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Annotation-This article examines the historical development of residential architecture in Central Asia. It explores how nomadic lifestyles, local climatic conditions, and cultural traditions influenced housing design throughout history. From portable yurts to urban housing in ancient cities and the revival of vernacular architecture from the 16th to 19th centuries, the study highlights the importance of maintaining national building traditions and adapting modern residential projects to environmental and social contexts.

Keywords-Central Asia, residential architecture, nomadic culture, traditional housing, climatic adaptation, vernacular design, architectural heritage.

Introduction

The history of residential buildings in Central Asia is rich and diverse. The region of Central Asia has long been a place where the cultures, architectural styles, and building traditions of many different peoples have blended together. The history of residential buildings in this region is primarily influenced by the nomadic lifestyle, climatic conditions, and unique cultures. Central Asia is also famous for the dwellings of nomadic peoples. In this region, residential buildings were mostly built in accordance with the nomadic lifestyle. Nomads would travel from place to place, so their dwellings were portable and made from materials that could be easily assembled to create temporary homes. Yurts (known as "kyiz uy" in Kyrgyz or "yurt" in Uzbek) are one of the most famous types of nomadic dwellings. Yurts are typically made with a wooden frame and covered with materials like felt or wool.

In Central Asia, many large cities were founded in ancient times, some of which are now located in modern-day Uzbekistan, Kazakhstan, Kyrgyzstan, Tajikistan, and Turkmenistan. In this region, residential buildings were often built as part of fortified city walls, caravanserais, mosques, and madrasas. Cities such as Bukhara, Samarkand, and Khiva are famous for their unique cultural and architectural landmarks. The construction style in these cities is distinctive, as seen in the madrasas and mosques of Bukhara and Samarkand. Ancient cities such as Merv and Nisa are also present, and they are associated with the cultures of Sogdiana and Khwarazm.

According to legends, King Jamshid shows the elements for constructing a defensive fortress to protect people and their wealth. Following his advice, the person who wishes to build a fortress should ride a horse and shoot arrows toward the rising sun. Afterward, they should mark the spot where the arrow falls with a stake. This will be the location for the northern wall of the future fortress. Then, from the second stake, they should aim south, then west as the sun sets, and finally, north again. This method defines the dimensions of the fortress. The walls of these fortresses were thick and consisted of rows of rooms designed for living. The courtyard, enclosed by thick walls, was intended for the storage of wealth and goods during times of defense. Such fortresses were called "var" in the Avesta. Scholars believe that the ruins found at Kozali and Kal'ali Qir in the Toshhovuz region are examples of these fortresses.

Thus, the length of the walls, as determined by the distance of an arrow's shot, allowed the defenders to shoot at the enemy from a corner. Furthermore, the method of marking the direction toward the sunrise and positioning the rooms also shows careful planning.

During the Arab period (7th-8th centuries AD), urban development in Central Asia, including

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residential architecture, was studied in depth. Excavations at places such as Afrasiab (ancient Samarkand), Panjakent, Varakhsha (near Bukhara), Bolalik Tepe (near Termez), and several other archaeological sites provide evidence of this. The difference in urban development at this time was that residential buildings were no longer constructed only with administrative and religious buildings. Instead, they were also built alongside public baths and other cultural and domestic facilities.

Buildings were typically one or two stories tall, and sometimes even higher. Materials such as mudbrick, unbaked bricks, and wood were used in construction. The rooms were rectangular, and corridors formed long spaces. Many of the buildings had vaulted (dome-shaped) roofs, made possible by using unbaked bricks. Smaller rooms (usually 5-7.5 meters) were topped with a dome, while larger rooms were supported by four pillars, with beams placed across them and the roof covered by multiple layers of material. Inside, there were benches made of clay or unbaked bricks along the walls.

Over a period of several centuries, the art of residential architecture, which had stagnated, experienced a revival from the 16th to the 19th centuries. During this time, residential buildings in Central Asia began to reflect local climate conditions and traditions. As a result, there are distinctive types of residential buildings in different regions, such as in Bukhara, Samarkand, Tashkent, Khiva, and Fergana. Additionally, there are unique building types in the foothill and steppe zones. Each of these is a product of local architectural schools, yet they all share common features.

A key common feature is the courtyard. The courtyards are typically surrounded on all four sides by rooms, often connected through corridors. These courtyards serve as spaces for both family life and auxiliary functions.

Research shows that many of the architectural principles that emerged in response to local climatic conditions and customs still persist today. Over time, advancements in cultural development have led to the introduction of new technologies, such as stoves replacing traditional heaters, and electric lighting replacing lamps. Water supply, gas, and similar services have also been integrated into the homes. However, it is important to note that when constructing residential buildings, particularly in harsh environments, local conditions must always be considered. Today, it has been proven that accounting for the region's climate and traditions in the design of residential buildings is essential.

When constructing houses with courtyards, the use of locally available, inexpensive materials such as unbaked bricks, fired bricks, wood, and clay should be prioritized. It is also essential to emphasize that the national construction style, which has been refined over centuries and proven to withstand the test of time, should still be given significant importance. These buildings have shown their resilience to earthquakes, floods, and other natural disasters.

In folk architecture, these traditions should continue to be expressed in modern housing. The way people live, their national values, and social conditions should all be considered in the design process. Only then can modern homes meet the needs of the people. In modern residential projects, it is crucial to account for the region's climate. For desert areas, closed compositions should be used, while open or semi-closed homes are suitable for valleys and mountains. Thus, it is always advisable to use construction methods that are rooted in local traditions and have proven their advantages

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