



LOST IN TIME: EXPLORING MACHKI FORT AND ITS SILENT LEGACY IN THE CHOLISTAN DESERT

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Abstract:

The Machki fort constructed in 1777 A.D. and located in the remote Cholistan desert near Rahim Yar Khan, a city of Pakistan, remains an undocumented, unpreserved historical site causing its architectural significance and purpose to vanish. The main objective of the paper is to delve into understanding and analysing the purpose, design, construction, overall layout and use of the Machki Fort, by comparing it to the neighboring forts, like Jamgarh, Rukanpur, Mirgarh and Derawar forts that were built around the same area in the same era. The paper uncovers valuable insights into the design, construction and use of the Machki fort by conducting a comparative analysis with the surrounding forts. The Architectural features, materials, and overall layout of the forts that share similar chronological context are examined and compared to unveil the original characteristics of Machki Fort. The paper focuses on how understanding neighboring structures from similar chronology can provide clues that can help reconstruct or provide first aid to heritage sites that are either damaged or unexplored. Through this approach, gaps are filled and a clearer picture of the Machki fort's original form as well as purpose can be understood. The comparison of Machki Fort to neighboring forts makes it clear that the original shape, architectural layout and architectural features closely resemble each other. Features such as bastions, courtyard styled layout, four-centered arches, burnt clay bricks are mainly highlighted and compared in detail. It also highlights the Mughals and Nawabs influences on the design elements and material of forts. The similarities in design language helped to reveal the fort's original form, details and purpose therefore making it easier to understand how it looked and functioned in the past.

Keywords: Machki Fort, Cholistan, historical sites

Introduction:

Machki Fort is far away from the current city of Rahim Yar Khan, having no smooth route, hours needed to reach it, which can be the reason that little is known about it. The fort is surrounded by desert and the outside of the fort few bushes and shrubs could be found, - authors visited the fort in January 2025. In order to understand the purpose and architecture of Machki fort, it is important to first understand the history of Cholistan desert, which is locally known as Rohi (Bhatti, Hayat, & Mukhtar, 2013).

History of Cholistan (Rohi):

The Cholistan (Rohi) desert has a strong history with the development of 47 Forts within the desert (A. U. Baig, 2021). Rohi desert, scattered about 26,300 square kilometers, is a vast desert region situated in the southern part of Pakistan, comprising parts of the Punjab and Sindh provinces and links to the boarder of Indian cities of Rajasthan (R. Khan, 2024). The desert was once considered as a fertile region due to the Hakra river (Tourism), that fed through Himalayas which resulted in supporting numerous ancient civilizations. Due to this many small exports and imports started from the region towards Persia, Mediterranean territories and China (Authority, 2024). These civilizations were to be the ones related to the Indus Valley Civilization. Over 400 Harappan (Indus Valley) sites have been listed in Cholistan since 1970 (S. Baig, 2024). This trade was called as Caravan trade and in order to protect this trade, known for its biggest and luxurious exports and imports, many forts started to get developed across the Cholistan desert like Derawar fort, which is the best preserved example of the forts constructed at that time (M. N. Khan, 2020). Rohi being very massive, hence it was basic need of the traders to have some secure points where they can stop and continue their journeys so the forty seven forts within the peripheries of Cholistan desert (A. U. Baig, 2021) served the purpose of safety and defense for traders (unesco, 2016). Hakra river, around 600 BCE, changed its course and disappeared underground (S. Baig, 2024).

Caravan trade:

The caravan trade in history is said to begins around the 2nd century BCE (Wikipedia, 2024). This trade is famous not just because it supplied goods including spices, silk or other precious metals but it resulted in cross-cultural invasions. People travelling across different countries exchanged religions, technological knowledge including other skills such as art and craft. The most important of all are the architectural elemental inspirations that travelled from place to place and resulted in hybrid architectural structures (Farid, Saeed, & Rehman, 2022). Cholistan having a high density of ancient artifacts from the era of the

Indus Valley Civilization, became a Marketplace for Caravan Trade, which led to the construction of numerous forts to protect trade routes (Rao).

Machki Fort Construction:

The Machki Fort was constructed by Lal Khan Son of Ikhtiyar Khan in 1777, belonged to the Abbasi family that family was known as the royal family of Nawabs of Bhawalpur (Mughal, 1977). The Abbasid migrated to Egypt and then to Singh after the downfall of Baghdad. These various influences resulted in rich culture of the respective area. The area had Rajput and Nawab's influences from India, Egypt and Iran (Gillani, 2014).

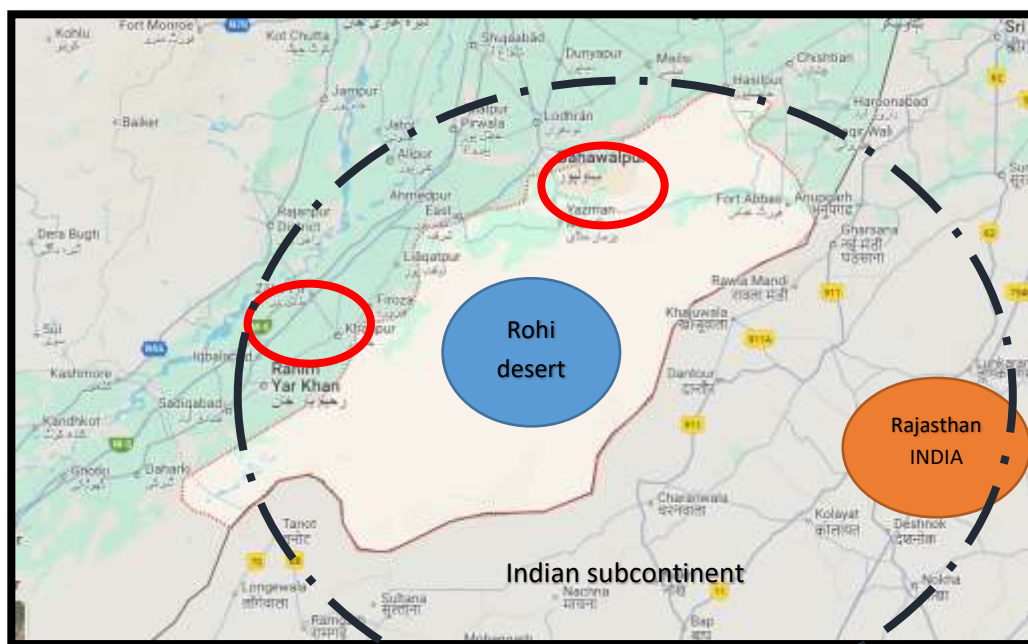


Figure 1A Cholistan desert and surroundings
Source: Google maps

Architectural Relevancies:

Figure 1A represents the important landmarks that surround the Rohi desert and Figure 1B shows the location of the forts of Rohi desert discussed in this paper. Pakistan which was a part of Indian subcontinent before 1947, the influences i.e. design, art, architecture, crafts, culture, traditions, beliefs of neighboring cities travelled from one place to another therefore resulting in hybrid forms of artistic traditions (Devra, 1978). Close observations of the maps reveal different forts constructed to protect the trade routes. But when river shifted its direction, the land became a desert and people migrated from here (Rao, 2020).

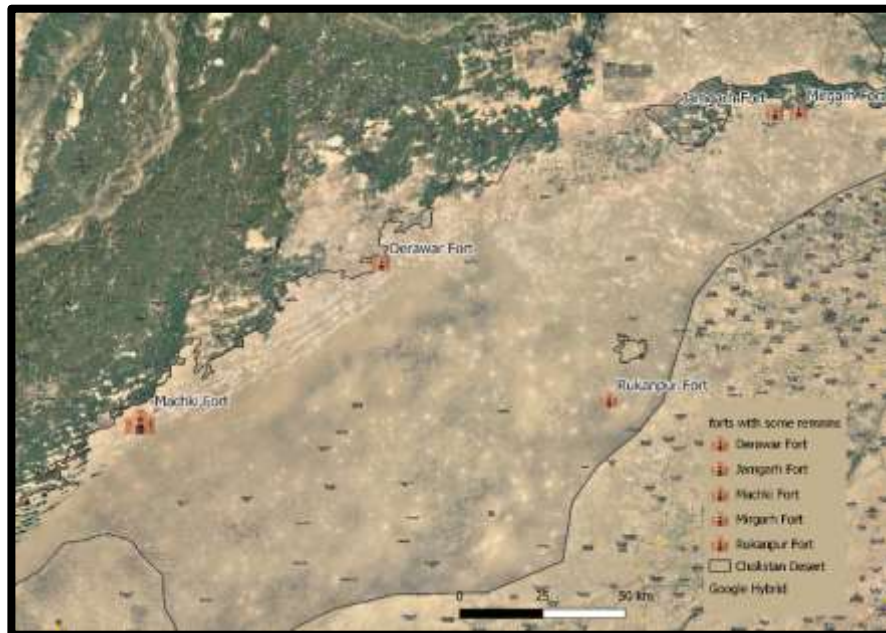


Figure 2B Location of discussed Forts in Cholistan (Rohi) Desert



Figure 3 Machki Fort (Panorama)
Source: Author

Figure 2 shows the north elevation of the fort. It has four bastions at each corner connected to walls throughout, creating a central area with rectangular geometry. The fort is not preserved or explored which is the reason of its destruction. Machki Fort is though not in its original form, but the forts constructed around the area at the same time somehow reflect the architectural elemental vocabulary used at that time. Jamgarh Fort, constructed in 1788 (Cholistan Development Authority), follows the same 4 corner minaret style. The fort is in the desert near to Bahawalpur. The form of elements of Machki Fort can be understood more clearly if compared with Jamgarh fort (Traveler, 2022). Rukanpur Fort of Cholistan was constructed by Sardar Mohammad Maroof Khan Kehrani in 1776 A.D (D. c. O. R. Y. Khan, 2021). It had

four minarets, several buildings and mosques. According to the Archaeological survey (Qureshi, 2020), approximately 30% of the ruins of Rukanpur fort are still intact.



Figure 4 Left side Machki Fort. Source: *Author*.
 Right Side Jamgarh. Source: <https://travelpakistani.com/blogs/famous-forts-of-cholistan/359>

Figure 3 represents similarities in the structural vocabulary of both the Machki and Jamgarh forts. The 4-bastion composition is consistent, although the bastions of Machki Fort are significantly damaged but the original shape can be reflected by looking at the bastions of Jamgarh Fort. The shape of corner bastions is conical with bottom of the turret having greater circumference while the radius of the circumference decreases as you move to the top of the Turret. If we look at the planning of both the forts, they followed quite similar spatial arrangements. The center followed a courtyard style open space, forts like Machki and Rukanpur do not have any remains in the middle of the fort but Jamgarh shows visible signs of rooms and baths in the middle of the Fort which indicates that people used to rest while travelling inside forts (N. Zafar, 2020). Figure 4 shows satellite images of the three forts indicating how similar the planning style was that they followed around the Cholistan desert.



Figure 5 Satellite images of the forts following similar planning.
 Source: Google Maps

Bastion original form:

The architecture of the bastion is also similar. Figure 5 compares the form as well as detailing on the towers. The openings on the minaret of Jamgarh have prominent line patterns; the inside of the pillar has stairs that lead to the upper end of the form. Figure 2 (Panorama) also shows some arches on the façade of the left side minaret. The lines on the facade that are no longer prominent on the Machki fort but the decayed walls show some signs of patterned lines on the bastion which can be compared to the bastion of the Jamgarh fort. Some small niches are also visible on both structures which provide diffused light in the interiors of the pillars. The Pillars on the four sides were probably given for security purposes where guards might have worked from raised platforms.



Figure 6 Left: Jamgarh Fort, Source: <https://threadreaderapp.com/thread/1292505462370336768.html>
Middle and Right Machki Fort, Source: Author

Mirgarh fort, also located in Cholistan, was constructed by Noor Muhammad Khan and is one of the forts built during the reign of the Abbasi clan in Bahawalpur (A. U. Baig, 2021). Noor Muhammad Khan started the construction of this fort in 1799 and completed it in 1803 (Cholistan Development Authority). This fort is comparatively in better condition than Machki Fort. Both Forts follows similar material composition. The exposed inner brick shelter from the outer hardcore of Machki fort encircled in red shows that the bastion followed a double layered material configuration. This can be since these forts were built for defense purposes, so they wanted to keep them solid and strong. The inner layer of Machki Fort's minaret is comparatively easy to understand because of its condition. The tower follows a double height with first half being solid brick while the second half having narrow niches for light and the tower becomes curvilinear as it goes to the top.



Figure 7 Left and right Meergarh Fort, Source: <https://tribune.com.pk/story/2059709/mir-garh-qila-slowly-descending-ruin>, <https://threadreaderapp.com/thread/1292505462370336768.html>
Middle Machki Fort, Source: Author.

The forts constructed at that time used burnt clay bricks which were locally prepared. As discussed earlier about the influences of the neighboring cities as well as cross cultural invasions the forts follow a hybrid geometry along with planning principle (Abdul Razzaq Shahid, 2016).

Entrance of the fort:

Derawar fort of Cholistan was built in the 9th century under the kingship of Rai Deva jatt Bhati, a Hindu Jat Rajput ruler of the Bhati clan {Wikipedia, 2025 #22}. The fort is a massive and visually stunning square structure built of clay bricks {Government of Pakistan, 2016 #20}.

The Forts have only one welcoming entry, figure 7 shows the entrance of Machki fort towards the east side of the structure linking the central courtyard which is the main feature of Islamic and Mughal Architecture. The fired clay bricks used at the entrance of the fort are a sign of the influences by Nawabs as they used these bricks in their structures mostly in the entrances (K.K, 2023). Once you enter Derawar Fort you witness guards' rooms at the right and left sides of the entrance (Nazir, 2021) while the entrance of Machki Fort is totally ruined only the arches are visible and elevated above the mud they are covered with. The 4-centred arch at the entrance clearly reflects Nawabs influenced from Mughal Architectural elements. Many people believe that there is much more under these structures that is still under-covered and unexplored. Similarly, several new tunnels are excavated in Derawar Fort, and it is believed that these underground channels are linked to other Forts of Cholistan. This connection

might have served as an escape route in case of any attack (Moazzam, 2017). If we look at other forts like Derawar Fort and Mirgarh Fort, it can be clearly observed that it had more number of bastions and structures are more gigantic then the other forts this can be assumed as that maybe at that time people followed hierarchy where the royals used to stay at the more colossal kind of structures with while normal visitors and traders used other forts.

Table 1 presents a detailed overview of various forts, highlighting their characteristics.



Figure 8 Entrance of Machki Fort.
Source: Author



Figure 8 Derawar Fort.
Source: {Tourism, #19}



Figure 9 Derawar Fort.
Source: {Dawn.com, 2011 #21}

Table 1: Overview of Fort Construction Details and Design Features

Fort Name	Year of construction	Constructed by	Design inspired by	Use	Materials and Architectural features	Overall layout
Machki	1777	Lal Khan (Abbasi family)	Mughals Nawabs Hybrid Styles	Defense, Storage of Supplies, Living Quarters	Burnt clay Bricks, Heighted walls, Double Layered angled Bastions for defense purposes, Remains of cut brick details on walls and Bastions.	Squarish 4 angled Bastion layout with Central Courtyard having multiple rooms at the center.
Jamgarh	1788	Jam Khan Maroofani	Mughals Nawabs Hybrid Styles	Administrative Centers, Trade Protection	Niched entrance decorated with 4-centered arch, Burnt Clay bricks used throughout. Multilayered walls and entrance, Detailing given on the façade of entrance through cut brick work.	A square layout with 4 angled bastions at the corner. A space at the mid where remains show that there were some rooms.
Rukanpur	1776	Sardar Mohammad Maroof Khan Kehrani	Mughals Nawabs Hybrid Styles	Storage of Supplies, Trade Protection	Burnt clay bricks, along with some remnants of wall detailing that are difficult to fully interpret, appear to resemble the cut brickwork seen in Derawar Fort.	It is totally damaged structure, but the layout is similar to Machki Fort with 4 angled bastions.
Mirgarh	1799	Noor Muhammad Khan	Mughals Nawabs Hybrid Styles	Control of territory, Escape routes in case of war, Symbol of Authority	Walls made of burnt bricks where clay is used as mortar, niches on the interior of walls for lightning purposes. Entrance like Machki and Jamgarh fort. Entrance arch leads to arched rooms on its left and right side.	9 angled Bastion Layout which follows the same central courtyard style. Multiple Underground escape tunnels and rooms for living.
Derawar	1733	Sadiq Muhammad Khan I	Mughals Nawabs Hybrid Styles	Symbol of Power and Authority Administrative Centers, Escape routes in case of war	Bastions decorated in cut brick work, 1500 meters high walls, Burnt Clay Bricks	Colossal 40 angled Bastion layout with rooms at the center and escape tunnels for wartime defense.

Factors Contributing to the Degradation of Cholistan Forts:

1. Distance and Urban Focus

One of the main reasons behind the forts of Cholistan being neglected is due to the access problem. Cholistan desert being the largest desert has no such population around it. Multiple tourists visiting other Forts like Mirgarh and Derawar have raised concerns about the future of Cholistan's heritage and insufficient preservation efforts (K. Zafar, 2018).

2. Lack of Efforts in Promoting Tourism:

The failure of local authorities to attract tourists has led to a lack of financial resources for preserving the forts. Increased tourism could have helped the site in raising necessary funds as well as promoting these sites to a number of new visitors (Malik Abuhala, 2023).

3.Underexplored Heritage of Cholistan

Cholistan desert remains as an unexplored heritage site. The recent excavations done unintentionally resulted in various signs of human settlements. The unexplored and undocumented forts might have histories buried under them. If these areas get explored many mysteries will be solved and many questions regarding the myths will be answered (Gill, 2021).

4. Negligence:

The heritage being invisible is due to the unbothered restorative authorities. Few people around know about the presence of the forts in Cholistan or how important they have been in history. The failure to restore these landmarks is disappointing reflection of how little we value our heritage (Ahmed, 2019). Authorities have long ignored the conditions of forts of Cholistan which has resulted in the historical sites deteriorating into ruins. This long episode of negligence poses serious thread of irreversible collapse, international organizations should come forward if this is the case because losing landmarks from histories is a shame as this keeps modern people to stay connected to their past and value the morals, values and sacrifices of their ancestors (Khaliq, 2017).

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