

Original article

“SHIKARKHANA” ARCHITECTURE OF HUNTING LODGES IN INDIA DURING THE
SULTANATE AND MUGHAL PERIOD

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Abstract:

Although historical sources report many hunting expeditions, there are few precise details of how Shikar's architectural masterpieces were constructed. Royal gardens and hunting itself are the main subjects of contemporary research. Based on literature, we discovered that sultans and emperors hunted in various types of shikar architecture, depending on their components, location, and architectural style. Several terms pertaining to Shikar's architecture have been found in Indo-Sultanate and Mughal literature, biographies, and gazetteers. Shikar Manzil, Manzilgah, Rumna, Qaruqgah, Kushk, Ahwu Khanah, Raseef, Takht-I-Shikar, Shikar-I-Burj, and Seidgah-I-Mukararg are a few examples. These concepts challenge traditional conceptions of space and purpose by implying a variety of architectural styles. Shikarkhana serves a variety of purposes, including regions utilized for hunting, specialized preserves, and wilderness areas. By examining such research in the context of its uncommon architectural examples and the historical sources that explain their rarity, the following questions should be addressed: Do the various definitions of Shikarkhana, based on the terms mentioned above, correspond to variations in architectural style? Is it possible to identify the so-called Shikarkhana as one of the royal hunting gardens given that it was connected by the Shikar process? If not, what noteworthy architectural elements are there?

1. Introduction

Shikar was one of the most important topics in the historian books and literature, Abdul Hamid Lahori in the Padshahnama and his librarian Inayat Khan in the Shahjahannama [1]. Lahori's report is particularly pertinent to this research since it provides a plethora of architectural details, such as information on new *qamarghia* (battue ring-hunt) tactics, the creation of the *Karara shikar*, and various hunting *mahals* (palaces) [2]. Aurangzeb's reign (1658-1707) is documented in Musta'idd Khan's Ma'asir-i Alamgiri. An outstanding primary source is the Ma'athir-ul-Umara by Shahnavaz Khan Awrangabadi and his son 'Abd al-Hayy. It is a biography of Muslim and Hindu officers of the Mughal court from 1500 to about 1780 [3]. These include the Qawanin al-saiyad of Khuda Yar Khan Abbasi written between 1336 and 1353 in India [4]; the *Shik-arnama-i Qutb Shahi* by Sadr-i Jahan al-Taishi in the Deccani kingdom of Golconda in 1578; the *Shikarnama* by Nawab Qutub Yar Jung. Several treatises on falconry (*Baznama*) were in circulation, many written by imperial *mir shikars*, or masters of the hunt. These include *Baznama* by Muhibb Ali Khan Khass Mohalli [5]. Throughout the annals of history man has hunted. Steeped in mythology, the hunt became one of the main components through which empires and civilizations, kingship

and sovereignty, could be articulated and represented. The imperial hunt was a significant element in the political cultures of the broad Persianate world, India and Central Asia. The sultans and Mughals, who ruled over large swathes of the Indian subcontinent, valued the hunting institution as an enduring and intrinsic aspect of their imperial society. They were dedicated hunters and perceived the hunting apparatus as a royal prerogative and a means to exercise authority over nature and their subjects. The Mughals, whether stationed in one of their capital cities or on extended tours, hunted on a regular basis using a variety of hunting techniques. Although they had a propensity to hunt big game such as lions and tigers, which were seen as an imperial entitlement, they also hunted nilgais, black buck, deer, antelope, boars, wild ass, buffalo, and smaller game and birds, and coursed alongside captured and tamed cheetahs [6-8]. There were no indications or drawings describing these buildings, despite the fact that there are several photos that depict the range of signs about hunting in Mughal literature, biographies, gazetteers, and papers that spoke extensively about hunting. Since no study has published a separate architectural interpretation of it, the research technique will adhere to the references found in historical sources regarding these buildings as well as the field study and architectural

interpretation of them. It is important to note that the hunting process is not covered in this study. However, it focuses on the existence of these structures and how the hunting process is connected to their purpose and architectural composition. The study emphasizes how little is known about *Shikarkhana* architecture, even though it was important for hunting during the Mughal and Sultanate eras. When paired with historical sources, architectural interpretation provides insightful information about the multipurpose and varied nature of these buildings.

2. Methodology

The analytical approach involved retrieving historical sources to re-examine and reinterpret them, aiming to categorize various types of Shikarkhana and a critical examination of its etymology during the reign of the sultanate and Mughals periods. As *shikar area* was rather a sophisticated, purpose-designed, ecologically modified landscape and architecture meant to reflect the multi-dimensional sultanate and Mughal hunting culture, itself seen as an extension of prevailing socio-political and cultural world views. This was complemented by an architectural analytical method, utilizing a comparative study of Shikarkhana elements to ascertain their construction methods, overall planning style, and architectural components. The research, grounded in a field study of five Shikarkhana, involved measurements and site plans, providing unique insights not previously explored in another scientific research.

2.1. The concept of Shikarkhana in historical records

The idea of using architectural structures for hunting activities existed before the Mughal and even Islamic periods. *Shikar's* architectural structures are not well described in historical sources. So, reexamining the sources, however, provides categories that enable these examples of forest architecture to be grouped according to their concept and traditional spatial qualities. Based on Assyrian inscriptions dated by Sennacherib between 2500- 609 BC, as well as other inscriptions found in a desert palace next to the ancient city of Persepolis, there were many establishments of a hunting garden and palaces, Leo Oppenheim explained about the Achaemenid king's establishment of a hunting garden at his palace [9]. The garden was arranged to imitate a large hunting lodge known at this time as the *Ambasu*, including what Sennacherib recorded, as one of the famous hunting grounds for royal parades [10], Xenophon distinguished between two types of it, one of which is closed and the other is open. Furthermore, the ancient Persian kings were fond of establishing many *Shikarkhanas* in all new regions, for the purpose of hunting and chasing^(a) [10]. One of the earliest examples of *shikar* architecture was found in an engraving at *Taq-e-Bustan*. It highlights how structures are integrated into the hunting landscape by showing an architectural structure in the engraving background [11]. Wilson's description about Khosrow's hunting palace sheds light on the site plan of a Persian palace located in Shiraz's hunting garden. Khosrow's palace had four verandas in the middle of each wall raised on an elevated plinth. According to this report, this palace might be one of the earliest examples of Persia's documented forest architecture [12]. Hiltenbrand went on to say that the palaces constructed in the

Jordanian desert by the Umayyad caliphs were among the earliest instances of buildings related to royal hunting. However, it is still difficult to show this relation beyond a reasonable doubt, because there are so few historical information. However, the building's limited history and the murals depicting hunting scenes on the walls of *Kfirbet al-Maffar* Palace lend credence to this theory [13]. Also, *dar al-baizara* may show the significance of the hunting sport in Islamic civilization, it was a dedicated institution to oversee hunting affairs^(b) [14]. Similar noteworthy descriptions have been provided for buildings associated with hunting areas. Al-Nashakhi, for instance, reported that the *shikarkhana* became prevalent in Central Asia, particularly after the Seljuk conquests in the eleventh century AD, exemplified by the royal hunting areas of Prince Nuh in the city of Bukhara. Furthermore, Bukhara's hunting grounds took on a shape resembling that of the Sasanian *shikar* area; Al-Nashakhi called it "*Manzara*" signifying a location where the prince could witness the spectacle of hunting in a forest full of different kinds of animals and trees encircling the view from all directions^(c) [15-17]. For India in fact, it is acknowledged by several scholars regarding the origin roots of sultanate and Mughal shikarkhana. They emphasized its Timurid and Mughal origins from central Asia [18-20]. As a result of topographic differences, the lack of natural forests in most of central Asia, and the weather, it becomes crucial to investigate the possibility that shikar architecture originated in India. The Sanskrit source "Artha Shastra" penned by Kautilya, the prime minister of Chandra Gupta Maurya between 304-300 BC, offers us a wealth of information about the forests that were modified during the Gupta dynasty. The term "mṛgavanas" in the artha shastra refers to the forest architecture, which in our understanding is Shikar architecture. It also reveals that some Shikarkhana were designated as "mṛgahastivanayo" for royal hunting. [21, 22]. Kautilya recognized the various uses of hunting as a valuable source of income for the state. Due to the interest of The Gupta monarchs towards forests, they were considering it as a natural deterrent to nearby enemy areas. Equally Shikarkhana was referred as "abhayavanas" in another Sanskrit text, which means "forest without fear". Indeed, according to Kalidainya, a classical Indian poet who lived in the Gupta court between the fourth and fifth centuries BC. A specific building had been built in the forest for this purpose^(d) [23]. the Arthaśāstra listed other kinds of Mṛgavanas, such as areas where the king keeps animals for his own enjoyment (perhaps as his personal hunting reserves), the margavans featured as types of farms used for agriculture, and places where animals are given safety. Furthermore, In the context of ancient Indian history, forests not only included architectural features associated with hunting, but also held significance in religious practices, as noted by (Cinzia) these forests played a role in the movements of the sramanas, giving rise to Buddhism, Jainism, and certain Brahmanic-Upanishadic strands. The Pāli Canon provides evidence of the use of "parks" situated on the city borders, constructed not only for Buddha and his monks, but also for the wandering ascetics of other currents [24,25]. These considerations support the idea that the Shikarkhana is a multipurpose construction. It serves more than just as a royal garden. For example, they played a key role in managing forests and streamlining

hunting processes. This perspective challenges the exclusive association of shikarkhana with the royal garden and may suggest that shikarkhana's architectural practices may have some roots in ancient Indian history. It is also supported by the existence of two chambers with Mihrabs facing the Qibla direction, as seen in Pergaib Mahal, fig. (1) emphasizes not only their multipurpose character, but also their various functions, which were not common in the typical royal garden. Along with the ancient roots of the shikar architecture, the early sultanate time witnessed a vast example of shikar architecture, which have been mentioned in the historical sources. A description of the Ghurid Sultan Ghiyath al-Din's shikar area in Zamindawar by Minhaj Siraj is one of the first accounts of royal hunting shikarkhana in the Indian subcontinent during the sultanate period. Minhaj gave a thorough description of the Ghuri shikar area.



Figure (1) mihrab in pirghayb mahal

The guzgan's mentioned palace is located inside a forest stretched from the sultan's capital "Firuz Kuh" in the highlands of the upper Herat River to his winter capital "Zamindawar" on the banks of the Hiland River. A palace perched in the center of the 40-league woodland provided a commanding view of the two capital cities. He mentioned that "Princes took turns hunting in front of the Sultan, who observed from the palace's balcony". The Mughals also exhibited a penchant for extensive travels and hunting trips, often accompanied by their entire families, court entourage, and armies. Their interest extended to the transformation and modification of forests into areas suitable for recreational pursuits⁽⁶⁾ [26,27]. Distinctive features of the Mughal *Shikarkhana* were outlined in Ain-i-Akbari, emphasizing the necessity of surrounding it with flags and the presence of the imperial *chatr* [28]. In the Chambal Valley of Rajasthan, Jahangir lived in a hunting palace built by the Hindu Rajas during his reign (1605-1627) when he was campaigning against Rana Amar Singh of the Mewar region. It was noted that hunting mansions were built during Jahangir's reign (1605-1627) between 1613-1616 AD Jahangir engaged in fifty hunting expeditions, and it is documented that he constructed a palace for his hunting trips on fifteen other occasions in the Pushkar region. Another palace was constructed in the Ranthambhore district, now a tiger reserve in Ajmer district, Rajasthan, and was noted as one of Jahangir's preferred hunting palaces during his travels. Its usage was recorded in 1616 AD as the Emperor returned from Ajmer to Malwa⁽⁷⁾ [1,29,30]. Regarding the architectural concept of shikarkhana in the historical sources, it became

clear that there were significant differences between two types of buildings that make up the hunting process connection with architecture. One type is a space that is enclosed with gardens and is later developed into the *chaharbaghi*, which is regarded as one of the royal gardens. The other type is in the forests and is distinguished by architecture that lacks enclosed areas, with this in mind there were many architectural differences which will be explained in the upcoming architectural part.

2.2. Building locations and site plans

Regarding the locations of these hunting *shikarkhana*, classification is challenging due to the absence of concrete historical records, providing only indications of their existence, although the sites and architectural styles of five examples are known, with four of them located in Delhi territory, fig. (2- a & b). The general context of the site plan of the *Shikarkhana* buildings, in general, follows the site planning of civil architecture, especially small palaces. In particular the malcha *mahal* and *kushki-firuz*, share the same idea of central block, surrounded by verandah, represents simple pavilion style, the cruciform interior connected biaxial passages to four niches or verandahs. Since the site plan elements of the *Shikarkhana* mainly serve the concept of hunting, they can be summarized in a central block, surrounded by the rest of the planning elements. Reflected in Malcha *Mahal* and *Ahu Khana*: as a central hall, while appeared in Firoz *Kushki*: as a middle corridor. Civil architecture generally in this regard characterized by inclosing to inside, around courtyards as axis point, which guarantee the privacy of the building. While the examples under study, their basic function of "hunting" was imposed on forming them to open to outside, following the concept of local Indian architecture, which was a style known as "Trabeat" [31]. Thus, the general form of the *Shikarkhana*'s plan may be related to the concept of the pavilion, which was common in Central Asia and Iran as a basic structural element in the royal gardens [32-34]. However, the general idea of the site plan is a local idea. Rather, we can consider it a primitive stage in the development of palace architecture in the Mughal period.

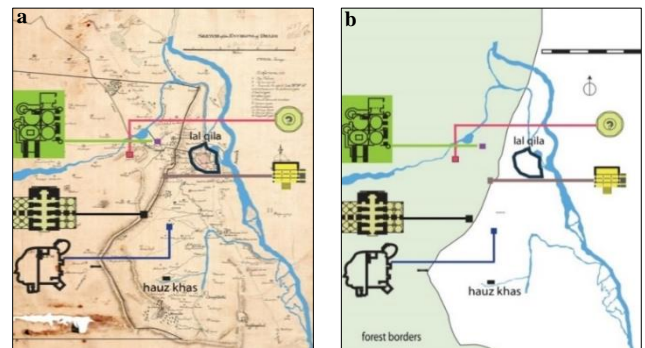


Figure (2) a. Shikarkhanas in 1807's Delhi, ed. after National Archives of India, b. 1807 map of Delhi, ed. after national archive of India

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inside, around courtyards as axis point, which guarantee the privacy of the building. Nonetheless the basic function of “hunting” in the case study examples was imposed on forming them to open to outside [31]. In this case, the general form of the *Shikar Khana*'s plan may be influenced by the concept of the central Asian pavilion “kiosk”, which was a basic structural element in the royal gardens [32-34]. However, the general idea of shikarkhana's site plan is a local idea. As the configuration of a closed central block with a verandah running around it, not only connected to masonry building with post and beam porches in Iran and central Asia, which called “*talar*” [17], but also it shows features of a local tradition of pillared hall which called “Trabeat” [35,36]. The stepped Trabeat palaces in India featured the sultanate civilian architecture, Ebba Koch considered Bayana kiosk as a link between pre and Mughal Indo Islamic architecture, its examples presented in angina *mahal* in the fort of khimlasa in Madhya Pradesh (probably fifteenth century) and the striking panch *mahal* at Fatehpur Sikri of Akbar's time. Additionally developing featured with the four halls of the cruciform chamber attached to the tomb of Qutub al din Muhammad khan at Vadodara, but the architect kept the same idea of small, stepped pavilion [37]. Deeply consideration of Ebba Koch observation and the stepped kiosk examples, the shikarkhana example of Malcha mahal and firuz *kushk*, nevertheless can be considered a building key of sultanate and Mughal palace architecture, it evidences with its early dates, two paradigmatic constituent elements: a flat or shallow domes-roofed post and surrounding verandas. Furthermore, the shikarkhana's differences in their plans, architectural styles, and proximity to each other, raise a question, why these locations were chosen in the same forest on the western borders of Delhi. This becomes especially intriguing given that Sultan Firuz Shah Tughluq, later repurposed by the Mughal emperors, as noted by Parbia, constructed three of these examples. She emphasized the Mughals' significant efforts in restoring and enhancing these palaces and structures dating back to Emperor Akbar's era (1556-1540), which makes this especially intriguing given that three of these examples were built by Sultan Firuz Shah Tughluq and later repurposed by the Mughal emperors [38]. An inference drawn from an 1807 map depicting the ancient urban centers of that time supports the placement of *Shikar Khana* building sites. Malcha *Shikar Khana* lies on the eastern edge of Delhi's forests, the Aravalli Rang, which was home to sizable tigers and big antelope populations. Instead of having enclosed chambers, Malcha *Shikar Khana*'s site plan has a central hall at the center of its plan, encircled by four square sections, that act as “*manzra*” verandah open to the surrounding forests, fig. (3).

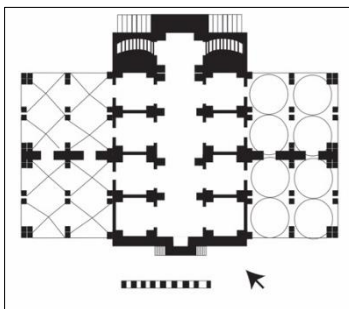


Figure (3) Malcha kushk plan

The historian notes that Malcha *mahal*'s location near Ferozshah's capital, near the edge of the forest, and consistent with its design, given the numerous references about sultan's foundation of rest stops along travel and trade routes and between cities. This can be evidenced in the manuscript photo of Emperor Jahangir (1605-1627) returning from a hunting expedition, Abu al-Fadl spoke of the royal procession stopping at a location especially set aside for this purpose before entering and departing the city. As also can be proofed from Ain-I-Akbari's recording, that the construction of buildings related to hunting trips was also used as a royal rest house on the borders of cities^(e) [39], where the imperial convoy camped before entering and leaving the city. Regarding this, the twelfth-century Chalukya king Sumyeshvara III's treatise Manasolasa detailed the creation of hunting reserves as well as the king's reserve, which ought to be spaced at least eight miles apart [25]. *Pir Ghayeb*^(h) can be considered another case. It is in the farthest area from Fairuz Shah's capital inside the forest as “Hauz khas”, *pir ghayeb* is consisting of two floors. The ground floor served as rooms to facilitate hunting facilities⁽ⁱ⁾. As for the second floor⁽ⁱ⁾, it had a balcony and a room with a *mihrab* facing the Qiblah for praying, and it was designated for the Sultan. In addition to serving as a temporary home and a dual-use structure, *Pir Ghayeb*'s main purpose is to supply the necessary amenities for the hunting operation, fig. (4-a & b).

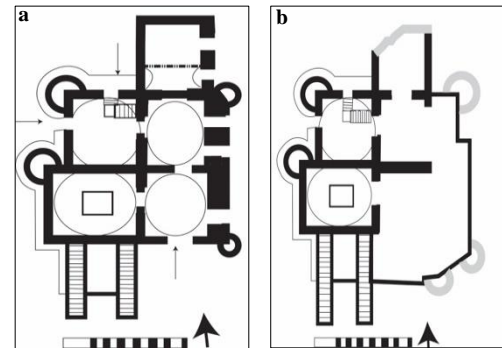


Figure (4) a. plan of PIR GAIB, ground floor, b. PIR GAIB, 2nd floor

The above theory of multi-function of *pir ghayeb* can be evidenced by the historical references of *Shikar Khana*, according to the Sanskrit book Arthashastra, shikarkhana was named Margavanas, it was situated inside the forest and played a multifunction role from ancient times. Additionally, there are several indications from Sultanate and Mughal sources mentioning the dual function of forest architecture, such as Khosrow and his *Shikar Khana* in the Shiraz Forest, Amir Nuh's *Manzara* in the Bukhara Forest, Firuz Shah's two *Kushk* in the forest between his two capitals, Firuz Kuh and Zamindawar, Akbar's *Kushk* in the Banwar and Gwalior forests, and Shahjahan's *Ahwukhana* in the Madhya Pradesh Forest. This can also be explained by the connection between hunting trips and some military aspects; Barney, Gozgani, Fereshteh, and Abu al-Fadl all agreed that the sultans used hunting as a reason to move the army camps [40]. According to Gozgani, the army's and commanders' camps and barracks were centered on the hunting *kushks*. Barney also mentioned how, during Sultan Nasir al-Din Mahmud Shah's rule, Jah's *kushk* was

used in Delhi between *Bagh Ghod*, Jiblo Ghari, and the city. As a result, the design of the Pir Ghayb *Mahal* and its location align with the information provided by the sources to support its dual use as a *manzara* for viewing the army or the hunting trips, or as store rooms for hunting lodges. *Firuz shah kushk*: It is attributed to the reign of Sultan Firuz Shah Tughluq, and located in the Murti area in Delhi, Where was an extension of a large forest currently known as the Pusa Forest. The *Kushk Mahal* stands out with a unique plan not replicated in other *ShikarKhana* architectures. It mirrors the style of Malcha *Mahal*^(k), characterized by a prominent architectural plinth^(l) situated on a high rocky hill, fig. (5-a & b) [41,42]. Firuz Shah's location is indicated on an 1807 map of Delhi which implies a connecting point that bridges the directions of *Malcha Mahal* and *Pir Ghayb Mahal*.

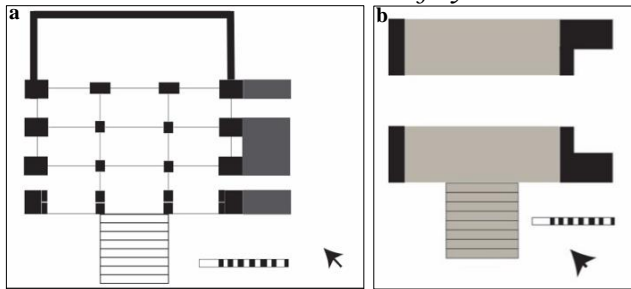


Figure (5) a. fairuz-I-kushk plan, b. plinth plan of firuz kushk

Bahol Bakhtiar Mahal, according to the sources, the building's connection to the activities that occur after the hunting process is expressed by its location outside the forest between Malcha *Mahal* and Firuz Shah's capital, as well as by its "site plane" layout, which is divided into two walled open courtyards and several storage rooms. In the past, animals have not been brought to the capital to be examined and studied, fig. (6). *Ahwu Khana* was one of Burhanpur's most remarkable features, as its site is located in the heart of the forest opposite the Burhanpur city. Inayatullah Khan described the constructions of Emperor Shah Jahan (1627-1658) in Burhanpur in the Madhya Pradesh region. He mentioned that the emperor-built rows of buildings in the modified forest for hunting. These buildings included a castle, a mosque, and two public halls on the riverbank, while on the other bank, there were dense forests in which the emperor created *Ahwu Khana*, fig. (7), [1,3]. *Hashtsal burj*: situated next to Utam Nagar, a village on the Delhi-Najafgarh route, in the village of Hashtsal. It is distinctive. Although there are no specific accounts of the building of the hashtsal burj in the so-called palam woodland in the sources, abulfadl and inaiat khan claimed that Jahangir and Akbar (1556–1605) went hunting there, depending on where they were. Despite the fact that historical records do not mention any buildings being built at palam forest, fig. (8). the historian of Shah Jahan states that during the emperor's first hunt in the latter days of sha'-ban 1043/february 1634, a hunting palace was built in the palam forest. During this period, the emperor utilized the imperial structures (*'imarat-i padshahi*) built under his command on the Mughal emperors' designated hunting ground

(*saidgah-i muqarrar*) near the pargana of Palam^(m) [43], so we may determine that the hashtsal *burj* was part of the so called *imarat-i-padshahi*)

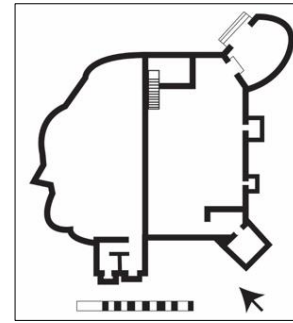


Figure (6) plan of bhuli bhakhtiyari mahal

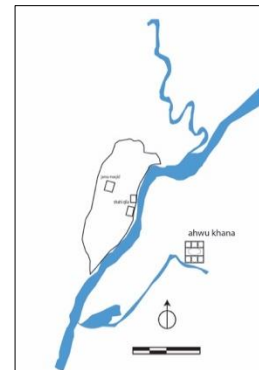


Figure (7) Ahwukhana's site in Burhanpur city (After: Google map).

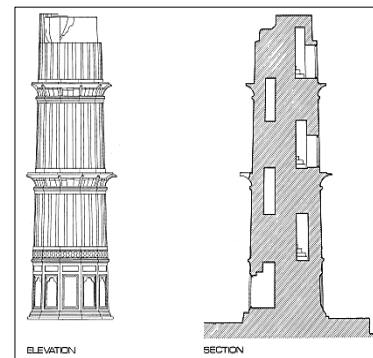


Figure (8) vertical section for the Hashtsal Burj. (After: Koch, 1991).

3. Architecture Features

Based on the field study of the *ShikarKhana* buildings, the general conclusion which can be mentioned here, that categorizing them depending on their site plan or architectural features presenting a challenge, due to its specific functional requirement applied on most of the shikarkhana buildings, which could not be fulfilled by the hunting tents, that most researchers had studied as hunting materials. These functional requirements reflected in the definitions of shikarkhana architecture in the historical records⁽ⁿ⁾ [28].

3.1. Architecture definition mentioned in the historical sources

The central Asian documentation of *shikarKhana* terms mentioned it as "*manzara - quruqs*", However the Indo-sultanate and Mughal literature, biographies, gazetteers, and documents

mentioned several terms connected with *shikar*'s architecture; for example: *Shikar-I-Muqarrar*, *Shikar-I-Khas*, *Shikar-Manzil*, *Manzil gah*, *Rumna*, *Qaruggah*, *Kushk*, *Ahwo Khasana*, *Raseef*, *Takht-I-Shikar*, *Shikar-I-Burj*, *Seidgah-I-muqarrar*. The author suggest that its typology cannot be reduced simply to one form of architecture theme, hunting architecture facilities defies conventional spatial and functional, Definitions. It is thought to be able to accommodate a variety of uses, including hunting areas, designated preserves, and wilderness areas. *Kushk*^(o), its association with hunting buildings has a history that precedes its appearance in India. Chesney refers to a description of the *kushk* in the royal hunting areas; that was established by Meher Sultan Khanum bin Shaybani Khan in the year 1520 AD. He brought up the discovery of a foundation inscription that read, "An order to establish *kushk*.." for a little palace in the middle of the jungle. Additionally, as stated in an Urdu document found in the book *Bahr al-Asrar*, which cited a document authored by Mehr Sultan Khanum, the document described this *kushk* and its components, naming rooms as "*buyutat*," workshops as "*karkhana*," a public hall as "*kurnush khana*," places for bird hunting as "*qush khana*," storage as "*tushak khana*," and floor coverings as "*farrash khana*" [44-46]. This account of the construction of a hunting palace at Kuni Gil and Karshi in Samarkand city was recited by Nazir Muhammad ibn Balkh in another source, naming it as *Shikar Khana*. Additionally, Jozjani reported on Ulug Khan, one of the Ghurid sultans, noting that he constructed a great palace and a reservoir, which are now located in the Rani *hauz*. Fershta also mentioned that Ulug Khan developed a hunting *kushk* in the Kilogari forest [47]. It was crucial that Barney documented Sultan Firuz Shah's love of hunting. The "*Jahanuma kushk*" in the northern hills of Delhi was brought up by him^(p). It was constructed with a big *hauz* to attract the animals. Additionally, he discussed how Sultan Firoz Shah personally oversaw the building process, which was seen as his imperial abode^(q). Sultan Firoz erected Ashoka's pillar in his *Shikar*'s building (*pir ghayb*); Barney specified that it was transported from Mirat to Delhi, Afif identified the location of this building as "*Fairuz kushk*" [48]. In the context of the above discussion, two of research case study "*firoz shah mahal*, *malcha mahal*" alien with the architecture features mentioned in the historical sources about the definition of architectural term of *kushk*. *Rumna*, Important information on the hunting castle, known as "*Rumna*," which is a fortified palace, was also discovered by the sources. Hunting at the fortified *Karara Rumna* near Burhanpur is mentioned by Mir Muhammad Khan, an official in Aurangzeb's court (1658-1707), and *Rumna-I-shikar* is the name given by GudFree to the hunting area at Dil Kusha in Lucknow [49]. He identified it as one of the most prominent hunting palaces favored by the Nawab of Awadh [3]. Mundi stated that the *Rumna* had more architectural structures to support its recreational elements. He characterized the *Rumna* as a tall, verdant forest enclosed by a wall, teeming with games and architectural structures. Thus, these depictions of *Rumna* as a tall, verdant forest encircled by a wall and replete with architectural structures are consistent with Bhuli Bhaktiyari *Mahal*. *Burj*, *Shikar-i-Burj*, is archi-

tectural term mentioned in the statement of constructing a hunting building in Sheikhpura region, it was recorded in Jahangir's *Tozk* in 1607 AD. *Hiran Minar* also known as *Shikar-i-Burj*, it was constructed by Emperor Jahangir (1605-1627). the date of its completion stated in the year 1620 AD At another part of *Tuzk Jahangir*. additionally, *Babur Nama* gives us further information about a hunting activity that takes place on a *burj*, fig. (9) [50]. Irfan Habib, on the other hand, mentioned that the towers played a prominent role in watching the various games [20]. *Hashtsal Minar*, one of our case studies follow the architectural style of the *burj* foundation mentioned in the historical sources.



Figure (9) hunting on a burj from Babur nama (c. 1590), (Victoria & Albert Museum, London, IM .276A-1913 and IM .276-1913)

Shikar-I-khas, *shikar-I-mukarrar*, *shikar-I-manzil*, statements of *shikar* building took place in the historical sources, Emperor Akbar (1556-1540) constructed a palace, which Abu al-Fadl named is as *Shikar I-muqarrar*, he described it as a splendid palace on the Rajasthani hunting area [28]. Al ma'sir also mentioned a palace called *Shikhar-I-Khas* in the Kanoda area near Delhi [3], *tozk Jahangir* also noted that the term *Shikar - Manzil*, and *Manzil - I - gah* refers to the hunting buildings around Simauli, Samogarh and Dehra [51]. Additionally, a single building in the hunting area was defined in multiple ways by the sources. This makes sense given what historians of Emperor Akbar's court, Abu al-Fadl and Khawaja Nizam al-Din, noted: during Akbar's initial conquests of Gujarat in the middle of 1564 AD, the forests of Banwar and Gwalior were still primitive; Akbar (1556-1540) built the massive stone platform known as "*Raseef*" upon which Akbar held court [52]. In a later reference, Abu al-Fadl referenced it, when he was discussing its reuse in the year 1565 Promotion, that it had turned into the most loved *kushk* of Ruler Akbar, Abu al-Fadl likewise referenced that the *kushks* of Sovereign Akbar were planned to demonstrate proprietorship and command over regions, immense land and assets [29]. *Ahwo Khana* the term *Ahwo Khana* was referenced in Inayatullah Khan's portrayal of ShahJahan (1627-1658) in Burhanpur "*Madhya Pradesh district*". He referenced that emperor constructed several foundations in the altered forest for hunting. These structures incorporated a palace, a mosque, and two public halls on the stream riverbank, while on the other bank there were timberlands in which sovereign constructed *Ahwo khana*. The term "*Ahwo Khana*," in Persian, "*Ahwo*" signifies deer. "*Ahwo Khana*" alludes to a spot related with deer, conceivably a foundation connected with hunting or lodging deer [29],

42]. Regarding the phrase "*saidgah-e-muqarrar*," historians of Shah Jahan speak to the palace at Palam in an unusually succinct manner, referring to the events surrounding what seems to have been his first hunting expedition in this area during the latter days of Sha'ban 1043/February 1634. The emperor disembarked from the imperial buildings (*'imarat-i padshahi*) built at his command on the Mughal rulers' established hunting ground (*saidgah-i muqarrar*) at the pargana of Palam [42].

3.2. Construction elements and techniques

Based on numerical statistics of architectural elements, we can limit the basic elements of the shikarkhana to the tab. (1). The reasoning behind building construction related to the hunting process can be explained by Abū'l Fazl's note. He states about emperor akbar's keen to hunting that, 'Limited and shallow eyewitnesses, feel that emperor has no other purpose in hunting practices; however, the experienced know, that he seeks a wise and higher points.' Abū'l Fazl adds that Akbar consistently makes hunting a method for expanding his insight, depicting *shikār* (hunting) for securing of information. He further noted that the shikar was imitation of battles, as many-sided organization of the public domain was, basically, 'the genuine sort of hunting.' Lahōri, the biographer of Shāhjahān, likewise sees that 'the emperors continue hunting and practice the shikar, they target learning the thriving of the realm and the condition of harmony, fig. (10). The Jahāngīrnāma also contains explicit details regarding strange zoological phenomena and experiments that were carried out on the field during hunts to increase Jahāngīr's knowledge, and to verify established animal myths^(v) [51]. We can draw the conclusion that particular architectural components were required to fulfill these aims. Furthermore, a wealth of information can be gleaned from manuscripts that depict the sultans, *amirs*, and emperors using the architecture during their forays into the forests. As a result, we can conclude that these objectives necessitate appropriate locations for keeping an eye on, protecting animals, and taking in the natural scenery of hunting and the hunting process.

Table (1) architecture elements in the research examples

Architecture element	Pirgaib mahal	Bhulibhakh tiar mahal	Malcha mahal	Firuz shah kushk	Hashtal burj
1 Plinth	✓	×	✓	✓	✓
2 Fortified wall	×	✓	×	×	×
3 Rooms	✓	×	×	×	×
4 Supporting towers	✓	×	×	×	×
5 Manzara	✓	×	✓	✓	×
6 Masjid	✓	×	×	×	×
7 Hauz	✓	✓	×	×	×



Figure (10) emperor meets the amirs during a hunting trip, Shaha parpia, hunting ground, agricultural land and forest, (After: Shaha, 2018)

The shikar building's site plane style is concluded from the discussion above, followed the civilian architectural style, although, several sources and scholars have featured the tactical uses of hunting *Shikarkhana*, and their utilization as military architecture, however, it is noticed that these structures under study lack of any trace of fortress building components, which recommends that it is fundamentally connected to hunting practices. Furthermore, two types of architectural elements have been used in the buildings under observation. Structural elements basically, to ensure the continuity of building efficiency and the performance of certain functions related to the hunting process. examples of which including supporting structural towers, arches, and basements. Regarding structure elements style, *shikarkhanas* utilized different procedures. For example, the pyramidal style of walls, it was executed in Pirghaib *Mahal*, joined by supporting pinnacles towers. Primary stone belts were apparent in Malcha *Mahal* and Firuz Shikar *Kushk*, while formed stonewalls were seen in the five explored examples. The structural features of the studied buildings encompass a raised (plinth) base, dividing the site plan into square areas covered with small shallow domes or trussed vaults based on arches. These techniques took place with the using of basalt and granite stones, known for their weight, which influenced by the high humidity and water associated with the surrounding forests and the Indian climate. These conditions prompted the architect to adopt construction methods ensuring the structural integrity of the buildings. Notwithstanding sporadic stone pieces, the architect kept a couple of stone lines around the whole edge of the structure, created from very much cut rectangular stones interconnected for primary support. This procedure went about as primary belts to balance the upward weight pressure. The decision of basalt and rock stone was intentional, taking into account their hardness, absence of pores, and protection from occasional water and high mugginess from the encompassing woodlands. Despite the fact that Pir Ghayeb *Mahal* coming up short on underlying belts procedure, the designer utilized elective techniques because of its two-story level. The structure block of pir Ghayeb looks like a pyramidal construction from a good way, and cautious assessment of the wall estimations and width uncovers that the external perimeter at the base is bigger than the roof level, checking the upward weight. This procedure, albeit not new in India during the Islamic time, implies the use of burden bearing walls, a pervasive component in Islamic structure engineering. Likewise, pirghaib portrayed by the tightened towers, which likewise as a supporting to the structure walls^(w) [53-55]. Furthermore Several types of architectural elements have been used in the buildings under observation: structural elements basically, to ensure the continuity of building efficiency and the performance of certain functions related to the hunting process, examples of which including supporting structural towers, arches, domes and basements. This includes supporting structural towers, arches, domes and basements. These components helped to create distinct units that carry out the fundamental duties of the *shikarkhana*, such as al *manzara* (verandah), chambers, large courtyards, the *Hauz*, and the mosque. *Manzara*, characterized

as open architectural unit^(x) [37], designed to afford views of the external surroundings. They constituted important component within the royal gardens, particularly in the context of the (*Chaharbagh*^(y)) [32], but in our research, the *Manzara* is not a separated architecture, it is part of the *shikarkhana*'s building, notably found in Pir Ghayeb *Mahal*, fig. (11-a), firuzshah kushk, fig. (11-b), Malcha *Mahal*, fig. (11-c).



Figure (11) a. remains of the manzara balcony, Pirghaib mahal, b. balcony of firuzshah kushk, c. balcony of malcha maha

scholars attempting to classify these structures as belonging to the *Chaharbagh*. However, a thorough knowledge is revealed by several research studies that characterize *Chaharbagh* as an architectural composition made up of multiple architectural units placed in a quadrilateral garden [56,57]. It is featured also by several kiosks' placements complement *Charbagh*'s overall site design, its purposes related to the *Manzara* function. Wherefore, it becomes clear that the "*Manzaras*" function has roots influenced by the *Chaharbagh*, which was intended to provide a view of the surrounding forests and other exterior surroundings^(z). Moreover the difference in the general layout of shikarkhana's site plan, which was previously explained, the architectural form of the manzara also differed in our case study, whether in its unit's number, architectural form, and the architectural elements, therefore the manzara is obviously following four architectural styles in the number of its unites: a single "pir ghayeb, bhulibhakhtyar mahal", dual "ahu khana", triple "firoz shah mahal", and quadripartite "malcha mahal". Along with this diversity in their architectural forms, the manzara's architecture style featured by two themes, not only the general architecture is a one level structural block, so it doesn't use a complex architectural unites, but also it follows the site surrounding landscape features, while the manzara placed in bholi bhakhtiya and pir ghayeb mahal is single unite faces the shikarkhana's hauz, the malcha mahal and Firoz shah mahal contain multiple manzara unites along with its height, to give the ability for the whole scene surrounding it, same as ahua khana which follows a distinctive style as it was surrounding from two sides by river and hauz, so the architect placed two manzara, one faces the hauz and another faces the river. *hauzs Shikarkhana* structures were notable for their bunds and *hauzs*, or water reservoirs. Although *hauz* was not present in every *shikarkhana*, it was present in two instances: Pirgaib *Mahal*, fig. (12-a) and Bhuli Bhaktiyar *Mahal*, fig. (12-b). The site's closeness to river routes seems to have an impact

on the presence or absence of *hauz*. Whereas *shikarkhanas* without *hauz* were built on or near riverbanks, those with *hauz* were located further away from river paths [58]. As these *hauz*, which were rain-fed and complemented by water diverted from rivers, served multiple purposes, They promoted agriculture, supplied water to the populace, sustained large animal populations in uncultivated lands, and provided vistas for hunting palaces. However, the observations of Afif (1351-88) suggest that there may have been other conflicting aspects to the relationship between agriculture and hunting practices fostered by the construction of *hauz*. He mentions that Firuz commanded that the areas around Badaun and Anwala, close to Delhi, which were rich in grassland and *hauzs*, be kept as wasteland for hunting [40]. The *hauz* connected with the *shikarkhana* architecture is the simplest examples are large open reservoirs, in general it was located in and around towns (commonly called "tanks" in India); also *tal*, *tala*, and in case of Muslim contractions also "*hauz*" of all shapes but commonly rectangular, sometimes with masonry surrounds and steps leading well below the average water level; as the water was used or dried up more steps would be exposed, the shelves being convenient for personal ablutions or for washing clothes, To highlight the examples of our study, we have two style of *hauz*, *bhili bhakhtiya mahal*'s *hauz* (figure 18), one is open reservoirs, one is large space, without step surround it, the pir ghayb *hauz*, fig. 17, is characteristic with steps surrounding it^(aa).



Figure (12) a. hauz of pir ghayb, b. Hauz of bholi bhakhtiya

4. Results

According to the previous analysis, some results were excluded: **a)** there were significant differences between the two types of buildings that make up the hunting process connection with architecture. One type is a space that is enclosed with gardens and is later developed into the *chaharbagh*, which is regarded as one of the royal gardens. The other type is located in the forests and is distinguished by architecture that lacks enclosed areas. **b)** *shikarkhana* created to suit the different geographical nature in India, with the wide forests and their consideration as a natural barrier. As the sources indicated, the difficulty of communicating with the city in light of the density of the forests is what prompted the necessity of constructing architectural buildings giving facilities during the hunting trips. The Sultans and Mughals may have been influenced by their ancestors in Iran and Central Asia by hunting, but different circumstances directed the architects to create architectural buildings that did not exist in Iran or in Central Asia. **c)** The site plan components of the *Shikarkhana* mainly serve the concept of hunting; it can be sum-

arized in a central block, surrounded by the rest of the planning elements. Reflected in Malcha *Mahal* and *Ahu Kushk*, while appeared in Firoz *Kushk*; as a middle corridor. **d)** shikarkhana appears origins represented at first glance to the simple palace architecture in malcha and firuz *kushk*, it is nevertheless may considered a key building of Mughal palace architecture, it evidences two paradigmatic constituent elements: a flat or shallow domes-roofed post and surrounding verandas **e)** Malcha *malhal's* location near Ferozshah's capital, near the edge of the forest, and consistent with its design, given the numerous references to sultan-built it as rest stop, along travel and trade routes and between cities along the forests, the site plan of the Pir Ghayb *Mahal* and its location align with the information provided by the sources, support its dual use as a *manzara* for viewing the army or the hunting process, and as store rooms for hunting lodges, but Firuz Shah kushk's location is indicated on an 1807 map of Delhi, which implies a connecting point that bridges the directions of *Malcha Mahal* and *Pir Ghayb Mahal*. **f)** Indo-sultanate and Mughal literature, biographies, gazetteers, and documents several terms connected with the *shikar's* architecture; for example: *Shikar - I - Muqarar, Shikar - I - Khas, Shikar - Manzil, Manzil gah, Rumna, Qarugah, Kushk, Ahwo Khanah, Raseef, Taklit - I - Shikar, Shikar - I - Burj, Seidgah-I-muqarar*, furthermore a single building in the hunting area was defined in multiple ways and terms by the sources. Such as emperor akabar build a rseef-i-shikar, then developed into kushk-i-shikar. **g)** Regarding design structure, *shikarkhanas* utilized different procedures. For example, the pyramidal style was executed in Pirghaib *Mahal*, joined by supporting pinnacles. Primary stone belts were apparent in Malcha *Mahal* and Firuz Shikar *Kushk*, while formed stonewalls were seen in the five explored models, and the "*Manzaras*" as the main architectural element in shikarkhana, were influenced only by the *Chaharbagh* concept, which was intended to provide a view of the surrounding woodlands and other exterior surroundings [59].

5. Discussion

The study discussed the general context associated with hunting buildings mentioned in historical sources, within an analytical classification framework, in an attempt to identify their types and the relationship of these terms to the buildings subject of the study. The research also reviewed, in light of the field study, the distinctive architectural features of the buildings, as well as their locations and their relationship to contemporary Islamic capitals.

6. Conclusion

The buildings of the ShikarKhana occupied a prominent place in historical sources, and were mentioned in many terms that expressed, whether different types of hunting operations, or different architectural styles. The architect was able to reintroduce the previous experiences, whether in Iran or Central Asia, as well as India, in constructing a unique building with many purposes associated with hunting operations. This was also reflected in their locations, the relation to ancient cultural centers, and architectural elements. Despite the fact of the deeply connections of the shikar` concept, we need to highlight that the Indian concept different, especially it was constructed to suit the different geographical nature in India, with the wide forests and their

consideration as a natural barrier. As the sources indicated, the difficulty of communicating with the city in light of the density of the forests is what prompted the necessity of constructing architectural buildings used before, during or after hunting trips, and the Sultans and Mughals may have been influenced by their ancestors in Iran and Central Asia by hunting traditions, but these different circumstances directed the architects to construct buildings that did not exist in Iran or in Central Asia.

Endnotes

- (a) David Stronach reported in the authority of Zeno von 430-354 BC, a Greek mercenary who visited the Achaemenid court, mentioned the large city of Cyrus in Persopolis, which had two hunting palaces, one in the middle of the desert and the other in the garden of the king's palace. Stronach, David, Garden as a Political Statement, Some Case Studies from the Near East, p.172-3.
- (b) Abdel Razzaq notes that during the Fatimid era in Egypt, the Bayazra's population increased, which caused the Bayazra members to protest to the Caliph about how limited Egypt's hunting grounds were. On the Gulf of the Nile, the Caliph gave the order for them to have a particular edifice. Instead, the role of the baizra was seen as one of the most significant in the Fatimid state, and its holder may ascend to the highest positions, such taking on the ministry. The Mamluk era also saw the founding of Shikar Khana in Egypt. This is what explains Al-Maqrizi's mention of incidents in the year 722 AH, when Sultan Al-Nasir Muhammad bin Qalawun ordered the establishment of a shikar Khana in Al-Hajj hauz (birkat alhaj. āḥmd ābelrāzq, wāsāyīl āl tāsīh * 'nd āl muslīmīyn, vol 1, āl hāyīh āl āmā līkītāb, āl kāhrā, 1985, p.45.; s* 'ād māhīr, āl bāzrāh fī el tārīkh wā āl āthār, āl dārāh, āl ādād āl āwāl, āl sānā āl thālīthā, riyād, 1977, p.98.
- (c) In addition to the term "manzara", Central Asian sources gave another name for shikar architecture. As Dewese noted, these sources described the Chinese traveler Chagatai's observations of the abundance of gardens throughout Central Asia, which he called "Qoruqs." These gardens were thought to be fortified hunting parks where antelopes, deer, foxes, and wild boars were kept. Al narshakhi, abu bakr muhamed, tarikh Bukhara, ed: 3, dar al maarif, p.47.; the Arabic translation has over all brief description for the gardens and places, but the English translation more accurate, and recorded the exact name. see: Abu Bakr al-Narshakhi. The History of Bukhara. Translated from a Persian Abridgment, trans. Richard N Frye, Cambridge, Mass, The Mediaeval Academy of America, 1954, p. 29.; The typology of the quruq and manzara is explained at length in Chapter 2.; R.D. Mcchesney, some observation on garden and its meanings in the property transactions of juybari family in Bukhara, 1544-77, published in: gardens in the time of the great Muslim empires, vol Vii, brill, new york, 1997, p. 99, 100.
- (d) The Indian references were not limited to the hunting process, furthermore it, the text Manasolasa written by the Chalukya king Sumyeshvara III in the twelfth century recorded the establishment of hunting reserves, and

described the king's reserve, which should be at least eight miles long, and should include a high tower, a palace for the king, his court, a temple, and a lake full of fish. And free of ferocious animals. Kautilya, the Kautilya Arthashastra, II, trans. R P Kangle. Delhi, Motilal Banarsidass, 2014, pp. 59-60.

- (e) Mughal hunts resembled military locations more than anything else does, but as Koch put it, it developed into a mobile capital with all the facilities of a central government. Furthermore, the Shikarkhana territories, as Koch described them, assisted the administration in bolstering state authority over regions distant from the capital. Ebba Koch, Dara-Shikoh Shooting Nilgais, Hunt and Landscape in Mughal Painting, Freer Gallery of Art Occasional Papers 1, 1998, p. 11; Ebba Koch, Renaissance Calendar Illustrations and the Representation of the Mughal Hunt, in *Islam and the Italian Renaissance*, London, Warburg Institute and Victoria and Albert Museum, 1996, p. 83.
- (f) The documentation of Emperor Akbar's reign by Abu al-Fadl is essential to comprehending the significance of hunting palaces and their use in displaying the emperor's military strength. He described an imperial procession led by Emperor Akbar that took place at a hunting palace in the Haryanan city of Hisar Firoza. The palace was built with the intention of forcing Prime Minister Birom Khan to surrender. Regarding Hisar Firuze, a city that drew imperial hunting expeditions, Shahjahan's 1638 AD visit to a hunting palace in the nearby city of Safdoun was documented by the court historian Inayat Khan. Shahjahan went on multiple hunting expeditions in this city, harvesting fifty-two black antelopes and deer. Additionally, according to Abha Singh, Shahjahan built a hunting palace next to Shahjahanabad, of which only the Hasht Sal Minar, a tower, survives. Abu al fadl, *The Akbarnama of Abu-I Fazl*, 3 vols, trans. H. Beveridge, Calcutta: Asiatic Society, 2000, vol 2 p.186; Inayat Khan, *Shahjahan Nama*, trans. A. R. Fuller, Delhi, Oxford University Press, 1990, p. 407; Singh, Abha, *Irrigating Haryana, The Pre-Modern History of the Western Yamuna Canal, in Medieval India 1: Researches in the History of India 1200-1750*, Irfan Habib (ed.), New Delhi, Oxford Univ. Press, 1992, p. 49-61.
- (g) We can support this with the miniature painting showed the sultan murad III resting in a kushk in the kandilli forest, dated 1592, the shahnshinama stated that sultan during his visiting the forest of kandilli in karam territory. See. Mustafa ÇETİNASLAN, Şahnâme-i Sultan Murad III (1582-1588) Minyatürlü , *Journal of Turkish World Studies*, 22/1 Yaz–Summer 2022, P.78.
- (h) As per Zia-ud-din Barani, Pir Gaib Mahal, who was linked to Sultan Firuz Shah's obsessive passion for hunting, functioned as a hunting palace. Situated in the Northern Ridge region of Delhi, next to a bund, it gathered rainfall from the nearby hills. The sandstone monolith pillars of the palace, which Sultan Firuz personally oversaw, were transported from Mirat to Delhi and indicated the

location of a Buddhist monument built by the Mauryan ruler Ashoka (r. c. 268-232 BCE). more than 85 kilometers, at great expense and labor, and rebuilt on a specially commissioned hill in the Kushk-i Shikar. Today, little is left of the palace and aristocrats' mansions save from a run-down two-story structure called Pir Ghaib that may have been occupied by a Sufi saint. Barani, Zia-ud-Din. *Tarikh-i Firoz Shahi*, trans. Ishtiyah Ahmad Zilli, Delhi, Primus Books, 2015, p.367.; Afif, Shams-i Siraj. *Tarikh-i Firoz Shahi, in The History of India as Told by its own Historians*, trans. H. M. Elliot and J. Dowson, London, Trubner, 1871, pp. 354, 299.

- (i) Three distinct categories with separate entrances are comprised of five rooms on the ground level, each with a different size and wall thickness. Two rooms make up the northern group; the smaller chamber is 300 by 320 cm and leads to the bigger room, which measures 330 by 400 cm and has a shallow domed ceiling. Two staircases precede these rooms; they begin at ground level and go up to the upper end of the building. The second group, which is centered, has two rooms that are the same size (310 cm on each side) and a stairway that goes to the second story. There is a stairway leading to the second story in the chamber at the northern end. The western wall is where the main entrance opens. Two pointed towers reaching the height of the building encircle the entryway. The third group consists of a great hall at the northeastern end that is split into two sections: a square exterior area that opens completely to the outer boundary and a rectangle interior covered by a semicircular vault. © Mahmoud Ahmed.
- (j) The second floor is divided into two parts. The first part contains two rooms in the western end and one in the southern end. The southwestern room measures 310 cm× 290 cm, while the northwestern room measures 350 cm× 310 cm. A Mihrab niche with a pointed arch is situated in the middle of the western side. The second section comprises an unroofed space with a demolished eastern side, once featuring a balcony with arched arches and columns. © Mahmoud Ahmed.
- (k) The second floor is accessed by a staircase in two stages. This level is divided into two spaces extending transversely in a northeast-southwest direction. The southwestern section is further divided into three transverse places, each with a roof of shallow rectangular vault, separated by a group of porticoes. The south-eastern facade opens entirely to the external perimeter through a facade arched with three pointed arches. The middle arch is the widest, measuring 240 cm in width, while the two side arches are each 2 m wide. Rectangular stone columns support each end of the arches. The second section is unroofed, measuring 19m x 3m, serving as a balcony open to the outside environment. © Mahmoud Ahmed.
- (l) The first is a solid base, 3 meters high, featuring a tunnel corridor with a pointed vault extending from the northeastern to the south-western end. The tunnel vault's arch height is 270 cm, and its width is 120 cm. © Mahmoud Ahmed.

- (m) The silence of the historians about the architectural details of the palace and minar, contrasts markedly with their detailed description of the huntsman trip in palam forest held by the emperor on this occasion. They praise his bringing down of forty black bucks with his gun, named “Khasyban” in a single day, as a unique hunting feat. Thomas Roe, *The Embassy of Sir Thomas Roe to the Court of the Great Mogul 1615–1619*, Oxford Univ. Press, 1926, p. 365.
- (n) AbulFazl mentions the chatr (umbrella), sayaban (fan for shade usually oval shaped), the qur-I khassa (the collection of ceremonial flags) and the ‘alam (standard) were part of the hunting paraphernalia. Abul Fazl notes that the chatrtoq and tumantoq alams of Timurid origin and adorned with yak tails, were flags of the highest dignity. Abul Fazl, *Ain*, vol.1, 52.
- (o) "Kushk" is an additional architectural area found in gardens. Kushk is typically positioned in the middle of a garden, at the intersection of the longitudinal and latitudinal axes, so that it can be viewed from every angle. The arrangement of spaces inside gardens, the way in which various areas are connected, such as via ditches and waterfronts, and the way in which plants are planted together define the overall geometry of the garden and the architectural space. The evidence from medieval Persian gardens during the era of the great Muslim empires includes Maria Eva Subtelny, *agriculture, and the Timurid chaharbagh.*, brill, 1997, p.110.
- (p) one of the research examples (fig 7).
- (q) Currently, the area around the pillar is home to just two architectural structures: the Charburj Masjid, which was formerly a mausoleum, and the Pir Ghaib, which is likely a remnant of the kushk. The original context of the site is unclear since contemporary urban development has buried the archaeological remains. According to stories from the present day, the Meerut pillar is called a pillar and functioned as a permanent reminder of the sultan's authority. Zia-ud Din, *Tarikh-i Firoz Shahi*, trans. Ish-tiyag Ahmad Zilli, Delhi, 2015, p. 367.
- (r) Firishta credits firuz Shah with raising ten support points, yet just four are known today: two in his capital Firuzabad (in modern-day Delhi) and two others, in the towns of Fatehabad and Hissar, 209 and 164 kilometers from Delhi, today in the province of Haryana. In every one of the four cases, Firuz Shah appropriated mainstays of antiquated beginning from their unique destinations and integrated them into new locales he established, in the year, A.H. 769/A.D. 1367, a subsequent one was brought to Firuzabad, it was found by the king in the Northern Region at the site of Meerut and moved to the capital with a similar fastidious consideration as the Topra point of support. It was introduced on the edge four miles toward the north of the Kotla close to the now demolished hunting castle, the kushk-I shikar, additionally alluded to as the Jahannuma (World Review) Royal residence, as per 'Afif, the establishment of the point of support was an event for festivity. Afif, *Shams-i Siraj. Tarikh-i Firoz Shahi*, in *The History of India as Told by its own Historians*, London, 1871, p. 354, 299.
- (s) Noticeable from the upper levels of the different structures is a particular pinnacle, 21 m high, the Hiran Minar (Deer Pinnacle), It remains close to the now dry lake and the Hathi Pol (Elephant Entryway) to which it is associated by a stone cleared slope. The lower a piece of the pinnacle is octagonal, the center segment roundabout. At the top is an overhang upheld by stone corbels and a delegated octagonal chatrī, Access is by an internal twisting step, the roundabout piece of the pinnacle is spiked with stone projections looking like elephant tusks, it was presumably an estimating point for a chain of mileage markers (kos minār) that were set along principal streets. It might likewise have filled in as a perspective for matches on the polo ground, spread out along the lake, or elephant battles, held close by. The term appears to date to the hour of Jahangir, who is recorded as having laid out a deer park in the open region around the pinnacle. Potentially the Persian hayr ('nook' or 'park') was changed to hiran (Hindi: 'deer'). Irfan Habib, *The Agrarian System of Mughal India, 1556-1707*, New Delhi, Oxford University Press, 1963, p.289.
- (t) The Hiran Minar's architectural model can be found in another structure in Fatehpur Sikri with the same name. By Akbar the Great. The Fatehpur Aikri Hiran Minar, the tower is twenty-one meters high, with an octagonal base, a round top after 3.91 meters, and a chhatra at the summit. Stone spikes adorn the round section of the tower, and an elongated balcony protrudes from the upper half of the tower atop stone corbels. Jahangir, *Tuzuk*, vol. 1, p. 125.
- (u) Shikar-i ahu ba ahu was the practice of luring wild antelope with cattle and tamed antelope acting as decoys. Abul Fazl documented in great detail the intricate arrangements required at each hunting step; for additional explanations. See: Parpia. Parpia, *Mughal hunting grounds*, p. 179; *Somes'vara III, Ma-nasolla-sa*, Baroda, Oriental Institute, 1939, vol. 2, p. 42–44.; Abul-Fazl, *Ain*, vol. 1, p. 302.
- (v) Jahāngīr is known by taken a rationalistic approach to experimentation, testing, and observation, in order to reach a verified truth, some of his many experiments include, dissecting a king cobra to observe its cannibalistic characteristics. More information see: Jahangir, *Tuzuk-i-Jahangiri*, pp.14-16.
- (w) The towers were characterized as solid towers that rose from the ground level until the roof level, and there were no stairs inside it leading to the roof. first examples of early Islamic architecture in India did not include these towers, perhaps because the local architect was not familiar with them, or There was no functional need for it, especially since it was an imported architectural element, which was not used in his buildings characterized by the style of columns and corbeled lintels. It was not used in any of the temple's architecture in any region or with different building styles, and perhaps because

the early Islamic buildings followed the same architectural style as the temples, so they were a reflection of the influences that began to flow into the local architectural style during the era of the Tughluq dynasty. Fatemeh Nasrollahi, Towards a Transcendent Architecture: Isfahan and its Architectural Legacy, p.74.; Yaxyayev Abdulla

- Abdujabbarovich, The Architecture of Towers in Uzbekistan Heritage, In. J. of Scientific Research, Vol. 5, Issue 12, 2016, p.94; Martin S. Briggs, Mosques and minarets: An Introduction to Muhammadan Architecture in Persia, Journal of the Royal Society of Arts, Vol. 79, No. 4080 (Jan. 30th, 1931), p. 246. Alka Patel, the Guirids in Northern India, p. 29.; Anthony Welch and Howrd Crane, the Tughlugs, Master Builder of the Delhi Sultanate, p. 99.; Finbarr Flood, Gurid architecture in the Indus valley, *Ars Orientalis*, Vol. 31, 2001. p. 129.; The most seasoned illustration of the presence of towers in Islamic design in India in everyday starts with the developments of Ruler Muhammad Shah Tughluq. They are tube shaped towers with a tightening point. Ehsan Dizany. Tracking down the Examples of Indian Mosques Design, *Bagh Nazar*, Vol. 14, No. 48, 2017, p.89.; It is shown that this component was moved from Multan to Delhi, as proven by the development of the hallowed place of Sheik Rukn Alam in Multan by Ruler Muhammad Shah tughluq in the year 720 AH/1320 Promotion, trailed by the development of the Khirki Mosque in the year 776 AH/1376 Promotion. Albeit the burial place of Rukn Alam in Multan was gone before by numerous Ghurid, Khalji and Tughluqi structures, for example, the burial place of Bahaauddin Zakaria's durbar dated 662 AH/1264 Promotion, it didn't likewise incorporate towers. Neem Irfan, the Minaret as A Vital Element of Islamic Architecture in the Indian Sub-Continent, Proceedings of Symposium on Mosque Architecture, Vol. 48, p.117.; Sara Mondini, Turkic Influences Through the Indian Subcontinent, p.31.; Finbarr Barry Flood, Before the Mughals Material Culture of Sultanate North India, p.42.; Nath, R. History of Sultanate Architecture. Delhi, p.59.
- (y) See also the jharokha is an elevated architectural frame in the shape of an overhanging window supported by brackets. Ebba Koch, *Mughal Architecture*, Munich: Prestel-Verlag, 1991, p. 140.
- (z) In the Islamic context a char bagh is usually understood as a garden divided into four square plots by intersecting water channels and walkways, this scheme originated in the ancient middle east where it had been associated with the notion of paradise as imagined in the Quran, the char bagh is a celestial garden with gushing water symbolizing the four rivers of life, with their profound exposure to Persian language and culture it is hardly surprising that the Mughals should have adopted the char bagh for their tombs, palace and gardens, the first great char bagh in Mughal architecture and in many respects the most complex of all, is that of humayum's tomb, covering an area of more than 360 meters in each side. george mochell, *Mughal architecture, garden*, p.31.

- (aa) Mahvash sees a quadripartite chaharbagh layout four-part plan is assumed on the grounds with pavilions that open through loggias on four sides, the walled orchard, water channels, and open pavilions can be considered the essential features of the archetypical royal garden. Mahvash, the royal gardens, p. 72; Stronach considering that in addition to the main layout of the chaharbagh, there are a several differences depend on many factors, we can find it all in one chaharbagh or some of it such a water channels, basins, fruit, shade trees, pavilions, baths, and tower, certainly lead to conclude that there was some continuity in the idea of a garden through the centuries. David Stronach, *chaharbagh*, in *encyclopedia iranica*, ihsan yarshater, London, 1989, p.624. we can therefore conclude that the relation between the royal gardens and the city is expressed through two main public spaces, the maydan and the khiyaban-i-chaharbagh, each of which organizes and structures part of the gardens, these also the only spaces where the royal gardens and palaces show their urban façade and express their architectural and symbolic features. Mahvash, the royal gardens, p. 72.

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