



Original Article

## A Look at Iranian-Deccani Architecture During the Bahmani Era (1347-1528)

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### Abstract

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Deccan is a fertile plateau in the southern part of the Indian subcontinent, spanning an area of approximately three hundred square kilometers. In Sanskrit, Deccan means "south," and the Bahmani rulers established the first independent Muslim government in the Deccan region, reigning from 1347 to 1528. This research aims to answer the crucial question of how Iranian-Deccani architecture evolved during the Bahmani era and which structures prominently reflect this architectural style, using a historical research method grounded in a descriptive-analytical approach. The findings of the research indicate that the Bahmani's tolerance and affinity for the Shia sect, along with their support for Shia migrants who had immigrated to Deccan from Iran and Arab lands, led to the widespread influence of Shia beliefs and the prevalence of Iranian-Islamic culture and civilization in Deccan. During this period, numerous Iranian architects and artisans migrated to India, contributing to the creation of many buildings characteristic of the Bahmani era. As a result, many mosques and structures from the Bahmani era in Deccan bear the influence of the Timurid architectural style of Iran. This phenomenon facilitated the penetration of Iranian architectural style and the flourishing of Iranian-Islamic culture in India, particularly during the Bahmani period.

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## Introduction

The establishment of Muslim rule in Deccan began with the foundation of the Bahmani dynasty (1347 to 1528). Ala al-Din Hasan Kangu, also known as Bahman Shah (1347-1358), laid the foundation of the Bahmani rule in Deccan. Eighteen members of this dynasty ruled over Deccan for 186 years. The initial eight rulers had Hasanabad Gulbargh as their capital, while the remaining rulers had Muhammadabad Bidar as their capital. Except for Ahmad Shah Wali (1422-1435), the ninth Sultan of the Bahmanis, who was Sunni, the other rulers of this dynasty were followers of the Hanafi Sunni sect. However, throughout this era, they wholeheartedly supported the Sayyids and Shia migrants who had migrated to Deccan from Iran, Iraq, and other lands. This support led to a significant influx of Shia followers from various backgrounds to Deccan, motivated by the material and spiritual assistance offered by the Bahmani's court. Consequently, the foundations of the Shia faith, which later flourished and became the official religion of Deccan, were established during this period. What is crucial in this context is the issue of migration by various groups, playing a pivotal role in the expansion of Islam and Shiaism during the Bahmani era in Deccan. Since the establishment of the Bahmani government coincided with the turbulent conditions in Iran after the fall of the Ilkhanid dynasty, many Iranian artists and craftsmen chose to migrate from Iran. The territory of the Bahmani, especially their capital city of Gulbargh, became the best destination for Iranian scholars, architects, and craftsmen for 75 years, contributing to the flourishing of Iranian culture and civilization, particularly in the fields of art and architecture in the land of Deccan. During the Bahmani rule, in addition to incorporating Iranian architectural elements and structures, the application of Iranian calligraphy and artistic decorations with a Shia perspective can be prominently seen in the works and buildings of the Bahmani sultans. This itself indicates their profound interest and strong inclination towards the Shia sect and Iranian culture. An illustrative example is the inclusion of the names of the Five Al-Aba atop the mihrab of the Jami Mosque in Gulbargh, a clear demonstration of their

devotion to the Shia faith. Another notable example is the installation of the Salawat Kabireh inscription in a tholth circular form beneath the dome of Ahmad Shah I, the first Bahmani ruler in Bidar city. Given the aforementioned context, the primary focus of this research is to explore the causes behind the formation of Iranian-Deccani architecture during the Bahmani era and its distinctive features.

## Research Methodology

This research is written using a descriptive-analytical method with a documentary approach.

## Literature Review

"An Inquiry into the Architecture of Jami Mosque Gulbargh, a Masterpiece of Iranian Art in the Indian Subcontinent" is an article where the author concludes that the design of the mosques with Shabestan architecture, including the domes with half-domes like those in Golconda, is an Iranian pattern. Despite the unique innovations in its architecture, Jami Mosque Gulbargh is not the only sheltered mosque in the Islamic world or the Indian subcontinent. However, it possesses distinctive features that make it unique, such as the pursuit of the celestial axis in mosque construction, the absence of tall minarets, and the unconventional use of a high-arched and attached pediment in the overall structure. (Shekari Nayeri, 2019). "Iranian Diwansalars in the Spread of Shi'ism in Deccan during the Bahmani Era" is another article where the authors argue that Iranian Diwansalars, without provoking Sunnis or the ruling government, invited Shia followers to Deccan. They contributed to the promotion of Iranian culture and Shia religion by training disciples, constructing mosques and schools, and entrusting positions to Iranians. Ultimately, by influencing the Bahmani rulers, they played a significant role in promoting and spreading Shiaism in the region. (Yari & Kenari Vand, 2015). "A History of Islamic States and Governing Dynasties"

by Stanley Lane-Poole is a comprehensive reference book containing genealogies and a comprehensive list of 208 governments, dynasties, and ruling families that governed the Islamic world from the beginning of Islam to the fourth century AH. A notable portion of this book discusses India and Afghanistan from the fourth to the fourteenth century AH, providing relatively good general information about the Buyid rulers. (Linn-Paul, 2014). "Muluk-e-Bahmani" is another noteworthy work on the Bahmani rulers that serves as a research literature. The author, after discussing the political history of Bahmani rulers, concludes that the Bahmani dynasty, from 1347 to 1528, created a new era in the history of Islam in India by separating the Deccan region from the Sultanate of Delhi. The establishment of the Bahmani in Deccan and the creation of a conducive environment for Muslim elites to migrate to this region made Deccan significantly secure, playing a crucial role in the political and social transformations of the Indian subcontinent. (Alami, 2014, Roatamian et al, 2024). These works, while exploring various aspects of the history of the Bahmani in Deccan, have given less attention to the architectural dimension of the Bahmani civilization. Given the importance of studying the architecture of the Bahmani era, which is essentially Iranian architecture, this research aims to fill this gap by concurrently examining Bahmani and Iranian architecture in the geography of Deccan.

### **The Establishment of the Bahmani government**

The Bahmani government was the first independent Muslim rule established in South India in 1347. From that year until 1528, a total of eighteen rulers from the Bahmani dynasty governed the Deccan region. The first among them was Hasan Kangu (1359-1347), and the last was Sultan Kalimullah (1528-1526). Of these eighteen rulers, eight governed from the city of Gulbargah (1422-1347), while the remaining ten ruled from Bidar (1528-1422) as their capital (Asami, 1948, p. 521; Heravi, 1911, Vol. 3:2; Razi, 1945, Vol. 1, p. 55). The initiation of the Bahmani government

stemmed from the circumstances in which Muhammad bin Tughlaq, the ruler of Delhi, despite successfully conquering Deccan, failed to implement effective policies to control his territory. Faced with a widespread rebellion by Turk officers, he attempted to suppress the uprising but was unsuccessful, leading to the separation of Deccan from Delhi. (Sedighi, 2017, p. 53). Isma'il Mugh was the ruler of Deccan who rebelled against the rule of Muhammad bin Tughlaq. With the assistance of Zafar Khan, he emerged victorious and separated Deccan from Delhi. Zafar Khan, originally named Hasan, played an active role in this rebellion. Following Isma'il Mugh's succession, all the commanders recognized Hasan (Sedighi, 2017, p. 77), and thus Zafar Khan, with the title Ala Alldin Hasan, became the chosen ruler, and the government took the name "Bahmani Sultanate" two years after its foundation (Linn-Paul, 1984, p. 179). Bahmani Shah chose "Hasanabad" as the new capital instead of the established city of "Gulbargah." After 80 years of the Bahmani government's establishment, the political and cultural center shifted from Hasanabad to Bidar. Due to the presence of a worthy and powerful successor to Bahmani Shah, the government transformed into a significant sultanate (Linn-Paul, 1984, p. 325).

### **Bahmani King's interest in Architecture**

The Bahmani ruler's interest in scientific and cultural activities, coupled with the migration of Muslim artists and scholars, had a significant impact on the principles and methods of construction during this period. The religious buildings in Gulbargah and Bidar showcase the influence of Iranian and Islamic art on the art and architecture of the Deccan region. Architecture was one of the most important arts that Muslim rulers in Deccan consistently encouraged and strengthened. The Bahmani rulers support for architecture is evident in many structures and buildings of the period, reflecting the influence of Iranian art on Deccan architecture (Alami, 2014, p. 99).

The Deccan architecture, often referred to as the Deccani style, developed and evolved during the Bahmani and post-Bahmani periods. Throughout the Bahmani dynasty's rule, the cities of Dowlatabad, Gulbargah, and Bidar flourished in terms of architecture due to the rulers support for scholars and artists. The historical and artistic works left behind, including architecture, painting, tilework, and inscriptions in these cities, bear witness to the artistic taste of this period. The influence of Iranian Islamic architecture is noticeable in the buildings of this era, particularly in the construction of domes, mosques, palaces, and other historical landmarks in Gulbargah, Bidar, and Dowlatabad. The architectural features of Deccan during this period were so distinctive that some researchers refer to it as the "Deccani style" (Alami, 2014, p. 99). The Bahmani rulers keen interest in fostering cultural and architectural activities, along with their patronage of scholars and artists, led to the creation of remarkable historical and artistic monuments. The use of Iranian architectural elements is evident in the construction of domes, mosques, and palaces in Gulbargah, Bidar, and Dowlatabad. The Seven Domes Complex, including the domes of Mujahid Shah, Dawood Shah, Shahzadeh Sanjar, Ghiyasuddin Shah, and Firooz Shah, exemplifies the integration of Iranian architectural elements during this period. The Mahmood Gawan Madrasa in Bidar stands out as an outstanding example of material and spiritual taste and architectural construction, not only in the East but also globally, where the influence of Iranian art is fully evident (Mardani, 2006, pp. 83-84). The tomb of Shah Khalilullah, the son of Shah Nematollah Vali, located outside the city of Bidar, is an example of the Iranian architectural style from the Bahmani period (Karami, 1994, 21). Furthermore, notable structures were built under the supervision of the master Raffi ibn Shams al-Qazwini, such as the Hesar Mosque in Gulbargah. The commemorative building of Muhammad Gisu Daraaz in Gulbargah also demonstrates the profound impact of Iranian architecture. The tombs of the Bahmani rulers in Gulbargah and Bidar, especially in terms of domes and chambers, reveal the influence of Iranian master architects. Notable examples include the use of colorful tiles, calligraphy, and gypsum decorations in the Ahmad Shah's tomb in Bidar, as well as the family tree

inscribed in the monument by Master Mughis Shirazi, illustrating the influence of Iranian art on the Bahmani architectural and artistic endeavors.

### **The Architectural Style Used in the Capitals of Bahmani Kings**

In addition to political, social, and cultural differences between the two capitals of the Bahmani rulers, Gulbargah and Bidar, there are significant distinctions in architectural styles and approaches used in the buildings of these two cities. While some architectural features are common, such as the overall structure of the buildings, the use of substantial domes, frequent use of squinches, the absence of minarets, and certain stone and gypsum decorations, there are crucial differences in many other aspects of architectural style between Gulbargah and Bidar. Generally, the buildings in Gulbargah were predominantly influenced by the architectural style prevalent during the Mamluk and Tughleq Sultanates. The structures were characterized by simplicity, short and wide domes, broad squinches with short bases, square-shaped tombs, and straightforward stone and gypsum decorations. However, these buildings were not completely devoid of Iranian architectural influence. As the Bahmani rulers shifted their capital from Gulbargah to Dowlatabad, the influence of the Tughleqi style diminished, making room for a more pronounced Iranian architectural impact. In the later years of the Bahmani rule in Gulbargah, especially in structures like the Tomb of Firooz Shah (1397-1422), the diminishing influence of the Tughleqi style and the increased influence of Iranian architects became evident. The move of the capital from Gulbargah to Dowlatabad led to a weakening and fading of the Tughleqi style, replaced by an Iranian architectural style brought by the influx of Iranian artists and architects to the Deccan. Ahmad I, who aimed to make his capital distinct from Gulbargah, extensively employed Iranian architects and craftsmen in the construction of the new capital. These Iranian architects, more than anything else, focused on creating buildings in the same Iranian style they had learned in their homeland, rather than blending local and indigenous traditions with the prevalent architectural style in Dowlatabad.

Some of these structures in Bidar appear to have been directly transported from Iran to the Deccan (Brown,1968:57-, sherwani,1985:365). Examples of this Iranian architectural influence in Bidar include the use of intricately patterned tiles, geometric decorative designs, colorful flower and plant motifs, calligraphy with Naskh and Thuluth scripts, onion-shaped domes, broken and jagged arches, and sometimes the use of lion and sun motifs. These features represent key characteristics of the Iranian-Dakani architectural style developed by Iranian and other collaborators in Bidar. In summary, while the military fortifications in Gulbargh and Bidar might have been influenced by European styles introduced by Europeans among the Bahmani forces, the non-military structures, such as mosques, tombs, palaces, and schools, exhibit a clear blend of Iranian and Deccani architectural styles. The use of decorated tiles, intricate designs, Persian poetry in various scripts, onion-shaped domes, broken arches, and the use of lion and sun motifs are some of the prominent features of this distinct architectural style that can be observed in Bidar and other Deccani cities (sherwani,1985,366-368).

### Jamei Golbargh Mosque

One of the largest and most astonishing structures remaining from the Bahmani period, built by Iranian architects, is the Jami' Gulbargh. According to inscriptions in the mosque, it was completed during the reign of Muhammad I (1359-1375) in the year 1367 and became one of the most beautiful mosques in Deccan, India. The construction of this mosque is unparalleled in terms of architecture, featuring numerous domes, without an open courtyard or prayer hall. Its domes rest on squinches and are constructed with pointed and arcuated arches. (Hollister,1979,109). The artistry in Jami' Gulbargh reflects both Iranian and Turkish influences, distinct from Hindu art. This mosque symbolizes a fundamental transformation in Deccani architecture, often referred to as the Deccani style. The architectural features, such as the dome shapes, squinches, and decorations, heavily influenced Deccani architecture until the end of the Bahmani period and beyond. The chief architect, Rafi' ibn Shams al-Mansur al-Qazwini, claims his

lineage from notable Iranian architects. The mosque shows a blend of Umayyad and Arab mosque styles prevalent in Iran and other Islamic countries, along with influences from Western Christian churches introduced by merchants and individuals who had come as slaves from those regions. (brown,1968:68). This mosque is distinctive for its innovative approach, deviating from traditional Islamic mosque designs. Henry Hollister considers Jami' Gulbargh as one of the grandest mosques globally due to its unique style, tranquility, and magnificence. (Holister,1979,106) The dimensions of the mosque are approximately 3.74 meters east to west and 6.53 meters north to south, covering an area of 4,982 square meters. The prayer hall on the west side is around 14 meters wide, surrounded by porticos on three sides, with the main entrance on the southern wall. A remarkable feature of Jami' Gulbargh is its absence of an open courtyard, replaced by 63 small domes covering the entire prayer area. However, distinctions can be observed in the porticos, prayer hall, and the squinches supporting the domes. This mosque stands as a unique example of Islamic architecture worldwide, deviating from the traditional open courtyard design of mosques. Due to its vastness, illumination is provided through windows in the surrounding walls, except on the western side. The mosque's capacity is around five thousand people, and the congregation of such large numbers in the scorching climate of Gulbarga has posed challenges, potentially contributing to the discontinuation of this architectural style in Deccan (Yazdani,1928:14-17: Haig,1985:383). The location of the mosque is in the fortress of Gulbargh. Although the surrounding structure is no longer present today, various administrative buildings likely existed around it. The mosque, with a capacity for about five thousand people, faced challenges due to the hot climate of Gulbargh, leading to various issues. One potential reason for the discontinuation of this architectural style in Bidar could be the unsuitability and lack of compatibility between the architecture of this mosque and the traditional mosque-building practices in the Islamic world, which were prevalent for seven centuries. In the Jamie Mosque of Gulbargh, two different forms of vaults commonly used in Iranian mosque architecture are observed.



Alongside the tall vaults with narrow mouths and pointed arches, there are short vaults with wide mouths. Some of these short vaults have pointed arches, while others have horse-shoe arches. The usage of both short and tall domes in Gulbargah, along with the simplicity of gypsum decorations in certain interior sections like the mihrab, columns, and capitals, is a distinctive feature of this mosque. The mosque also features inscriptions in Persian and Arabic within the Shabistan and under the largest dome. These inscriptions contain the names of Allah, Muhammad, Ali, Fatimah, Hasan, and Husayn. Other inscriptions include the names of Abu Bakr, Umar, and Uthman, alongside the name of Ali. The architecture of the mosque, including its domes, vaults, and various elements, influenced some of the mosques in Delhi constructed after the Bahmani period in Gulbarga. (Yazdani, 1928, 18)

### **Tomb of Firooz shah**

The mausoleum of all the Bahmani kings that remains in Gulbargah and Bidar today is a combination of Iranian, Indo-Islamic, and local architectural styles. (schotten, 1981 :11). This reflects the successful effort of Firooz Shah to blend cultures. The use of plaster and cement in this structure is indicative of the influence of Iranian art. With the shift of the capital from Gulbarga to Bidar, the influence of Iranian art on Deccani art increased. These mausoleums share general characteristics, with differences primarily in details, decorations, or dimensions of the structures. The square design resembling a four-fold vault with short and wide domes, along with rosettes in the four corners, is a key feature of these mausoleums. The most beautiful and magnificent mausoleum in Gulbargah is that of Firooz Shah, the last Bahmani Sultan in the city. Firooz Shah was one of the most powerful and knowledgeable Bahmani sultans, drawing attention from scholars, architects, and craftsmen from various lands, especially Iran. The mausoleum vividly illustrates the growing influence of Iranians on the architecture of this period and the grandeur of this Sultan. The dimensions of the structure are approximately 48 by 24 meters externally, with a height, including the decorative walls behind the roof, of about 14 meters. It comprises two square structures—one housing the Sultan's tomb

and the other the tombs of his family members. Two massive domes, each over ten meters high, are situated above both parts of the structure. (sherwani, 1985 :103). While the mausoleum is technically one story, it appears as a two-story building from the outside due to the presence of double-story vaults. The outer vaults follow the Iranian style with tall bases, narrow mouths, and pointed horseshoe arches. The upper vaults feature latticed windows made of stone, adding both beauty and functionality to the structure. The four corners of the building have four fluted rosettes with small domes above each. The rosettes and the columns placed at the bases of the vaults are decorated with gypsum and motifs of flowers and idols. Many features of this structure were introduced for the first time in Deccani architecture. One could argue that the architecture of this mausoleum is a combination of three styles: Iranian, Indo-Islamic, and local. The influences of each style are discernible in different parts of the structure, with Iranian style predominating throughout. In conclusion, the mausoleum of Firooz Shah stands as a remarkable fusion of Iranian, Indo-Islamic, and local architectural styles, showcasing the successful efforts of Firooz Shah to blend cultures. The distinct features and artistic elements introduced in this mausoleum had a lasting impact on Deccani architecture during the Bahmani period. (Brown, 1968, 148: Sherwani, 1985, 103)

### **Tomb of Ahmad I**

One of the notable structures from this period is the mausoleum of Ahmad Shah Wali Bahmani. This mausoleum bears a resemblance to the Timurid mausoleum in Samarkand and signifies the influence of Iranian-Islamic art. (schotten, 1981 :113) The paintings inside the mausoleum were executed by Shukrullah Qazvini, an Iranian painter. (Yazdani, 1928 :128-115) The inscriptions on the mausoleum are written in Naskh, Thuluth, Tughra, and Kufic scripts in both Arabic and Persian languages by Maghith Shirazi, an Iranian calligrapher. These inscriptions include poems by Shah Nematollah Wali, the names of Shia Imams, especially the name of Ali (AS), and verses and traditions. (sherwani, 1985 :371).

Ahmad Shah Wali had a particular interest in Iranians, and his court attracted many scholars, architects, and artists from Iran. Additionally, he adhered to the Shia sect and was a fervent supporter of Sufi thoughts. All these inclinations and preferences of Ahmad Shah Wali are vividly reflected in his mausoleum. The mausoleum, constructed in dimensions of 23x48 meters with a height of 17x37 meters, appears as a single-story structure from the outside. However, it is designed with three rows of domes in such a way that it looks like a three-story building externally, marking the first instance of a three-story structure using outer domes in Deccan architecture. Although the lower domes, especially at the entrances, are much larger than the upper ones, their placement alongside each other creates a harmonious and beautiful composition.

These domes feature pointed arches and are adorned with exquisite plasterwork in arches and windows, presenting a unique and unparalleled aspect of Deccani architecture. According to the inscriptions available, the paintings in this structure were carried out by a person named Shukrullah Qazvini, confirming his Iranian origin. The beautiful tilework and paintings, depicting floral and geometric patterns with vibrant colors, are unique in Deccani architecture. (Schotten,1981:121) The mausoleum is beautifully adorned with inscriptions in Naskh, Thuluth, Kufic, and Tughra scripts by the calligrapher Maghith Shirazi in Arabic and Persian languages. These inscriptions contain verses, poems, and the names of Imams and Ali (AS). The most distinctive feature of the Ahmad Shah Wali mausoleum is its remarkable decorations. The plasterwork features intricate and exceptional designs in arches and windows that are unparalleled in Deccan architecture. In conclusion, the mausoleum of Ahmad Shah Wali stands as a testament to the significant influence of Iranian-Islamic art during the Deccani period. The fusion of Iranian, Indo-Islamic, and local elements in the mausoleum's design and decorations highlights the richness and diversity of cultural exchange during this period, contributing to the uniqueness of Deccani architecture. (Devare,1961:59).

### **Mahmood Gawan Gilani School**

One of the most significant structures from the Bidar period is the Mahmood Gawan Madrasa, associated with the Bahmani rulers. Gawan's keen interest in cultural activities led to the influence of Iranian art in the artistic works of this period. He invited many Iranian artists and tile workers, especially from the Timurid court, to Bidar, where they contributed to various artistic endeavors. Notable artists such as Shukrullah Qazvini and Ali Sufi played crucial roles in incorporating Iranian art into the architectural landscape of Bidar during this period. (schotten,1981 :104). The Mahmood Gawan Madrasa was completed in the year 884 Hijri. Its architectural style resembles ancient schools in Samarkand and the Jameh Mosque in Isfahan. The tilework on its walls exhibits exceptional beauty, and the inscriptions on the madrasa's door are a mix of Naskh and Nastaliq scripts. Over the entrance, verses from the Quran are inscribed in Thuluth script on a white background with blue lettering, mentioning the calligrapher's name as "Katibe al-Abd Ali al-Sufi." (Moein al-Din Aghil, 2012, p. 38). Despite the current state of deterioration, with only three-quarters of the madrasa remaining, one of its two main minarets and traces of vibrant colored tiles on its walls still exist. An inscription with the verse "Peace be upon you, you have done well, so enter it, abiding eternally" (Quran 39:73) is visible on the exterior tilework. The remaining works of this magnificent structure indicate that Gawan was fully aware of the needs of an enlightened educational institution (Athar Rezavi, 2001, p. 411). The school is constructed entirely in the style of Iranian religious sciences schools (Karami, 1994, p. 21). Mahmood Gawan's keen interest in cultural activities led to the influence of Iranian art in the intellectual developments and artistic works of his era. He invited many artists and tileworkers from Iran, especially from the Timurid court, to Bidar, and they contributed to the creation of artistic works (Aqili, 2012, pp. 214-213). The school building was designed at a higher level above the ground and consisted of three floors.

It included lecture halls, assembly halls, a library, professors' rooms, and student dormitories. The library contained the largest number of books, around three thousand volumes, and Mahmud Gawan was known to procure precious books from various regions for the school library. The school also featured an observatory for astronomy (Razavi, 1998, p. 406). Gawan equipped the school with a library, an observatory, and astronomy tools. The teachers at this school were highly capable individuals invited by Gawan from various regions of the Islamic world (Hollister, 1994, p. 123). In addition to the educational facilities, Gawan's school also included a library with an observatory and astronomical tools. Gawan, being a great scientist and Sufi, selected Sheikh Ibrahim Moltani to supervise the school and made extensive efforts to invite renowned scholars from various regions to teach there (Razavi, 2001, p. 406). The school was not only a place for learning but also provided free food and clothing to the students. It was an institution that could not thrive without distinguished cultural and scientific figures, considering Gawan's emphasis on this requirement. Gawan's school continued to operate until 1614 and was famous for its comprehensive library and learning environment (Aqili, 2012, p. 38). The grandeur and reputation of this school were comparable to the Khorasan school of Khargard built in the Timurid era and the famous Rigistan school in Samarkand. (Kanariwand, 1394, 70-69) The school continued its operations day and night and was known for its cleanliness and purity. Mahmud Gawan personally covered the expenses of the school from his own wealth earned through trade, and part of the expenses came from endowments (Alami, 2014, p. 272).

### Physical features of Mahmood Gawan school

The Mahmood Gawan Madrasa is a three-story structure designed with a higher elevation from the ground. Numerous rooms for students surround the courtyard of the madrasa. The architectural style incorporates double-layered domes and is influenced by the Timurid four-iwan schools in Samarkand. Previously, the Goldeste style was prevalent in buildings such as the Golbargh Mosque, Shah Mosque,

markets, and various mausoleums. (schotten,1981: 108 ). Mahmood Gawan played a crucial role in the administration during the reigns of three Bahmani kings: Homayun (1458-1460), Ahmad III (1460-1462), and Mohammad III (1462-1482). Contemporary poet Mulla Samai commemorated the completion of the madrasa's construction in a verse: "Rabbana taqabbal minna," signifying the year 1471. Historians and researchers have praised the splendor and greatness of the Mahmood Gawan Madrasa, acknowledging the remaining parts as significant. During his time in Bidar, Mahmood Gawan had extensive connections with prominent scholars and teachers in Iran. After assuming the position of Minister of Engineers, Architects, and Industry, he invited skilled individuals from Iran and other regions to Bidar. The madrasa was designed to resemble the Timurid four-iwan schools, and it is the first and last four-iwan structure in the history of Deccan architecture. The architectural style bears a resemblance to the school built 28 years prior in Khargard, on the orders of Abu'l-Muzaffar, the son of Shah Rukh Mirza. The dimensions of the Mahmood Gawan Madrasa are 68x60 meters, with a height of 58 meters. The elevated structure is accessible through a series of stairs. The eastern iwan of the madrasa and its adjacent mosque are now in ruins, but other iwans and the grand entrance remain intact. The madrasa had a courtyard surrounded by numerous rooms for students' accommodations. Two colossal minarets were located at the main entrance, one of which still stands, forming the most preserved part of the structure. The remaining minaret, about 90 meters tall, has an octagonal base and gradually reduces in thickness from bottom to top. It includes three levels, with balconies on the first and second floors. The minaret's lower part is adorned with beautiful Iranian tiles and inscriptions in Thuluth and Naskh scripts. Each level of the madrasa likely contained rooms for student and faculty accommodations. The Mahmood Gawan Madrasa also had other sections, such as a mosque, library, and lecture hall, which were destroyed during an explosion in the time of Aurangzib (1657-1706). (Briggs,1981,2/314) Overall, the madrasa represents an Iranian architectural style adapted to the Deccan region, despite potential oversights in considering the local climate.



Nevertheless, it stands as a testament to the profound influence of Iranian architecture in Bidar and highlights the increasing role of Iranians in the political, cultural, and social history of the Deccan. (Schotten,1981,34: Sherwani,1985:203-204).

### Architectural Style of Palaces of Bahmani Kings

The palaces and fortresses of the Bahmani sultans, influenced by Islamic Iranian art, include notable works like the "Takht Mahal," the first palace of the Bidar period constructed by Ahmad Shah Wali Bahmani in the city of Bidar. Sheikh Azari composed verses about it, and Sharaf al-Din Mazandarani, a renowned calligrapher, inscribed some of these verses using stone engraving above the gate. (Tabataba, Burehan Masir, 1976: 71-70). The primary design of the structure is rectangular, and its arches are crafted in the Iranian style. A captivating image on the building features a tiger with the sun rising behind it, influenced by the symbolism of the lion and the sun, which are significant

to Iranians. Another notable structure from the Bidar period is the palace known as "Rangin Mahal." This palace was built after an attempted assassination against Mahmood Shah Bahmani. (yazdani, 1928 ,62-60). Other palaces from the Bahmani period include "Tarkesh Mahal" and "Gagan Mahal," both constructed in Bidar. The castles from the Bahmani era also bear the influence of Iranian-Islamic art. The construction of these structures involved multiple architects. One of the well-known castles is the one built by Firooz Shah Bahmani in Golbargah, demonstrating visible Persian architectural influences, particularly with statues in the north and east featuring lion-shaped sculptures, reminiscent of pre-Islamic Iranian art. The fortified castle in Bidar, built during the reign of Ahmad Shah Wali Bahmani, features walls with a thickness of fifteen meters and a triple-layered moat around it. The craftsmanship of the castle involved Indian artists, and Iranian architects contributed to the construction of its walls. Overall, these structures showcase the fusion of Iranian and Islamic art in the architecture of the Bahmani period, highlighting the rich cultural exchange during that era. (brown, 1968:67).

### Conclusion

The architectural style of the Bahmani Sultanate period in Deccan is often referred to as Iranian-Deccani architecture. The patronage of the Bahmani Sultans played a crucial role in promoting Iranian culture in the region, and one of the finest examples of this architectural fusion is the Jamia Mosque in Gulbargah. The mosque is a manifestation of Iranian architecture in Deccan and is attributed to the architect Rafi' Qazvini. Rafi' Qazvini showcased a complete mastery of the art of niyarasht (stalactite) structures, commonly found in Iranian domes and vaults. To ensure the structural balance of the main building, the principle of tazhib-e-niroom (counterpoise) was extensively employed in the construction, contributing to the stability of the structure to this day. This principle was a common practice in pre-Islamic Iranian architecture and was also utilized in the construction of the Firuzabad Palace. The mausoleums of the Bahmani Sultans in Bidar are also designed based on the four-sided structures. These

tombs, resembling the tombs of their predecessors in Gulbargah, feature the same architectural style. Other significant tombs, like the Gisu Daraz Maqbara, were also influenced by Iranian architecture. In Shah Khalilullah's mausoleum, known as Chaukhandi, Iranian artistic influences are apparent. This mausoleum, similar to Ahmed II's mausoleum, has an octagonal structure without a dome. The entire complex, including tombs and mausoleums in Bidar, exhibits Iranian decorative elements such as the use of stone, plaster, and occasionally brick, as well as Iranian-patterned tiles and mosaics. Additionally, the famous Iranian architectural feature of jaghi or broken arches, commonly seen in Iranian structures, was employed in the buildings of the Bahmani period in Bidar. These structures, often constructed with up to three stories, showcase the Iranian decorative traditions blended with the regional Deccani influences during the Bahmani Sultanate.

### Data Availability

The data underlying the results presented in this paper are not publicly available at this time but may be obtained from the corresponding author upon reasonable request.

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### Conflict of Interest

The results obtained in this research do not conflict with any individual or organization.

### Authors' Participation

All authors contributed equally to the analytical and numerical calculations and have read and approved the final manuscript.

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