were normally from 1.5 to 2.5 meters wide. It was found that the less walking traffic capacity was, the narrower a pass had to be.

Muslims had several responsibilities for their children: to give them names, to bring them up; to educate them in some trade; and to get them married. With each child born, a father had to build an additional room inside his house. New rooms used to be built along the perimeter of the courtyard. Once a son got married, the house was subjected to a more radical rearrangement, resulting in dividing the courtyard to provide for privacy for the son's new family. This division of courtyards was possible when the courtyard was large enough. Another entrance door was arranged from the outdoors, and thus a new family started to run its own household in the close vicinity with the parents' house. Thus, both the traditional dwellings and the urban fabric resembled a living organism. This pattern of

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<sup>1</sup> These statements are based on explorations and measurements of Central Asian traditional dwellings by the author. [2, 3]

growth continued until it reached a certain critical state, after which it became impossible to divide the courtyard any more. Then, everything grew outwards. This explains why in every city or town in Central Asia, which had a historical background, the center was more densely built than the outskirts. The urban centers were older, and consequently, the dividing of courtyards began here much earlier than in the outskirts. So, the influence of Islam is traced at all the levels of the urban structure, from the urban centers to the individual dwellings and houses.

## Central Asian Cities and Towns

Traditionally, the socially bound urban structure consisted of the following three levels:

**The First Level:** A “*mahalla*”, which is a residential unit that develops around the local center where buildings for storing public (community’s) goods, and a “*chaykhana*” (teahouse) stood. This public area used to be a green zone, which contained trees and other plants. A *mahalla* is also an urban unit, which is formed around the community centers. The *mahalla* centers are located mainly within half-formed spaces, with access to a street (Fig.1). In most cases, townsmen did locate the mahalla centers within half-enclosed spaces. In doing so, they created a visual and a functional link between their residential group unit and the main streets with heavy traffic, which were the channels to get information and keep in touch with townspeople who lived in other residential quarters. A mosque, of course, was the gathering pivot of the whole town planning ensemble; people from the neighboring residential quarters also used to visit this mosque. Some large residential quarters had several mosques.

**The Second Level:** A “*guzar*” is several *mahallas* joined together with the public center and market. Several residential quarters made a larger residential group unit which grew around a public trading center. The *guzar* consisted of the following architectural elements: a small market, the *guzar* mosque, which is also used as a Friday’s mosque, stores and shops, and a teahouse. Such centers were located at the intersections of main streets in a certain section of the city (Fig.2). The *guzar*-centers acted as sub-centers, or mini-centers. With regard to the architectural lay-out, the *guzar* mosque was the gathering pivot. More than often, minarets were the dominant architectural feature, which were intended for calling Muslims, who lived within this *guzar*, for prayers. Travelers from other cities and towns who came to this *guzar* for business, were also allowed to use the *guzar* mosque.

**The Third Level:** The city center serves as a center of social life for both the towns people and the population from the surrounding towns and villages (Fig. 3). It was a center that included a market and a main square, where the congregational mosque was built. This mosque was attended not only by townspeople, but also by the rural population who gathered in the urban centers. Studying of practices, which led to the formation of the urban centers, revealed that their planning structure was mainly linear. This was most appropriate for their functional and planning development. Such a structure was able to accommodate any changes within the city. Townspeople and those who lived nearby often attended the principal congregational mosque on religious holidays and on some special occasions.

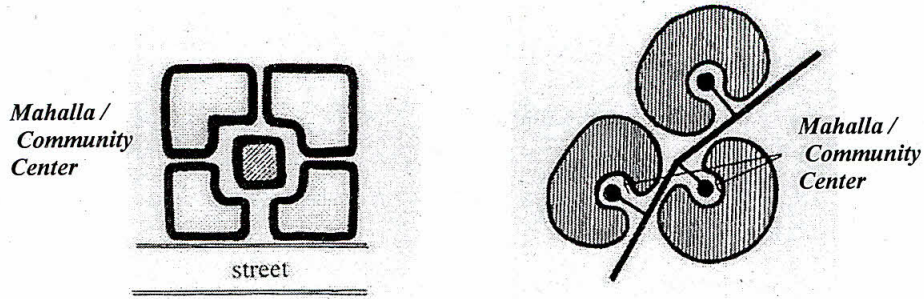


Fig. 1: First Level, "Mahalla" Community Center.

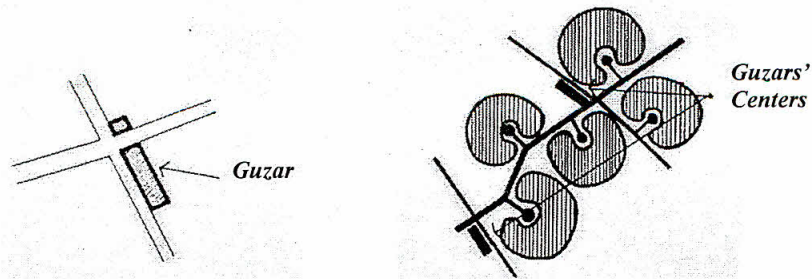


Fig. 2: Second Level, "Guzar".

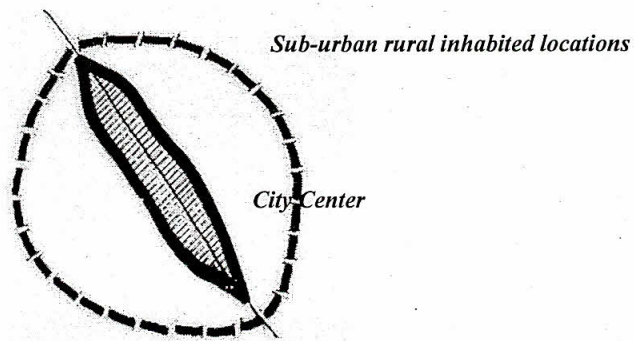


Fig 3: Third Level: City's Center.

### Concluding Remarks

Religion was thus a gathering pivot for the social planning structure of the Islamic City at all the three levels, as it affected the mode of life of townspeople and the image of the city. Holy Makkah appeared to have polarized the Islamic world's spaces. It links earth to heaven, as all Muslims practice praying five times a day. For this purpose, mosques were built in every city, thus polarizing the urban space, and resulting in a strong impact on town planning at large. Islam affected the urban environment of all Islamic cities. The plastic properties of the urban space, with its emphasized encapsulating and accentuating plain structures, were crossed by vertical lines of minarets, which formed a specific image of the Islamic city. This image was to convince either townspeople or comers in their being within the urban integral and indivisible space.

## References

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## تأثير عمارة المساجد في تخطيط المدن

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**ملخص البحث:** لعب النمط المعيشي الدور الأول في إرساء وتكوين نسيج المدن الإسلامية ومساكنها التقليدية، كما لعبت المتطلبات الدينية دوراً مهماً في ذات الوقت. تأثر التكوين العمراني في المدن الإسلامية بالبيئة الطبيعية والعوامل المناخية في المقام الأول، كما كان للعوامل الاجتماعية أثرها البارز عليه أيضاً. وبشكل خاص فقد كان للدين الأثر الفعّال في تكوين الأسلوب الحياتي والذي أثر بدوره في تخطيط النسيج الحضري وتكوين العمارة المحلية في العالم الإسلامي.

بين البحث في عدد من المستوطنات في آسيا الوسطى أن نشوء المستوطنات التاريخية، التي كانت قد ظهرت بعد الفتح العربي في القرن الثامن الميلادي، تأثرت إلى حد بعيد بمتطلبات الدين الإسلامي؛ وكمثال على ذلك فإن معظم المباني الدينية والمرافق الإدارية والعامّة وجهت باتجاه الكعبة الشريفة في مكة المكرمة.

تقع آسيا الوسطى في الشمال الشرقي لمكة المكرمة. وعلى ذلك فقد وضعت محاريب المساجد جميعها في الحائط الغربي الجنوبي لتلك الأبنية وشكلت الواجهة الشرقية الشمالية الواجهات الرئيسية للمباني. وبذلك شكلت مباني المساجد الساحات والشوارع التي وقعت عليها. وتجدر الإشارة إلى أن المسجد الجامع كان العنصر الأهم ترتيباً في ساحة المدينة، وأن التطور الذي تلى ذلك في النسيج العمراني اعتمد بشكل كبير على تنظيم موقع الساحة الرئيسية - أي موقع الجامع ذاته.

ويظهر تأثير الدين في العمارة المحلية لمساكن منطقة آسيا الوسطى. فكل مسلم تقي يلتزم بأركان الإسلام الخمس ومنها الصلاة التي يجب تأديتها بواقع خمس مرات يومياً. ولهذا السبب فإن غرف البيت الرئيسية (غرف الجلوس وغرف المعيشة) احتوت على محراب في جدرانها الغربية، كما أنه من المألوف أن لا ينام المسلم متجهاً برجليه باتجاه الكعبة الشريفة، ولا يوجهه المراض أيضاً باتجاهها. وكل هذه المتطلبات أخذت بالاعتبار عند توقيع غرف المعيشة والخدمات على الموقع. ولذلك فإن هذه المفاهيم أثرت بعمق في تخطيط البيت والمدينة.

وفي السنوات الأخيرة انتهى الباحثون إلى نتيجة مفادها أن تخطيط هيئات المدن التقليدية والنظم الاجتماعية هي خسارة كبيرة للمستوطنات في آسيا الوسطى. وقد برر الباحثون أهمية المحافظة على الروح التقليدية فيها، وأن هنالك ضرورات كبرى ليقوم المعماريون بتبنيها في تصاميمهم.