

# Exploring Military Technology from Thirteenth to Fourteenth Century: A Study of Delhi Sultanate

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## Abstract

Throughout the history, the military technology played a great role in the expansion, protection and survival of various kingdoms all over the world. In this backdrop the present paper attempts to explore the use of different types of military technology during thirteenth and fourteenth centuries in Delhi Sultanate. This study demonstrates that the Sultans of Delhi used a variety of military weapons during their reign and stretched their domain across a considerable portion of the Indian subcontinent.

**Keywords:** Military Technology, Delhi Sultanate, Arrow, Bow, Sword

## Introduction

The studies on military technology especially weapons, equipment and various other structures and vehicles in India prior to the Turkish conquest and the subsequent period have been initiated by modern scholars including P. K. Gode, Lynn Whie, Irfan Habib and Simon Digby<sup>1</sup>. After the establishment of Delhi Sultanate in India in 1192 A. D., the Sultans of Delhi equipped their army with the best weapons produced in India and abroad. As the military was an extremely significant component of the Delhi Sultanate thereby, the Sultans of Delhi had always given special focus towards the manufacturing of the military weapons for the security of their Sultanate. They had especially established different workshops called *Karkhanas*. According to Shamsir Siraj Afif (1342-1399), there were thirty three *Karkhanas* during the reign of Firoz Shah Tughlaq. The head of the each *Karkhanas* was known as *Mutasarif*. The *Karkhanas* for the military comprised of *Pil Khana*, *Shatur Khana*, *Alam Khana*, *Riqab Khana*, *Farrash Khana* and *Paigha*<sup>2</sup>. The Delhi Sultans had incorporated numerous Rajput military weaponry into their army. However, after a thorough study of the weapons of the Sultans of Delhi, it has been established that the military weaponry of Delhi Sultans was a combination of Turkish and Rajputs army weapons<sup>3</sup>. Arab traveler Al Idrisi (1100-1166) has rightly pointed out that “The Indians are very good at making various compounds of mixtures of substances with the help of which they melt the malleable iron. There are workshops where swords are manufactured and their craftsmen makes excellent ones”<sup>4</sup>. The various types of military weapons were also imported from other countries including Trans-Oxiana, Iran, Iraq, Khurasan, Central Asia, Egypt, Africa and even from the European countries<sup>5</sup>. The study of the military weapons can be conveniently divided into three types as discussed in the subsequent section.

- Light Military weapons, such as Bow and Arrow, Sword, Lance, and Mace.
- Heavy Military weapons, such as *Kharak*, *Charkh*, *Manjaniq* and *Arrada*.

- Defensive Armours of the soldiers and war animals.

## 1. Light Military Weapons

### 1.1 Bow

Bows and arrows were considered as offensive military weapons as they could be used from a considerable distance against the enemies. The military of the Delhi's Sultans employed various types of bows like *Khwarizmi*, *Chachi*, *Kohi*, *Hindivi*, *Ghaznichi*, *Karori*, *Parwanchi* and *Lahori*. However, the *Khwarizmi* bow was strung with the strings which were made of hides of the horses and so they were thick. Therefore, arrow used for this bow was also thick and thereby such arrows were unable to go for long distances. The *Chachi* bow was very efficient and liked very much by the Central Asian Archers. The *Kohi* bow was strong and made of horn of goats found in the mountain regions. The *Hindivi* bow was light because it was made from bamboo wood. The arrow shot from a *Hindivi* bow did not go far but it struck deep wound at a close range. The *Ghaznichi*, *Karori*, *Parwanchi* and *Lahori* bows were all same in shape and function<sup>6</sup>.

### 1.2 Arrow

The army utilized a variety of arrow kinds, each with a unique efficiency. The arrows' heads, which were composed of diverse materials and had varying shapes, were mostly responsible for inflicting different kinds of wounds. Most of the arrow heads were made from the bones of deceased animals and were quite lethal. Arrow shafts were always made from poplar and cane trees. The arrows' tails were fastened to the feathers of various birds, including falcons, hawks, eagles, kites, and ostriches<sup>7</sup>.

The different types of arrows were such as *Tir-i-Partabi*, *Tir-i-Zirah*, *Tir-i-Khaftan*, *Tir-i-Begultakh* and *Tir-i-Atishin*. The *Tir-i-Partabi* was an arrow which go fast. The *Tir-i-Zirah* was meant to pass through the *Zirah* of the soldier. The *Tir-i-Khaftan* and *Tir-i-Begultakh* were extremely efficient in piercing into the armours. According to Amir Khusro (1253-1325), there were arrows which were manufactured with such a skill that it could pierce 10 layers of the heart<sup>8</sup>. Besides, the *Tir-i-Atishin* were fiery arrows and the tip of these arrows are believed to be fixed with a cloth dipped in combustible solution and then fired after being lighted so that it could cause maximum destruction. According to *Khazain-ul-Futuh* such types of arrows were used by the royal army during the siege of Mandu and Arangal in 1305 A. D.<sup>9</sup> Another important thing was that an archer usually protected his thumb and forefinger by wearing ring called *Anghustawana*. According to *Adab-ul-Harb*, there were three categories of rings worn by the archers including *Mariwar*, *Turkiwar* and *Ghaziwar*. However, among them for an archer the most prominent was considered *Anghustawan -i-Ghaziwar*<sup>10</sup>.

### 1.3 Sword

In Delhi Sultanate the sword was called *Shamshir* or *Tegh*. During that time different types of swords such as *Rumi*, *Rusi*, *Chini*, *Yemini*, *Sulaimani*, *Firangi*, *Khizri*, *Shahi*, *Alai*, *Kashmiri* and *Hindi* were used by the army. The *Hindi* swords were also of various types namely *Parmagas*, *Paralak*, *Makhbar*, *Tarawatah*, *Ruhina* and *Mangauhar*. However, the sword known as *Mauj-i-Darya* was the most efficient among the Indian swords and was also believed above all the swords<sup>11</sup>.

All the swords as discussed above were straight, hard, strong and they were mainly intended to strike wounds even after coming in contact with the armour worn by the enemy. However, the armours were heavy so that force of the sword along with its sharp and strong blade gave the enemy a lesser chance to being uninjured<sup>12</sup>.

#### 1.4 Lance

Lance was known as *Neza*. During that time the army used many types of Lances such as *Shil*, *Zopin*, *Nim Neza*, *Pilkush Neza*, *Neza-i-Mardagir*, *Harbah* and *Bhallah*. Among these the *Shil* was a long spear and *Zopin* was both long and heavy spear. Both these lances were used by the Afghan as well as the Indian soldiers. The *Nim Neza* was a short spear and used by the infantry. The *Pilkush Neza* was mainly used for attacking the elephants. The *Neza-i-Mardagir* was having a long spear. The *Harbah*, on the other hand was used by the bodyguards and security men. The *Bhallah* however, was a heavy spear and used by the army at that time<sup>13</sup>.

#### 1.5 Axe and Mace

The cavalymen used axes and maces to engage in hand-to-hand combat. The army employed a variety of axes, including *Tabar*, *Tesha*, *Khist*, *Tabarzin*. The *Tabar*'s sharpness of the blade and the weight performed a 'cut and smash' function. The *Tesha* was another form of battle axe used by the army men. The *Khist* was similar to *Tesha* and the *Tabarzin* was used by the cavalymen in case of emergency only. There were different types of maces such as *Gurz* which was having a heavy round structure on its top. The other types of the mace included *Dabur*, *Dahra*, *Komal* and *Amud*<sup>14</sup>.

### 2. Heavy Military Weapons

The heavy military weapons were used in capturing the forts of the enemies. According to Fakhr-i-Mudabbir (1157-1236), *Kharak* and *Charkh* were the two heavy military weapons<sup>15</sup>.

#### 2.1 Kharak

The *Kharak* was especially used by the besiegers in order to make holes in the fort's walls. The *Kharak* consisted a beam having a sharp point which helped in creating holes in the walls of the forts. The beam of the *Kharak* was held by ropes or chains hanging from two big vertical posts. The beam was pulled and then released to generate a force on the wall of the fort. Due to repeated collisions, the fort's walls developed an opening, which helped the besiegers to enter into the fort of the enemy<sup>16</sup>.

#### 2.2 Charkh

The *Charkh* was similar to a cross bow, however, it was a massive structure managed by cavalymen. The mechanical advantage of using pulleys made the work easier because of its large structure. The *Charkh* discharged heavy arrows with great power to a longer distances. There were also two other types of *Charkh* namely *Zanburak* and *Nim Charkh*. The *Zanburak* was used to discharge missiles like massive and bulky arrows like *Baylak* and *Nim Neza*. The *Nim Charkh* was also used to shot similar types of missiles towards the enemy<sup>17</sup>.

#### 2.3 Manjaniq

The *Manjaniqs* were the very frequently used siege engines. The *Manjaniq* was a mechanical artillery which threw various types of missiles to a very long distance. According to Fakhr-i-Mudabbir, there were four types of *Manjaniqs* such as *Manjaniq-i-Arus*, *Manjaniq-i-Deva*, *Manjaniq-i-Ghuriwar* and *Manjaniq-i-Ravan*. These *Manjaniqs* shot missiles with a great force which always resulted in making openings in the fort of walls<sup>18</sup>. The functions of *Manjaniqs* were very important however, the heavy *Manjaniqs* needed many workers for their efficient use during the war. The wrestlers were employed to draw *Manjaniqs* and other soldiers began to place heavy stones in the arm called *Palla*. The *Manjaniqs* were taken to the top of the *Pasheb* (ladder) from where missiles could be discharged. Many missiles could be fired simultaneously from the same machine. If it was not possible to build a *Pasheb*, the *Manjaniq* was made capable of flinging stones vertically at the enemies on top of the fort<sup>19</sup>.

## 2.4 Arrada

The *Arrada* was also one of the very frequently used siege engines. The *Arrada* was a lighter *Manjaniq* that could be mounted on wheels and moved easily from one location to another during the attack on the fort. The Sultans of Delhi also employed different kinds of *Arradas* like *Arrada-i-Qardan*, *Arrada -i-Khafta* and *Arrada-i-Rawan*<sup>20</sup>.

## 3. Defensive Armours of the soldiers and war animals

### 3.1 Armours

Additionally, armour had been crucial to the army's security. They were constructed from a variety of materials, including leather, steel, and iron. There were various types of armours used by the army such as *Khud*, *Mighfar*, *Jaushan*, *Khaftan*, *Zirah*, *Dast*, *Chaharaina* and *Begultak*. Warriors' heads were shielded by the *Khud*, a steel helmet. Under the cap, a network of steel called the *Mighfar* was worn to protect the back and neck. The stomach and breasts were covered by the *Jaushan*. The leather jacket worn beneath the *Jaushan* was called the *Khaftan*. The *Zirah* was a coat of mail that was made up of chain intersections and extended to the arms. The *Dast* served as an internal shield. On top of the *Zirah*, the *Chaharaina* was an iron armour. The *Begultak* was most likely a *Kurta* or an iron robe.<sup>21</sup>

The soldiers wore the *Sipar* (shield) to defend themselves from the enemy since they were the first to be attacked. Iron, steel, and rhinoceros hides were among the materials used to make the shields. There were different types of shields employed by the army men including *Sipar Shushak*, *Sipar Khadang*, *Sipar Chak*, *Sipar Neza*, *Sipar Chobin* and *Sipar Karg*<sup>22</sup>.

### 3.2 Animals

Animals like horses and elephants were also employed on the battlefield. As a result, the armours were also used to protect the animals during war. The *Burqustawan* was a peculiar armour used for protection of the horses<sup>23</sup>. Minhaj-us-Siraj (1193-1266) and Ibn Batuta (1304-1368) have referenced the armoured elephants on the battlefield as "Mountains of Iron."<sup>24</sup>

## Conclusion

The aforementioned discussion reveals that the military technology and various weapons used by the Sultans of the Delhi Sultanate indicate that their military was properly prepared with all the required and appropriate weapons of the time. For the defensive part of the conflict, they strongly armoured both themselves as well as their horses and elephants. It may therefore rightly be argued that because of the technological development of various weapons, the Delhi Sultanate flourished, expanded over a very large part of Indian subcontinent and survived for a very long period of time.

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