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Peshawar-Pakistan

Chief Editor
M.H. Khan Khattak
Editor
Abdul Samad

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**Editorial**

Frontier Archaeology as the only research journal of the Directorate of Archaeology, Government of Khyber Pakhtunkhwa stopped appearing after its fourth issue in 2006. In Volume 5 was brought out in 2015, after Dr. Abdul Samad had taken over as Director. In 2015 when Dr. Abdul Samad persuaded me to take over as the Chief Editor of the Journal, it was like an impossible task to bring out the remaining volumes, keeping in view the rather poor state of researches in the field of archaeology in Pakistan. However, I accepted the challenge and worked relentlessly throughout 2016 for overcoming the deficit. Thanks Almighty Allah and with the cooperation of friends, I was able to publish four volumes from six to nine (2008-2011).

We were still lagging behind by six volumes from ten to fifteen (2012-17). In consultation with all concerned, it was decided to bring out five of the six outstanding volumes in one issue. I am personally indebted to all friends who acceding to my call sent their papers for publication in this special issue. I offer my apology to those friends whose papers could not be included in this special issue for variety of reasons.

For convenience, we have divided this special issue in seven distinct sections comprising as under:-

Section-I Archaeological Explorations.
Section-II Archaeological Excavations.
Section-III Buddhism.
Section-IV Gandhara Art.
Section-V Architecture.
Section-VI Conservation.
Section-VII Miscellaneous

Section-I contains survey and documentation of archaeological wealth of Jamrud sub-division of Khyber Agency. This is an importantly development as no such explorations

after 9/11 and growing activities of the different factions of the Taliban in the recent past. We hope that this first major work in the Agency will pave way for greater activities in the entire Federally Administered Tribal Areas (FATA) which are awaiting attention of archaeologists and researchers of other disciplines. This section also includes survey and documentation of the "Manchar Concession Area", an important survey before an Italian oil company could be allowed to work on the potential development of oil exploration in Dadu district of Sindh province. Then we have a small but very important contribution on archaeological survey of Waziristan another restive area of the FATA. The inclusion of this report is to encourage the scholars to pay attention to these areas on one hand and on the other hand to impress upon the government to realize the great archaeological potential of the FATA and start some major projects for saving whatever has left behind from illegal diggers and plunderers.

Section-II contains important results of the archaeological excavations at the major Buddhist sanctuary of Bhamala. The highly important artefacts produced by Bhamala tell much about this important Buddhist monastic complex containing remains of impressive stupas. The researchers would get a better idea of importance of this place through these papers and would also encourage further serious researches at the site and its artefacts. This section also includes a very informative paper on the finds from Lakhan-Jo-Daro, one of the major archaeological sites of the Indus Valley Civilization in Sindh. Though much has been published about this important site and its artefacts, this paper gives very extensive and broader view of the site and its important artefacts through comparative study.

Section-III contains a very interesting paper on Buddhist faith and Kanishka. This paper is important for removing misconception about Kanishka – one of the great emperors of the Kushan dynasty credited with patronizing Buddhist faith and the Buddhist art of Gandhara. This will also encourage other scholars to revisit views of former scholars on the rule of Kanishka and his love for Buddhism and Buddhist art.

Section-IV contains six articles on Buddhist art of Gandhara. These articles deal with different aspects of Gandhara art. Some new aspects have also been discussed in these papers, which may not only be interesting for the scholars and researchers of Gandhara art, but will also encourage scholars and researchers to critically analyse the new theories and hypothesis and give their own views on solid grounds.

Architecture is an important discipline of archaeology which has remained highly instrumental and greatly helpful in solving many mysteries in reconstruction of gaps and voids in chronological sequence of events. Section-V contains two articles one on the architecture of Kalhora period in Sindh with special emphasis on the tomb architecture of Adam Shah Kalhora, while the other article deals with an important Sikh period Gurdwara at Kalu Khan in district Swabi of Khyber Pakhtunkhwa. Hopefully both the articles will be of great interest for the students of archaeology and architecture.

Section-VI contains an article on conservation of the tomb of Ali Mardan Khan in Lahore. The significant aspect of this paper is the history of conservation of the monument, which should be very informative and interesting for the students of architecture and engineering, apart from the conservators engaged in the process particularly on Mughal period monuments. The other article relates to the present state of preservation of the important Buddhist site of Rani Gat in district Buner at the confluence of district Swabi. The article is important for throwing light on the present state and also suggest way forward for possible solutions.

The last section i.e. Section-VII contains five different articles relating to status of women through the history, the socio-economic condition of the people in light of the historic developments and health related issues and digitization of artefacts etc. Hopefully these articles will be of great interest to anthropologists and social scientists, apart from archaeologists and scholars working on different social issues.

M. H. Khan Khattak
Chief Editor

Peshawar, the April 15, 2017.

# Archaeological Survey & Documentation of Ancient Sites/Monuments in Tehsil Jamrud, Khybre Agency, FATA

Capt. (Rtd) Khalid Mehmood
Abdul Samad
Masih ullah
Nauman Anwar

**Abstract:**

*Khyber Agency has witnessed important events throughout the history from time immemorial. This is abode of brave people who maintained and preserved their freedom throughout the ages by resisting all forces. Its famous Khyber Pass is witness to invading armies changing directions in the course of time, sometime invading mainland India from Afghan side, while at other times trying to subdue the Afghan people from Punjab and Peshawar valley. While the Aryans are said to have crossed over to Peshawar valley on their onward journey across the Indus through Khyber Pass, it also saw the invading forces of the Achaemenians, the Greek forces of Alexander the Great, the Mauryans, the Indo-Greeks, the Scythians, the Parthians, the Kushans, the White Huns, the Sassanian, the Hindu Shahis, the Mongols, the Ghaznavid, the Ghorids, the Mughals, Nadir Shah of Iran, Ahmad Shah Abdali of Afghanistan, the Sikh forces under Hari Singh Nalwa and the British forces. All these important events themselves tell much about the highly important and strategic position of Khyber Agency in general and Khyber Pass in particular with main towns located on it including Jamrud sub-division. It is very much clear that the Aryans, Persians, the Greeks, the Scythians, the Parthians, the Kushans, the White Huns, the Hindu Shahis, the Mongols, the Muslims, the Sikhs and the British all must have left their impressions on the Khyber Agency. Buddhism must have taken deep roots here since the time of the Mauryans and must have flourished under the Kushans. Hindu Shahis must have their imprints here, who ruled in Afghanistan and subsequently from the Peshawar Valley. The Muslims forces used this area since 12th century CE till the rise of the Sikhs to power in the first quarter of the 19th century in the area also must have left their lasting imprints in this Agency. The archaeological potential of the Agency has never been mapped up. The political administration with active support of the Directorate of Archaeology and Museums, Government of Khyber Pakhtunkhwa decided to under take archaeological survey and documentation of the archaeological wealth of the Agency. To begin with, Jamrud, an important sub-division of the Agency was selected and during 2015-16, as many as 88 archaeological sites belonging to different period of our history were recorded. During the next phase the remaining parts of the Agency will be probed and its archaeological sites and historic monuments properly recorded.*

**Key Words:**

Khyber Agency, Jamrud, Afghanistan, British period, Buddhism, Hindu Shahi

Khyber Agency is one of seven tribal agencies of the Federally Adinistered Tribal Areas (FATA) of Pakistan, named after the famous Khyber Pass (Hussain, Naheed: 2013). Other six tribal agencies are Bajaur, Mohmand, Orakzai, Kurram, North Waziristan and South Waziritstan. These seven agencies and six adminisstrative regions namely Frontier Region Peshawar, Frontier Region Kohat, Fronteir Region Bannu, Frontier Region Lakki Marwat, Frontier Region Tank,

and Frontier Region D.I. Khan are the product of Article 246 of the constitution of the Islamic Republic of Pakistan. The agency consists of three sub-divisions namely Jamdud, Landi Kotal and Bara. The agency is administratively headed by the Political Agent, while the sub-divisions are headed by Assistant Political Agents. The main towns of the agency include Jamrud, Mulla Gori, Bara, Landi Kotal, Torkhan and Ali Masjid. Located on the Pak-Afghan border, Khyber Agency with rough mountains and lush green valleys is the home of Afridis, Shinwaris, Mullaguris, Orakzais and Shilmanis, the former two being the major stakeholders of the area (Hussain, Naheed: 2013). Afridi, the major tribe of the Agency, is further divided into eight clans; these are Kuki Khel, Malik Din Khels, Kambar Khel, Kamrai or Kamar Khel, Zakha Khels, Sipah, Aka Khels and Adam Khel. The first six are collectively known as the Khyber Afridis. Like other agencies of the tribal areas, Khyber Agency is also governed under Frontier Crimes Regulations (FCR), which were introduced by British Viceroy Lord Curzon in 1901 (Hussain, Naheed: 2013). On March 2, 2017 federal cabinet approved recommendations of the FATA Reforms Committee, which includes the merger of the tribal areas with Khyber-Pakhtunkhwa and repeal of the FCR.

Khyber Agency ranges from the Tirrah valley down to Peshawar, bordering Nangarhar province of Afghanistan to the west, Orakzai Agency to the south, Kurram Agency to south-west and Peshawar to the east. Khyber Agency was established in 1873 and has a total area of 2,575 square kilometres. This Agency is the oldest of all the tribal agencies, created in 1879 with Pierre Louis Napoleon Cavagnari as the first Political Officer. The agency got its first Political Agent in 1901 after the establishment of the North West Frontier Province (now Khyber Pakhtunkhwa) and Major G. Kepper was appointed as the first Political Agent(Hussain, Naheed: 2013). The Khyber Pass lies 34.07570°N 71.20394°E with elevation of 1,070 m is connecting Afghanistan and Pakistan, cutting through the northeastern part of the Spin Ghar. An integral part of the ancient Silk Road, it has long had significant cultural, economic, and geopolitical significance.Throughout history it has been an important trade route between Central Asia and the Indian Subcontinent and a strategic military location. This historic pass has witnessed invaders from Europe, Central Asia, Iran and Afghanistan from time immemorial. Traders and religious zealots adopted this route, while it played very important role in exchange of ideas, knowledge and cultures. While Aryans are said to have passed through this area on their onward journey across the Indus between 2500-1500-BC (Hussain, Naheed: 2013), well known invasions through the Khyber Pass include the invasions by Darius I, forces of Alexander the Great in 327 BC, the Mauryans, Indo-Greeks (2nd century BC), Scythians (1st century BC), Parthians ((Late 1st century BC), Kushans (1st century CE), the Sassanians (3rd century CE), White Huns, Hindu Shahis, Genghis Khan, Amir Taimur, Mahmud Ghaznavi, Muhammad Ghori, Zahiruddin Babur, Humayun, Nadir Shah Afshar of Persia, and Ahmad Shah Abdali, the founder of modern Afghanistan (https://www.britannica.com/place/Khyber-Pass). Amongst the non-combatant historic personalities who travelled through this historic pass included Hsuan-tsang, Al-Biruni, and Ibn Battuta,

Prior to the Kushan era, the Khyber Pass was not a widely used trade route (Tarn, William Woodthorpe 2010). This important Pass was captured by the Sikh forces of Ranjit Singh under Hari Singh Nalwa in 1834 and held it until they were defeated by the forces of Wazir Akbar Khan in 1837. Jamrud Fort, 18 kilometres from Peshawar at the mouth of the Khyber Pass was built by the famous Sikh General Hari Singh Nalwa, who died here in action against the forces of the Amir of Kabul in 1837 CE. The fort; coarsely constructed of stone daubed with mud plaster, was built by the Sikhs on the site of an earlier fort. The modern stone arch spanning the road dates from 1964. The British invaded Afghanistan from India and fought three Afghan Wars in 1839-42, 1878-80, and 1919.The Khyber Agency witnessed fierce fighting during the Second Anglo-Afghan War (1878-80). After the war, the British occupied the whole pass and established a piquet system over this pass to safeguard passage through it. During the tribal uprising in 1897-98, the Afridis rose against the British and seized the Pass. The skirmishes continued for two years and ultimately an agreement was signed between the British and Afridis, and it was decided to keep the Khyber Pass open for trade. Khyber Rifles, a brigade of informal army was formed to keep the Khyber Pass secure. This semi-formal force was called Khasadars, and recruited from the local tribes. George Molesworth, a member of the British force of 1919, summarised: "Every stone in the Khyber has been soaked in blood." Rudyard Kipling called it "a sword cut through the mountains." (Britannica Online Encyclopedia, encyclopedia.com)

Realising the highly important and strategic position of the Khyber Pass after the First World War, the British Government built a heavily engineered railway from Peshawar through Jamrud onward to Landi Kotal near the Afghan border in the 1920s and opened it in 1925. The railway line to the Afghan border posts of Torkhum is undoubtedly a wonder of engineering. The railway through the pass connects Jamrūd with Landi Khāna, near the Afghan frontier; the line, with its 34 tunnels and 94 bridges and culverts, revolutionized transportation in the area. The British built it at the then enormous cost of more than two million pounds. Total length of the track is 42 km. Two or three coaches are pulled and pushed by two oil fired engines. At one point, the track climbs 130 meters in little more than a kilometre by means of the heart stopping Chungai Spur. This is a W-shaped section of track with two cliff-hanging reversing stations, at which the train wheezes desperately before shuddering to a stop and hacking away from the brink. The Pakistan railways named it as 'The Khyber Steam Safari Train'. Its operation was suspended in 2006 after a flood washed away parts of the railway track and bridges and subsequent deteriorating security environment forced closure of the operation of the train in 2007. In fact security conditions had started deteriorating after the 9/11 incidents and the number of visitors from abroad drastically reduced. Besides this, the railway track from Jamrud to Landi Kotal, the most integral route in the whole journey, was washed away in floods in 2010.

Khyber Agency and its inhabitants drew worldwide attention mainly because of the geo-strategic position of Khyber Pass. In order to keep the pass open, an agreement was signed on 17th February, 1881 between Afridis and the British officials after long negotiations which is commonly known as 'Khyber Treaty' and the control of the passage was assigned to the Afridis. The Afridis of Khyber came under the British control according to Durand Line Agreement (1893) between Amir Abdul Rahman and British Indian government. The third Anglo-Afghan war broke out in 1919 when Amanullah, son of Amir Habibullah Khan tried to break the British control over Afghanistan. Once again the British admitted tough resistance from Khyber Afridis.

The British Indian Government had introduced the Maliki system, which meant that the administration was to be run through Maliks, Masharan (elders), Lungi holders and Khasadars. The basic aim behind introduction of the Maliki system was to encourage pro-government tribal elders having a strong hold and influence over these tribes and sub tribes. The Khasadaar force was raised in 1920 from amongst the local youths of different tribes of the Agency. This force was responsible for protecting the Government institutions, the arrest of tribal miscreants, carrying out the executive and judicial directions of the political agent and other officers, assisting in seizing the smuggled goods, patrolling the major routes, to prevent undesirable and contraband material from entering into and leaving the Agency. The Tribal Administration and judicial system is based on the concept of territorial, tribal (collective) and protective responsibility. Adjudication takes place through the Jirga system which the tribesmen comprehend and accept. All the cases are decided according to Sharia (Islamic Law) and Riwaj (the Customary Law). Riwaj is the code of tribal customs and tradition and almost all the cases are decided under the same even in the FCR, the council of elders (Jirga) base their verdict on Riwaj.

The British also adopted the policy of keeping the Pakhtun ignorant and backward in the field of education. Following this policy from 1849 up to 1947 only 6 Primary schools were opened in this area. After independence from the British India, several education developmental programs were started, with the aim of opening new schools, colleges and upgrading of low level educational institutions and granting scholarships to the tribal students. The Pakhtuns in particular on both sides of the Durand Line heavily suffered after 9/11 and Khyber agency was caught up with religious disputes and the first victim of these disputes were educational institutions. According to the FATA Secretariat Education Directorate Peshawar, 89 boys and girls school were fully destroyed or partially damaged by the counter attacks of militants, military and bomb blasts since 2004 (Hussain, Naheed: 2013).

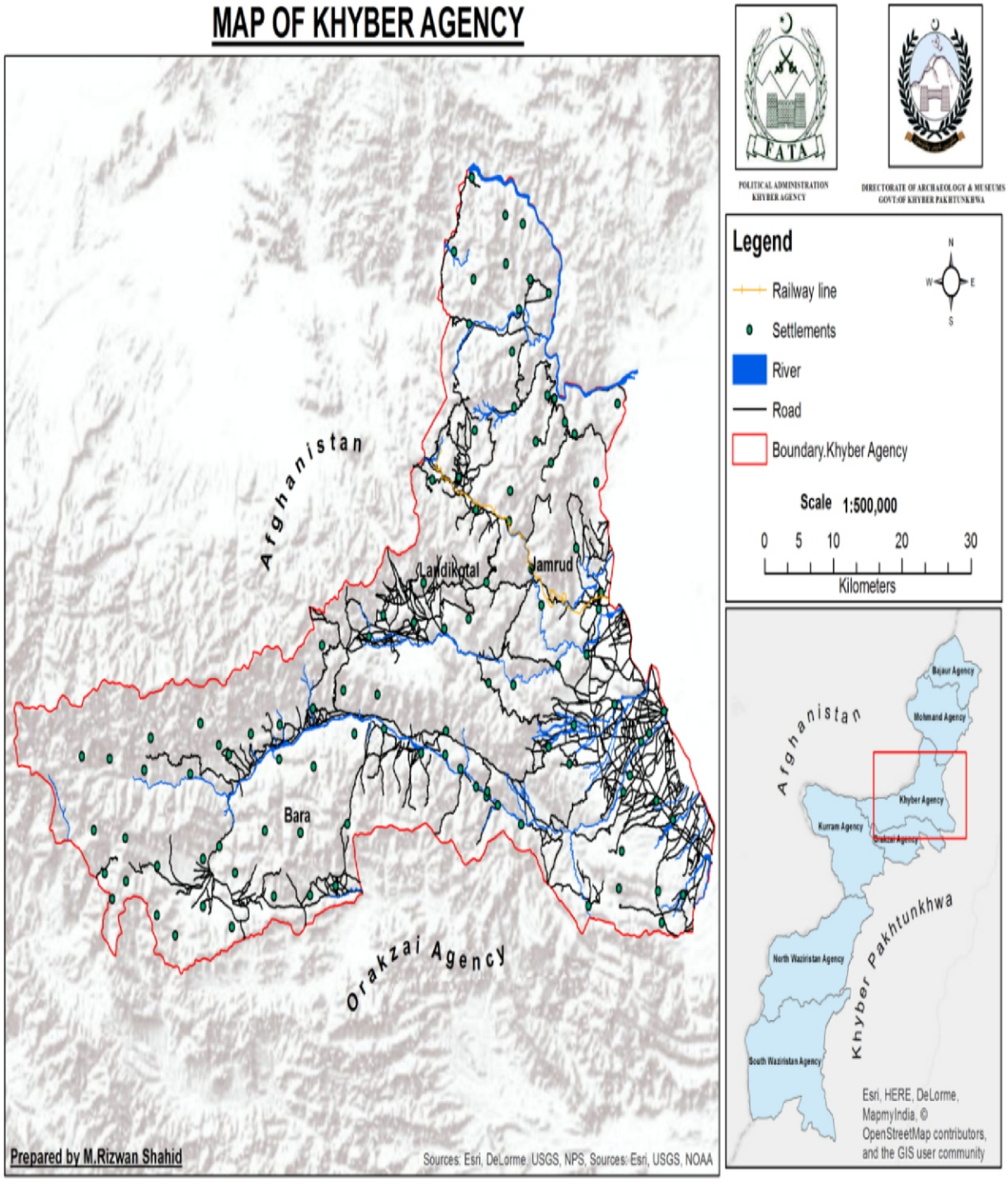
After creation of Pakistan Quaid-i-Azam Muhammad Ali Jinnah visited Khyber on 14th April, 1948 for the first time. He ordered withdrawal of all forces from the tribal areas according to a previous promise he made to show respect for tribal spirit of freedom. August 13, 2011 was an

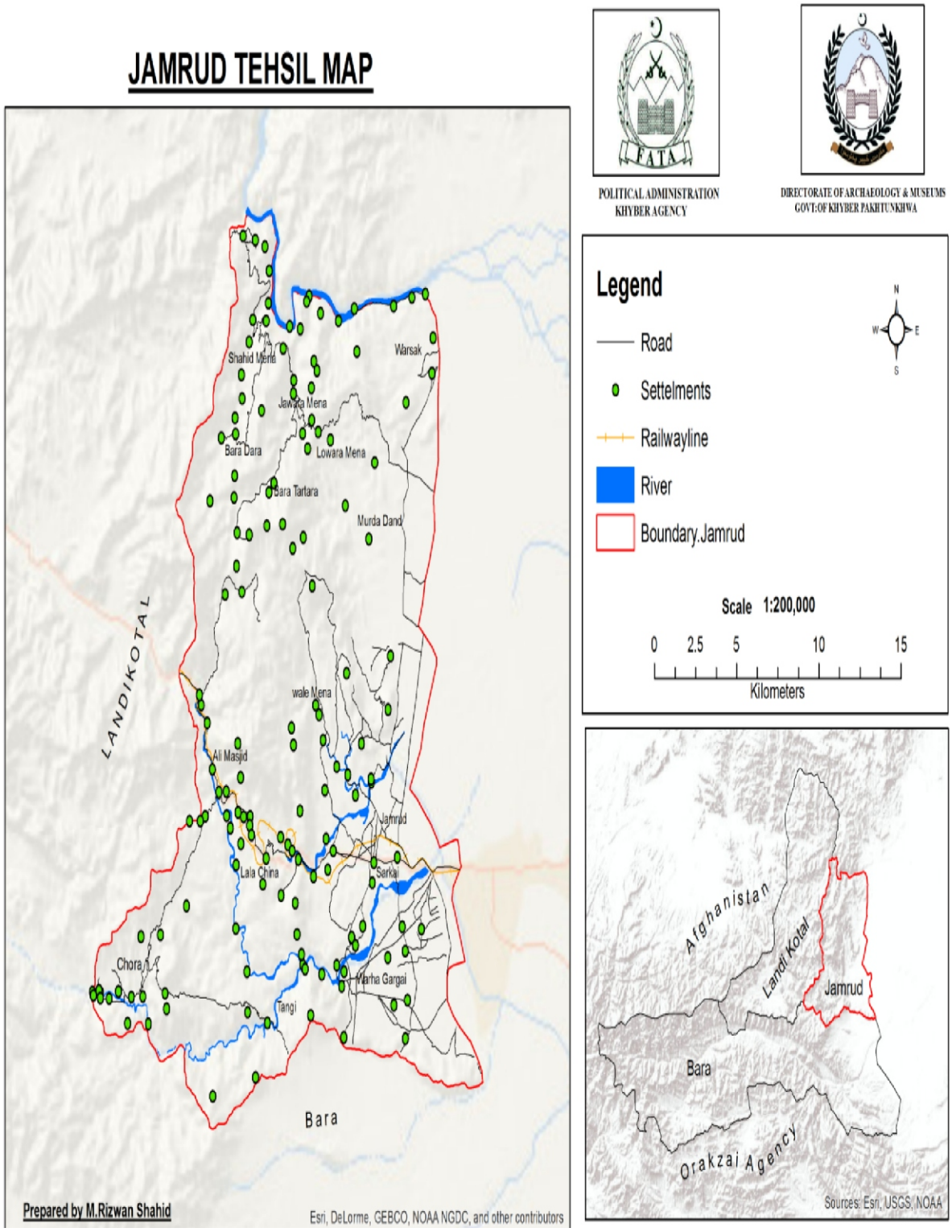
important day in the lives of the people of the tribal areas, when the then President of Pakistan, Asif Ali Zardari signed a 'FATA Reform Package' extending the Political Parties Order 2002 to FATA, lifting restrictions on political party activity; curtailing the bureaucracy's arbitrary powers over arrest and detention; establishing prisoners' right to bail; excluding women and minors from the territorial responsibility clause; establishing an appelluate tribunal court; and envisaging audits of funds received and disbursed in FATA by the auditor general.

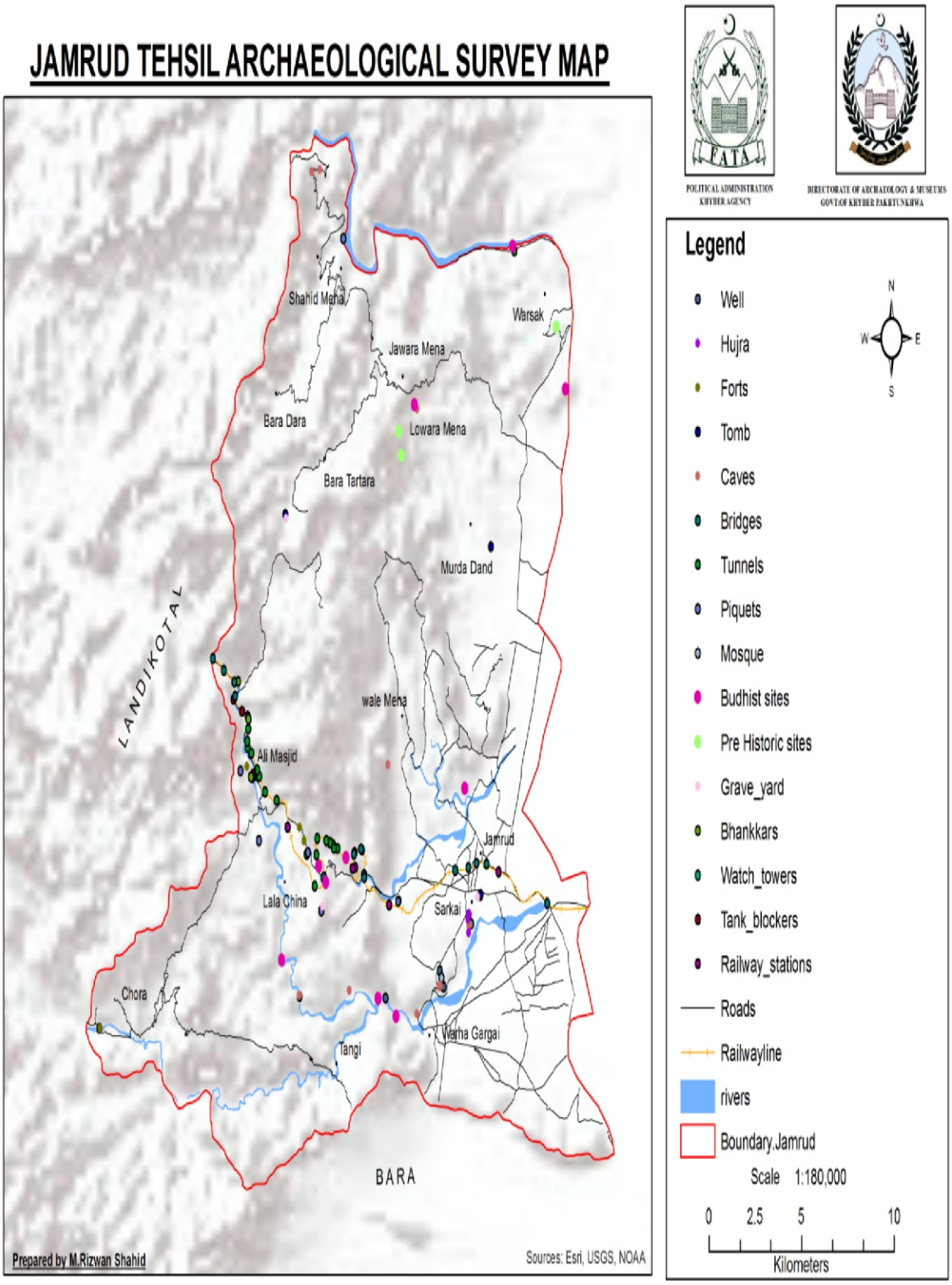
Lying at a distance of about 17 kiloetres from Peshawar on the west, Jamrud is the major town of Khyber Agency, sub-divisional and Tehsil headquarters located 34° 00′ N and 71° 23′ E at an altitude of 461metres above sea level. The total area of Jamrud is 40301 hactares. It is considered to be the doorway to Khyber Pass in the Hindu Kush range. The town is connected by road with Peshawar while a pass connects it with Landi Kotal near the borders of Afghanistan. It was also linked by rail with Peshawar city, but the track was heavily damaged in torrential rains and resultant floods is now dysfunctional due to law and order for the last many years. Militancy and law and order situation did not allow its revival since then. It enjoyed very important position due to its location on the ancient trade route between Central Asia and South Asia. It is also important for its strategic military location. Jamrud has always remained important throughout the history for its strategic position on the highway to and from Central Asia via Afghanistan to the mainland India not only for the potential invaders, but also for trade being an artery of the ancient Silk Road. It was the battle place between the Durranis of Afghanistan and the Sikhs. It also served as a base for a cantonment of the British Indian Amy during the period of the British Raj. During the military operations of 1878-79 Jamrud became a place of considerable importance as the frontier outpost on British territory towards Afghanistan, and it was also the base of operations for a portion of the Tirah campaign in 1897-1898. It was also the headquarters of the Khyber Rifles, and the collecting station for the Khyber tolls. The place continues to be of strategic significance.

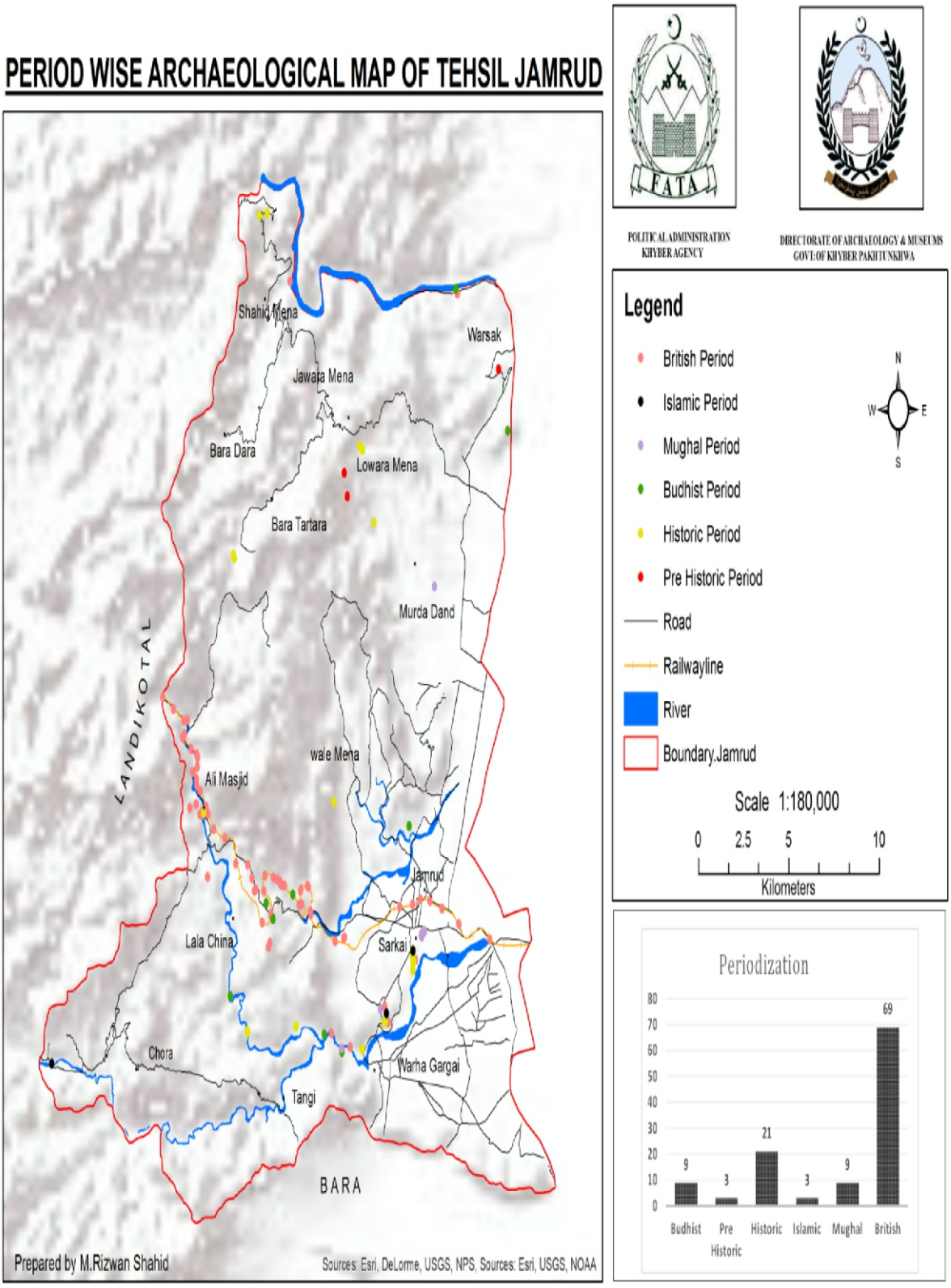
Buddhism flourished in and around the Khyber when it was part of Aśoka's kingdom (3rd century BC); Buddhist remains include Kafir Kot (Citadel of the Kafirs), Shupla *stūpa* (also called the Khyber Top), and the *stūpa* near Ali Masjid (https://www.britannica.com/place/Khyber-Pass). Amongst the other important and worthseeing places of the Agency include Khyber Pass, Bab-i-Khyber, Jamurd Fort, Bazaar Valley, Bara Valley, Rajgal Valley, Maidan Valley and Tirah Valley. According to local people, the name of Jumrad is given after king Jamshad of Persia, who used to reside near the Talab Ghara. Keeping in view the historical and archaeological importance of Khyber Agency, it was decided by the political administration of Khyber Agency in close collaboration with the Dirctorate of Archaeology and Museums, Government of Khyber Pakhtunkhwa to map up the cultural wealth of the Agency. To start with, Jumrad tehsil was selected for archaeological survey during 2015-16. In all 132 villages included in this tehsil were subjected to survey and sites of different

phases of our history were recorded which included sites of the pre-Islamic period, Islamic period, Sikh period, and British Period.




JAMRUD TEHSIL MAP
POLITICAL ADMINISTRATION
KHYBER AGENCY
DIRECTORATE OF ARCHAEOLOGY & MUSEUMS
GOVT: OF KHYBER PAKHTUNKHWA
Legend
Road
Settelments
Railwayline
River
Boundary.Jamrud
Scale 1:200,000
0 2.5 5 10 15
Kilometers
N
W
E
S
Shahid Mena
Warsak
Jawara Mena
Bara Dara
Lowara Mena
Bara Tartara
Murda Dand
LANDIKOTAL
wale Mena
Ali Masjid
Jamrud
Lala China
Serka
Chora
Warha Gargai
Tangi
Bara
Prepared by M.Rizwan Shahid
Esri, DeLorme, GEBCO, NOAA NGDC, and other contributors
Afghanistan
Landi Kotal
Jamrud
Bara
Orakzai Agency
Sources: Esri, USGS, NOAA


JAMRUD TEHSIL ARCHAEOLOGICAL SURVEY MAP
POLITICAL ADMINISTRATION KHYBER AGENCY
DIRECTORATE OF ARCHAEOLOGY & MUSEUMS GOVT.OF KHYBER PAKHTUNKHWA
Shahid Mena
Warsak
Jawara Mena
Bara Dara
Lowara Mena
Bara Tartara
Murda Dand
LANDIKOTAL
wale Mena
Ali Masjid
Jamrud
Lala China
Sarkai
Chora
Warna Gargai
Tangi
BARA
Prepared by M.Rizwan Shahid
Sources: Esri, USGS, NOAA
Legend
Well
Hujra
Forts
Tomb
Caves
Bridges
Tunnels
Piquets
Mosque
Budhist sites
Pre Historic sites
Grave_yard
Bhankkars
Watch_towers
Tank_blockers
Railway_stations
Roads
Railwayline
rivers
Boundary.Jamrud
N
W
E
S
Scale 1:180,000
0 2.5 5 10
Kilometers


PERIOD WISE ARCHAEOLOGICAL MAP OF TEHSIL JAMRUD
POLITICAL ADMINISTRATION KHYBER AGENCY
DIRECTORATE OF ARCHAEOLOGY & MUSEUMS GOVT: OF KHYBER PAKHTUNKHWA
Shahid Mena
Warsak
Jawara Mena
Bara Dara
Lowara Mena
Bara Tartara
Murda Dand
LANDIKOTAL
wale Mena
Ali Masjid
Jamrud
Lala China
Sarkai
Chora
Warha Gargai
Tangi
BARA
Prepared by M.Rizwan Shahid
Sources: Esri, DeLorme, USGS, NPS, Sources: Esri, USGS, NOAA
Legend
British Period
Islamic Period
Mughal Period
Budhist Period
Historic Period
Pre Historic Period
Road
Railwayline
River
Boundary.Jamrud
N
W
E
S
Scale 1:180,000
0 2.5 5 10
Kilometers
Periodization
80
70
60
50
40
30
20
10
0
9
3
21
3
9
69
Budhist
Pre Historic
Historic
Islamic
Mughal
British

## 1. DETAIL OF ARCHAEOLOGICAL SITES IN TEHSIL JAMRUD

| S.# | SITE NAME | ALTITUDE | VILLAGE NAME | SUB CAST | PERIOD | LONGITUDE | LATITUDE | AGENCY |
|---|---|---|---|---|---|---|---|---|
| 1 | Taggoon Kali Site | 570M | Taggoon | Kattya Khel | Laterkushan | 71.328332 | 33.970339 | Khyber Agency |
| 2 | Jabba Kali Site | 567M | Jabba | Koli Khel | Kushan | 71.319472 | 33.974829 | Khyber Agency |
| 3 | Kafar Tangi Site | 694M | Kafar Tangi | Abdaal Khel | Laterkushan | 71.303835 | 34.010580 | Khyber Agency |
| 4 | Shagai Site-I | 786M | Shagai Lala Chena | Farid Khel | Kushan | 71.294034 | 34.004269 | Khyber Agency |
| 5 | Shagai Site-2 | 827M | Shagai Lala Chena | Farid Khel | Kushan | 71.290656 | 34.008390 | Khyber Agency |
| 6 | Jabba Site | 686M | Showdani | Sikandar Khel | Kushan | 71.272728 | 33.984547 | Khyber Agency |
| 7 | Gudar Site | 491M | Gudar Kali | Sikandar Khel | Buddhist | 71.361668 | 34.028176 | Khyber Agency |
| 8 | Sher Bridge | 384M | Sher Bridge | Part Khel | Neolithik | 71.406063 | 34.145292 | Khyber Agency |
| 9 | Zagga Ghar Site | 473M | Sher Bridge | | Early Kushan | 71.410547 | 34.129511 | Khyber Agency |
| 10 | Warsak Site | 351M | Warsak Area | | Kushan | 71.384793 | 34.165845 | Khyber Agency |
| 11 | Chottra Patai Ghar | 759 | Lowara Maina | Part Khel | Neolithik | 71.329513 | 34.118712 | Khyber Agency |
| 12 | Chottra Rock carvings | 674 | Lowara Maina | Part Khel | Neolithik | 71.330942 | 34.112641 | Khyber Agency |
| 13 | Zamkho Barrow | 589 | Lowara Maina | Ahmad Khel | Historic | 71.337228 | 34.125576 | Khyber Agency |

## 2. DETAIL OF PIQUET'S IN TEHSIL JAMRUD, KHYBER AGENCY

| S.NO | NAME | PLACE NAME | ALTITUDE (METER) | VILLAGE NAME | PERIOD | LONGITUDE | LATITUDE |
|---|---|---|---|---|---|---|---|
| **1** | Soor Qamar Roppa Piquet 1 | Ismail Khel | 568 | Ismail Khel | British | 71.329579 | 33.999672 |
| **2** | Soor Qamar Roppa Piquet 2 | Ismail Khel | 567 | Ismail Khel | British | 71.329274 | 33.999449 |
| **3** | Sheesha Piquet | Shagai | 794 | Shagai Lala Chena | British | 71.294087 | 34.004584 |
| **4** | Barley Hills Packet | Shagai Barley Hills | 871 | Shagai Lala Chena | British | 71.291833 | 33.997171 |
| **5** | Roppa Shagai Piquet 1 | Shagai | 829 | Shagai Lala Chena | British | 71.284865 | 34.011612 |
| **6** | Roppa Shai Piquett 2 | Shagai | 813 | Shagai Lala Chena | British | 71.285549 | 34.011981 |
| **7** | Khrasha Piquett | Lala Kandao | 880 | Lala Kandao | British | 71.261544 | 34.015050 |
| **8** | Jin Piquet | Shagai Ali Masjid | 930 | Katta Khusta Ghar Oba | British | 71.252645 | 34.032735 |
| **9** | Shaheeda Maina Piquet | Dabbar | 400 | Shaheed Maina | British | 71.302508 | 34.167838 |

# 3. DETAILS OF FORTS IN TEHSIL ,JAMRUD, KHYBER AGENCY

| S.NO | SITE NAME | PLACE NAME | ALTITUDE (METER) | VILLAGE NAME | CAST | SUB CAST | PERIOD | LONGITUDE | LATITUDE | TEHSIL | AGENCY |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Shagai Family Fort | Shagai | 836 | Shagai Lala Chena | Koki Khel | Farid Khel | British | 71.283561 | 34.014891 | Jamrud | Khyber Agency |
| 2 | Shagai Fort | Shagai | 839 | Shagai Lala Chena | Koki Khel | Farid Khel | British | 71.281377 | 34.018302 | Jamrud | Khyber Agency |
| 3 | Ali Masjid Fort | Shagai Ali Masjid | 910 | Katta Kushta Ghar Obba | Malik Din Khel | Jhanda Khel | British | 71.255820 | 34.033770 | Jamrud | Khyber Agency |
| 4 | Sapena Qila (Fort) | Chora | 942 | Chora | Malik Din Khel | Jhanda Khel | British | 71.184247 | 33.967338 | Jamrud | Khyber Agency |

# 4. DETAILS OF MOSQUES IN TEHSIL JAMRUD, KHYBER AGENCY

| S.NO | SITE NAME | PLACE NAME | ALTITUDE (METER) | VILLAGE NAME | CAST | SUB CAST | PERIOD | LONGITUDE | LATITUDE | TEHSIL | AGENCY |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Mosque | Hassan jan kali | 487 | Hassan jan kali | Koki khel | Sher khan khel | Islamic | 71.363629 | 33.996284 | Jamrud | Khyber Agency |
| 2 | Mosque | Saapira kali | 597 | Saapira | Koki khel | Manya khel | Islamic | 71.350397 | 33.980156 | Jamrud | Khyber Agency |
| 3 | Mosque | Shabnam wali baba | 481 | Shabnam wali baba kali | Koki khel | Sher khan khel | Late Mughal | 71.369262 | 34.001047 | Jamrud | Khyber Agency |
| 4 | Mosque | Ali Masjid | 807 | Katta kushta Ali Masjid | Malik din khel | Jhanda khel | Early 15th century | 71.259564 | 34.031575 | Jamrud | Khyber Agency |
| 5 | Mosque | Chora Spena qila | 938 | Chora | Malik din khel | Jhanda khel | Islamic | 71.184039 | 33.967258 | Jamrud | Khyber Agency |

# 5. DETAILS OF BUNKARRS

| S.NO | SITE NAME | PLACE_NAME | ALTITUDE (METER) | VILLAGE NAME | CAST | SUB CAST | PERIOD | LONGITUDE | LATITUDE | TEHSIL | AGENCY |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Bhunkkar | Ali Masjid Katta Kushta | 794 | Katta Kushta Ali Masjid Kali | Malik Din Khel | Jhanda Khel | British | 71.258472 | 34.030951 | Jamrud | Khyber Agency |
| 2 | Bhunkkar | Ali Masjid Katta Kushta | 755 | Katta Kushta Ali Masjid Kali | Malik Din Khel | Jhanda Khel | British | 71.257683 | 34.031120 | Jamrud | Khyber Agency |
| 3 | Bhunkkar | Katta Kushta | 855 | Katta Kushta Ghar Obba Kali | Malik Din Khel | Jhanda Khel | British | 71.256452 | 34.045862 | Jamrud | Khyber Agency |
| 4 | Bhunkkar | Katta Kushta | 887 | Katta Kushta Kali | Malik Din Khel | Jhanda Khel | British | 71.251509 | 34.055285 | Jamrud | Khyber Agency |

# 6. DETAIL ABOUT CAVES IN JAMRUD TEHSIL OF KHYBER AGENCY

| S.NO | SITE NAME | PLACE NAME | ALTITUDE (METER) | VILLAGE NAME | CAST | SUB CAST | PERIOD | LONGITUDE | LATITUDE |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Cave | Burjj Kali | 489 | Burjj Kali | Koki Khel | Mani Khel | Historic | 71.363760 | 33.993341 |
| 2 | Cave | Burjj Kali | 486 | Burjj Kali | Koki Khel | Mani Khel | Historic | 71.363707 | 33.993593 |
| 3 | Cave | Burjj Kali | 488 | Burjj Kali | Koki Khel | Mani Khel | Historic | 71.364018 | 33.993552 |
| 4 | Cave | Jabba Kali | 585 | Jabba | Koki Khel | Koli Khel | Pre-Historic | 71.305582 | 33.976938 |
| 5 | Cave | Saapira Kali | 532 | Saapira | Koki Khel | Manya Khel | Historic | 71.349317 | 33.977911 |
| 6 | Cave | Saapira Kali | 534 | Saapira | Koki Khel | Manya Khel | Historic | 71.349856 | 33.978082 |
| 7 | Cave | Gaggra | 562 | Gaggra | Koki Khel | Kattya Khel | Historic | 71.338427 | 33.970961 |
| 8 | Cave | Jabba | 633 | Dre Zandi | Koki Khel | Kattya Khel | Historic | 71.281289 | 33.975652 |
| 9 | Cave | Zamkko Barrow | 581 | Lowara Maina | Mullagori | Ahmad Khel | Historic | 71.338588 | 34.124502 |
| 10 | Cave | Bandai (Dabbar) | 624 | Shaheeda Maina | Mullagori | Dolat Khel | Historic | 71.287262 | 34.184742 |
| 11 | Cave | Bandai (Dabbar) | 629 | Shaheed Maina | Mullagori | Dolat Khel | Historic | 71.291159 | 34.185308 |
| 12 | Cave | Bara Dara | 712 | Bara Dara | Mullagori | Tar Khel | Historic | 71.324345 | 34.034228 |

# 7. DETAILS OF ANCIENT WELLS

| S.NO | SITE NAME | PLACE NAME | ALTITUDE (METER) | VILLAGE NAME | CAST | SUB CAST | PERIOD | LONGITUDE | LATITUDE | TEHSIL | AGENCY |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Ancient Well | Chora Khwar | 571 | Taggoon Kali | Koki Khel | Kattya Khel | British | 71.323075 | 33.975064 | Jamrud | Khyber Agency |
| 2 | Ancient Well | Saapira | 559 | Saapira Kali | Koki Khel | Manya Khel | British | 71.349561 | 33.981979 | Jamrud | Khyber Agency |
| 3 | Ancient Well | Saapira | 525 | Saapira Kali | Koki Khel | Manya Khel | British | 71.351438 | 33.977826 | Jamrud | Khyber Agency |

# 8. DETAILS OF TOMBS IN JAMRUD TEHSIL

| S.NO | SITE NAME | PLACE_NAME | ALTITUDE (METER) | VILLAGE NAME | CAST | SUB CAST | PERIOD | LONGITUDE | LATITUDE |
|---|---|---|---|---|---|---|---|---|---|
| **1** | Mazaar | Shabnam Wali Baba | 476 | Shabnam Wali Baba Kali | Koki Khel | Sher Khan Khel | Late Mughal | 71.369295 | 34.001295 |
| **2** | Mazaar | Jabba | 623 | Dre Zandi | Koki Khel | Kattya Khel | Historic | 71.281378 | 33.975389 |
| **3** | Mazaar | Jhando Baba | 378 | Jhando Baba | Mullagori | Part Khel | Mughal | 71.374329 | 34.089550 |
| **4** | Mazaar | Kambila | 1001 | Tatara Lower | Mullagori | Tar Khel | Historic | 71.274420 | 34.097732 |

# 9. DETAILS OF RAILWAY STATIONS

| S.NO | SITE NAME | PLACE NAME | ALTITUDE (METER) | VILLAGE NAME | CAST | SUB CAST | PERIOD | LONGITUDE | LATITUDE |
|---|---|---|---|---|---|---|---|---|---|
| **1** | Jamrud Railway Station | Jamrud | 461 | Jamrud | Koki Khel | Lala Khel | British | 71.377987 | 34.007007 |
| **2** | Medanak Railway Station | Kafar Tangi | 638 | Kafar Tang | Koki Khel | Abdaal Khel | British | 71.308317 | 34.008154 |
| **3** | Changi Railway Station | Kafar Tangi | 710 | Kafar Tangi | Koki Khel | Abdaal Khel | British | 71.307016 | 34.007939 |
| **4** | Shagai Railway Station | Shagai | 823 | Shagai Lala Chena | Koki Khel | Farid Khel | British | 71.275561 | 34.018483 |
| **5** | Katta Kushta Railway Station | Katta Kushta | 864 | Katta Kushta Ghar Obba | Malik Din Khel | Jhanda Khel | British | 71.256145 | 34.046557 |
| **6** | Bagiari Railway Station | Soor Qamar | 563 | Soor Qamar | Koki Khel | Tor Khel | British | 71.324917 | 33.998644 |

# 10. DETAILS OF RAILWAY BRIDGES IN TEHSIL JAMRUD, KHYBER AGENCY

| S.No | Site Name | Plac Name | Altitude (Meter) | Village Name | Cast | Sub Cast | Period | Longitude | Latitude |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Railway Bridge | Takhtabag | 436 | Takhtabag | Koki Khel | Tor Khel | British | 71.401742 | 33.999130 |
| 2 | Railway Bridge | Gudar Road | 455 | Gudar Road Bagh Kali | Koki Khel | Sher Khan Khel | British | 71.372054 | 34.008975 |
| 3 | Railway Bridge | T.D Bazar | 461 | New Abadi T.D Bazar | Koki Khel | Sher Khan Khel | British | 71.367260 | 34.009311 |
| 4 | Railway Bridge | T.D Bazar | 466 | New Abadi T.D Bazar | Koki Khel | Sher Khan Khel | British | 71.363508 | 34.008107 |
| 5 | Railway Bridge | T.D Bazar | 476 | New Abadi Sath(7) Sorang T.D Bazar | Koki Khel | Sher Khan Khel | British | 71.356986 | 34.007511 |
| 6 | Railway Bridge | Kafar Tangi | 599 | Kafar Tangi(Islam Dara) | Koki Khel | Abdaal Khel | British | 71.312701 | 34.006400 |
| 7 | Railway Bridge | Kafar Tangi | 602 | Kafar Tangi(Islam Dara) | Koki Khel | Abdaal Khel | British | 71.312840 | 34.005503 |
| 8 | Railway Bridge | Kafar Tangi | 615 | Kafar Tangi(Islam Dara) | Koki Khel | Abdaal Khel | British | 71.311135 | 34.012745 |
| 9 | Railway Bridge | Kafar Tangi | 626 | Kafar Tangi(Islam Dara) | Koki Khel | Abdaal Khel) | British | 71.307778 | 34.011536 |
| 10 | Railway Bridge | Shagai | 759 | Shagai Lala Chena Kali | Koki Khel | Farid Khel | British | 71.293012 | 34.005631 |
| 11 | Railway Bridge | Katta Kushta | 855 | Katta Kushta Kali | Malik Din Khel | Jhanda Khel | British | 71.250040 | 34.051637 |
| 12 | Railway Bridge | Katta Kushta | 869 | Katta Kushta Kali | Malik Din Khel | Jhanda Khel | British | 71.249680 | 34.055145 |
| 13 | Railway Bridge | Prangsang | 878 | Prangsan | Malik Din Khel | Jhanda Khel | British | 71.244574 | 34.058125 |
| 14 | Railway Bridge | Prangsang | 892 | Prangsang | Malik Din Khel | Jhanda Khel | British | 71.239238 | 34.061187 |

# 11. DETAILS OF RAILWAY TUNNELS

| S.No | Site Name | Place Name | Altitude (Meter) | Village Name | Cast | Sub Cast | Period | Longitude | Latitude | Tehsil | Agency |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Medanak Tunnel I | Kafar Tangi | 619 | Kafar Tangi | Koki Khel | Abdaal Khel | British | 71.311743 | 34.012547 | Jamrud | Khyber Agency |
| 2 | Medanak Tunnel Ii | Kafar Tangi | 633 | Kafar Tangi | Koki Khel | Andaal Khel | British | 71.308029 | 34.011951 | Jamrud | Khyber Agency |
| 3 | Changi Tunnel I | Kafar Tangi | 708 | Kafar Tangi | Koki Khel | Abdaal Khel | British | 71.299594 | 34.012910 | Jamrud | Khyber Agency |
| 4 | Changi Tunnel Ii | Peeryanu Kali | 715 | Kafar Tangi | Koki Khel | Abdaal Khel | British | 71.297430 | 34.013893 | Jamrud | Khyber Agency |
| 5 | Changi Tunnel Iii | Kafar Tangi | 714 | Peeryanu Kali | Koki Khel | Sikandar Khel | British | 71.296154 | 34.014426 | Jamrud | Khyber Agency |
| 6 | Changi Tunnel Iv | Peeryanu Kali | 720 | Peeryanu Kali | Koki Khel | Sikandar Khel | British | 71.294252 | 34.015038 | Jamrud | Khyber Agency |
| 7 | Waterfall Tunnel | Peeryanu Kali | 731 | Peeryanu Kali | Koki Khel | Sikandar Khel | British | 71.289988 | 34.015529 | Jamrud | Khyber Agency |
| 8 | Kafartangi Tunnel | Kafar Tangi | 683 | Kafar Tangi | Koki Khel | Abdaal Khel | British | 71.297988 | 34.013004 | Jamrud | Khyber Agency |
| 9 | Mackeson Tunnel | Peeryanu Kali | 736 | Peeryanu Kali | Koki Khel | Sikandar Khel | British | 71.289494 | 34.011431 | Jamrud | Khyber Agency |
| 10 | Barley Ridge Tunnel | Shagai | 779 | Shagai Lala Chena | Koki Khel | Farid Khel | British | 71.288675 | 34.003443 | Jamrud | Khyber Agency |
| 11 | Barrack Ridge Tunnel | Shagai Ali Masjid | 836 | Maskot Kali | Koki Khel | Abdaal Khel | British | 71.264582 | 34.027337 | Jamrud | Khyber Agency |
| 12 | Red Hill Tunnel | Shagai Ali Masjid | 833 | Maskot Kali | Koki Khel | Abdaal Khel | British | 71.270239 | 34.025098 | Jamrud | Khyber Agency |
| 13 | Ali Masjid Tunnel I | Shagai Ali Masjid | 848 | Maskot Kali | Koki Khel | Abdaal Khel | British | 71.261682 | 34.031331 | Jamrud | Khyber Agency |
| 14 | Ali Masjid Tunnel Ii | Shagai Ali Masjid | 854 | Maskot Kali | Koki Khel | Abdaal Khel | British | 71.260734 | 34.033008 | Jamrud | Khyber Agency |
| 15 | Ali Masjid Tunnel Iii | Shagai Ali | 867 | Katta Kushta Ghar | Malik Din Khel | Jhanda Khel | British | 71.257926 | 34.037124 | Jamrud | Khyber Agency |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Masjid | | Obba | | | | | | | |
| **16** | Ali Masjid Tunnel Iv | Shagai Ali Masjid | 895 | Katta Kushta Ghar Obba | Malik Din Khel | Jhanda Khel | British | 71.256104 | 34.038543 | Jamrud | Khyber Agency |
| **17** | Ali Masjid Tunnel V | Shagai Ali Masjid | 859 | Katta Kushta Ghar Obba K | Malik Din Khel | Jhanda Khel | British | 71.255930 | 34.040191 | Jamrud | Khyber Agency |
| **18** | Ali Masjid Tunnel Vi | Shagai Ali Masjid | 871 | Katta Kushta Ghar Obba | Malik Din Khel | Jhanda Khel | British | 71.256305 | 34.043212 | Jamrud | Khyber Agency |
| **19** | Railway Tunnel | Warsak Area | 350 | Warsak Area | Mullagori | | British | 71.385649 | 34.164715 | Jamrud | Khyber Agency |

## 12. DETAILS OF HUJRA'S

| S.No | Site Name | Place Name | Altitude | Village Name | Cast | Sub Cast | Period | Longitude | Latitude | Tehsil | Agency |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1** | Hujra | Haji Goli Shah Kali | 487 | Haji Goli Shah Kali | Koki Khel | Sher Khan Khel | Historic | 71.363264 | 33.995002 | Jamrud | Khyber Agency |
| **2** | Hujra | Hassan Jan Kali | 479 | Hassan Jan Kali | Koki Khel | Sher Khan Khel | Historic | 71.363736 | 33.996409 | Jamrud | Khyber Agency |
| **3** | Hujra | Passa Kali | 501 | Passa Kali | Koki Khel | Mani Khel | Historic | 71.363562 | 33.991637 | Jamrud | Khyber Agency |

# 13. DETAILS OF WATCH TOWERS

| s.no | site name | place name | altitude | village name | cast | sub cast | period | longitude | latitude | tehsil | agency |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Burjj / Tower | Burjj Kali | 492 | Burjj Kali | Koki Khel | Mani Khel | British | 71.364913 | 33.993929 | Jamrud | Khyber Agency |
| 2 | Watch Tower | Shagai | 763 | Shagai Lala Chena | Koki Khel | Farid Khel | British | 71.292930 | 34.005367 | Jamrud | Khyber Agency |

# 14. DETAILS OF GRAVE YARDS

| S.No | Site Name | Place Name | Altitude (Meter) | Village Name | Cast | Sub Cast | Period | Longitude | Latitude | Tehsil | Agency |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Grave / Jamshe Bacha Qabar | Talaab Ghara | 480 | Talaab Ghara Wali Baba T.D Bazar | Koki Khel | | Mughal | 71.367864 | 34.000566 | Jamrud | Khyber Agency |
| 2 | Grave Yard | Taggoon Kali | 568 | Tagoon | Koki Khel | Kattya Khel | Mughal | 71.328181 | 33.971341 | Jamrud | Khyber Agency |
| 3 | Grave Yard | Shagai Barley Hills | 835 | Shagai Lala Chena | Koki Khel | Farid Khel | British | 71.292518 | 33.998316 | Jamrud | Khyber Agency |
| 4 | Grave Yard | Kambila | 1012 | Tatara Lower | Mullagori | Tar Khel | Historic | 71.274836 | 34.096687 | Jamrud | Khyber Agency |

# 15. DETAILS OF TANK BLOCKERS

| S.No | Site Name | Place Name | Altitude (Meter) | Village Name | Cast | Sub Cast | Period | Longitude | Latitude | Tehsil | Agency |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Tank Blockers | Ali Masjid Katta Kushta | 787 | Katta Kushta Ali Masjid Kali | Malik Din Khel | Jhanda Khel | British | 71.258789 | 34.031827 | Jamrud | Khyber Agency |
| 2 | Tank Blockers | Katta Kushta | 842 | Katta Kushta Ghar Obba Kali | Malik Din Khel | Jhanda Khel | British | 71.253384 | 34.047792 | Jamrud | Khyber Agency |
| 3 | Tank Blockers | Katta Kushta | 852 | Katta Kushta Kali | Malik Din Khel | Jhanda Khel | British | 71.249306 | 34.050775 | Jamrud | Khyber Agency |

| S.# | NAME OF SITE | BRIEF DESCRIPTION |
|---|---|---|
| 1 | **BURJ**<br><br>(WATCH TOWER) | This minaret is located $33.991204^0$ North and $71.364913^0$ East with elevation of 492m in Burj village. The village is itself named after this Burj. It is circular in plan and tapering upward. It survives in good state of preservation. A stairway is provided which lead to the door on southern side. The door is 7feet above the ground level, while the height of the minerate is about 50ft. It is made of mud and on the top bricks aree provided in which wooden rafter are arranged in a circular plan. From inside it comprises three stories and each roof is made of wooden rafter with chajja but no permanent stair has been provided for access only wooden ladder is used for it. On reaching the first floor  you need to pull the same ladder upwards and reused for second floor. The absence of permanent stairs were meant for security of the inmates from outside. |

| | | |
|---|---|---|
| **2** | **BURJ**<br><br>**VILLAGE CAVES** | This site is located 33.993341$^0$North and 71.363760$^0$East with elevation of 489m in Burj village. These are three manmade caves to be used as shelters from rain and harsh weather. The local people still make use of thse caves, but for storing vegatables, etc.<br><br> |
| **3** | **TALAAB**<br><br>**(pool)** | <br><br>This site is located 34.000032$^0$North and 71.367660$^0$Easts with elevation of 474m in Wali baba near T.D bazar. This water pool is square in plan, paved with rubble stone and lime morter, most probably hydraulic lime. According to the local people this is the royal pool used by king Jamshed who ruled this region. Water was supplied to this pool through a water channel which came from Sor Qamar. |

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| **4** | **HOUSE**<br><br>**(Mosque)** | This site is located 33.999751$^0$North and 71.368015$^0$East with elevation of 497m in Wali baba near T.D Bazar. This mosque was constructed near the Talaab Ghara. Presently this mosque is utilized as a house by the nomadic family; it is square in plan and made of bricks with minarets at each corner. The place for ablution has been provided in the northern corner.<br><br> |

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| **5** | **TAGGON VILLAGE WATER CHANNELS CAVES** | This site is located 33.971501$^0$North and 71.332358$^0$East with elevation of 539m in Taggon village. These are twelve caves in line across the water channel at the bottom of the hills. This water channel carries water to the "Talab Gharha" pool of King Jamshed. The water once came from two sources i.e. one from Sor Ghar and second of Khyber Nala. These caves were used as shelters. The function of the  stream closely resembles the Kharez system of Baluchistan |

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| **6** | **GRAVE YARD** | This site is located 33.971341$^0$North and 71.328181$^0$East with elevation of 568m in Taggon village. It is a graveyard site and only potsherd can be seen on surface. A well built in rubble masonry is located nearby. The local people had recovered a sword and beads from this area.<br> |
| **7** | **TAGGON WELL** | <br>This site is located 33.975064$^0$North and 71.323075$^0$East with elevation of 571m in Taggon villagei. It is circular in shape and paved with bricks. Water still flows from this well and fish can also be seen in it, despite the fact that part of it has been covered with debris after heavy floods in this area a few years back. This site is also at a walking distance from Shaker Mela at the boarder of Tehsil Jamrud. |

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| **8** | **MONASTERY** | This site is located 33.974829$^0$North and 71.319472$^0$East with elevation of 567m in Jabba village. The site is located near a water spring. Square rooms constructed on the terraces of mountain are visible in ruined condition. The entire site has been subjected to illegal digging. The walls are made of Semi Ashler-Masonry. The stones of the monastery have also been used for construction during the later periods on the top of the hill. While the rooms are square, the complex  housing the monastery is rectangular in plan. |
| **9** | **MOSQUE** | This site is located 33.980156$^0$North and 71.350397$^0$East with elevation of 597m in Sapera village. This mosque is constructed on a top a hill through which we can see all the other hills and the caves of Sepera. This mosque is rectangular in shape and made of mud bricks and lumps. Wooden beams of considerable length have been used in the roofs of the mosque. The Chajjas are projecting down ward and the  door and jamb are decorated with medallion and other decorative motifs. |

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| **10** | **CAVES OF SAPERA** | This site is located 33.977911$^0$North and 71.349317$^0$East with elevation of 532m in Sapera village. These are fifty caves arranged on both sides of the river bed. The average depth and width of the caves is about12 metres each. Niches hav been provided inside these caves for kept lamps and other objects. Traces of fire are also visible. Some of the caves have preserved their mud plaster and white wash. These caves were apparently used for residential purposes. The open areas in front of these caves served as courtyards. Presently some Afghan  refugees have occupied these caves for residential purposes. |
| **11** | **WELL OF SAPERA** | This site is located 33.981979$^0$North and 71.349561$^0$East with elevation of 559m in Sapera village. This well is circular in plan and  about 13 metres deep with a dia of about 2.5 metres. The well is paved with burnt bricks. |

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| **12** | **WALI BABA MASJID** | This mosque site is located 34.001047$^0$North and 71.369262$^0$East with elevation of 481m in Shabnam Wali Baba village. It is located near the graveyard of Wali Baba Bazar. The prayer chamber has been renovated while the court yard area and cells around the courtyard are still old. This is said to be the first mosque in this area entirely constructed from British bricks and bricks resemble those used in construction of the Isalmia College building. The water tank made of  iron is also from the colonial period. Water used to be supplied to this mosque from Talab Ghala natural spring. |

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| 13 | **WALI BABA MAZAAR** | This site is located 34.001295$^0$North and 71.369295$^0$East with elevation of 476m in Shabnam Wali Baba village. The Mazaar of Wali Baba is located near the Wali Baba masjid. The door provided in the centre of graveyard is decorated with floral and geometrical design. The tomb has been renovated with new material due to which it lost the original touch. No body knows about the personage buried here. People, however, generally believe that he was a disciple of Bakhtiar   Kaki. If we accept this notion, then we can place this tomb in the 13th/14th century CE. |

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| **14** | **JAMRUD RAILWAY STATION** | This site is located 34.007007$^0$North and 71.377987$^0$East with elevation of 461m in Jamrud village. The Jamrud railway station was the extension part of Rawalpindi-Peshawar in British Railway in 1922. It still preserves original weighing equipment, furniture and the building. The architecture is of typical colonial period with rooms for station master, ticket house etc. Roof and benches are still showing the  British logo. |

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| **15** | **RAILWAY BRIDGE** | This site is located 34.012745$^0$North and 71.311135$^0$East with elevation of 615m in Kafir Tangi Village. This bridge connects the tunnel 1 and tunnel 2 and is completely made of iron blocks. Even pillars and plate provided are of iron. The old name of the bridge was Kafir tangi, but it has now been renamed as Islam Dara. The plates also carry the date of their manufacturing and the name of Manufacture Company:<br><br>**West Wood**<br>**Baillie & Co,**<br>**Engineers & Contractor**<br>**London England**<br>**Isr 1879.**<br><br> |

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| **16** | **MEDANAK TUNNEL I** | This site is located 34.012547$^0$North and 71.311743$^0$East with elevation of 619m in Kafir Tangi Village. It is the first tunnel from Jamrud Railway station ad was built in 1923. Its height is about 10 netres. Bricks were utilized for construction through carbling techniques. It carries the following inscription:<br><br>**Medanak Tunnel I**<br><br>**1923**<br><br>**Contractor**<br><br>**Mir Ghulam**<br><br><br><br>**Length 456ft** |

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| **17** | **MEDANAK TUNNEL II** | This site is located 34.011951$^0$North and 71.308029$^0$East with elevation of 633m in Kafir Tangi Village It is the second tunnel from Jamrud Railway station and was built in 1923. It is about 10metres high and a little more than six metres wide. The façade is in curve shape and semi-circular at the centre. Bricks were used for construction through carbling techniques.<br><br>**Kafir Tangi**<br><br>**1923**<br><br>**Contractor**<br><br>**Nawab Malik Mohammad Zaman Khan**<br><br>**Length 443ft.**<br><br> |

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| **18** | **KAFIR TANGI TUNNEL** | This site is located 34.013004$^0$North and 71.297988$^0$East with elevation of 683m in Kafir Tangi village. It is the third tunnel from Jamrud Railway station; built in 1923 with a height of about ten metres and width of a little more than 6 metres. It inner constrction is exactly similar to the tunnel mentioned earier. This is the longest of all the tunnels on this line. There is a spring in the centre at side wall.<br><br>**Kafir Tangi**<br><br>**1923**<br><br>**Contractor**<br><br>**Nawab Malik Mohammad Zaman Khan**<br><br><br><br>**Length 1403ft.** |

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| **19** | **CHANGAI TUNNEL I** | This site is located 34.01291$^0$North and 71.299594$^0$East with elevation of 708m in Changi village. It is the 4th tunnel from Jamrud Railway station it was built in 1923. In height, width and construction technique, it exactly resembles the earlier metioned tunnels.<br><br>**Changi Tunnel-I**<br><br>**1923**<br><br>**Contractor**<br><br>**Malik Niaz Mohammad Khan**<br><br>**Length 269ft.**<br><br> |

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| **20** | **CHANGAI TUNNEL II** | This site is located 34.013893$^{0}$North and 71.29743$^{0}$East with elevation of 715m in Changi village It is the 5th tunnel from Jamrud Railway station it was also built in 1923. In height, width and construction technique, it exactly resembles the earlier metioned tunnels.<br>**Changi Tunnel-II**<br>**1923**<br>**Contractor**<br>**Malik Niaz Mohammad Khan**<br><br>**Length 169ft.** |
| **21** | **CHANGAI TUNNEL III** | This site is located 34.014426$^{0}$nNorth and 71.296184$^{0}$East with elevation of 714m in Piryanu village. It is the 6th tunnel from Jamrud Railway station it was built in 1923. In height, width and construction technique, it exactly resembles the earlier metioned tunnels.<br>**hangi Tunnel-III**<br>**1923**<br>**Contractor**<br>**Subedar Mirdast** |

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| | | <br>**Length 166ft.** |
| **22** | **CHANGAI IV** | <br>This site is located 34.015038$^{0}$North and 71.294252$^{0}$East with elevation of 720m in Piryanu village It is the 7th tunnel from Jamrud Railway station it was built in 1924. In height, width and construction technique, it exactly resembles the earlier metioned tunnels.<br>**Changi Tunnel-IV**<br>**1924**<br>**Contractor**<br>**Khan Saib Abdul Jabbar Khan**<br>**Length 205ft** |

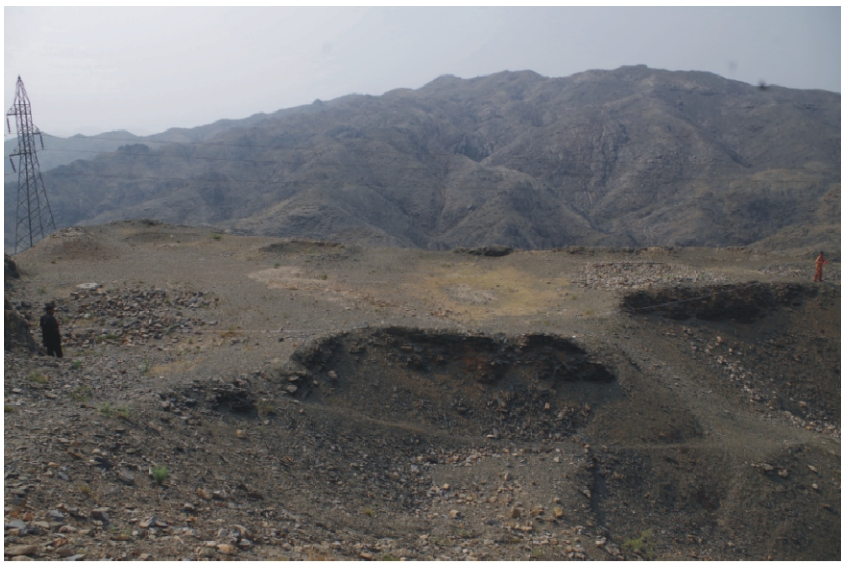
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| **23** | **WATER FALL TUNNEL** | This site is located 34.015529$^{0}$North and 71.289988$^{0}$East with elevation of 731m in Piryanu village It is the 8th tunnel coming from Jamrud Railway station it was built in 1923. In height, width and construction technique, it exactly resembles the earlier metioned tunnels. Unique feature of this tunnel is the water falling at the centre of the tunnel from the top through a spring.<br><br>**Water Fall Tunnel**<br><br>**1923**<br><br>**Contractor**<br><br>**Malik Muhammad Hussain Khel**<br><br><br><br>**Length 741ft.**<br><br>**2Side Room**<br><br>**10x10x10ft.** |

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| **24** | **MEDANAK RAILWAY STATION** | This site is located 34.008154$^0$North and 71.308317$^0$East with elevation of 638m in Kafir Tangi village. This is the reverse station where two engines one pulling and the other pushing. It is situated on a high terrace. There are two rooms, one side store with one iron door and 5 iron windows. The door is made from three layer of iron plates with thickness from 1.5 to 2 inches and in each window and door the watch points were provided.<br><br>**Medanak Railway station**<br><br>**1923**<br><br>**Door 6 1/2ftx 4ft.**<br><br><br><br>**Window 3ft 2inch x 4ft.** |
| **25** | **CHANGAI STATION** | This site is located 34.007939$^0$North and 71.307016$^0$East with elevation of 710m in Kafir Tangi village. This Station is located above the Madanak station and it is rectangular in plan. On its east side is a double storey building with six rooms on each storey. Its lowest terrace can be accessed by stone stair. Second terrace contains ablution area and 4 iron water tanks which are still in good conditions. The third terraceat the highest level consists of 3 rooms and one corner room reachable by stone stair. This is the most important area, where the doorway is provided with a heavy iron plate. It is also the highest point of this area from where Kabul Peshawar highway can be clearly seen. |

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| **26** | **CHANGAI BUDHIST SITE** | This site is located 34.01058$^0$ North and 71.303835$^0$East with elevation of 694m in Kafir Tangi village. This site is located near the Medanank railway track and presently in very bad state of preservation. From foundations, three square shaped rooms can be seen, while potsherds and lime stones scattered all over can be seen.  |

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| **27** | **MACKSON TUNNEL** | This site is located 34.011431$^0$North and 71.289494$^0$East with elevation of 736m in Changi village. It is the 9th tunnel from Jamrud Railway station it was built in 1923 with a height of about 10 metres and width of more than six metres. Its façade is of curved shape and semi-circular at the centre. Bricks were utilized for construction through carbbling techniques.<br><br>**Mackson Tunnel**<br>**1923**<br>**Contractor**<br>**Shamard Khan**<br>**Length 301 ft**<br><br> |
| **28** | **BARLEY RIDGE TUNNEL** | This site is located 34.003443$^0$north and 71.288675$^0$east with elevation of 779 m in Shagai village. It is the 10th tunnel coming from Jamrud Railway station it was built in 1923 height is 30 ft. 20 ft. in width the façade is curve shape and at the centre is half circular. Bricks were utilized for construction through carbling techniques.<br><br>**Barley Ridge Tunnel**<br>**1923**<br>**Contractor**<br>**Mirak Hasham** |

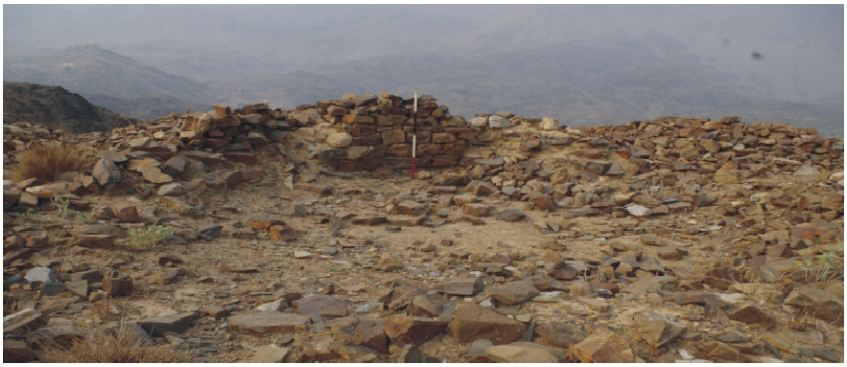
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| | | **Length 486 ft.**<br> |
| **29** | **WATCH TOWER** | This site is located 34.004584$^{0}$North and 71.29293$^{0}$East with elevation of 763m in Shagai Lala Chena village. It is located at the end of the railway bridge. It is a double story building and wooden stair is provided for access. Doors and windows of the lower storey have been removed by the local pople. On the upper story there are two iron windows, one iron doorway and two standing iron watch tower. The unique feature of the upper storey is the semi-circular iron roof.<br> |

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| **30** | **SHESHA PIQUET** | This site is located 34.004584$^0$ North and 71.294087$^0$ East with elevation of 794m in Shagai Lala chena village This Packet is greatly damaged except a few walls. Building materials are stone and binding  materials are lime stone. |
| **31** | **SHAGAI LALA CHENA BUDHIST SITE I** | This site is located 34.004269$^0$ North and 71.294034$^0$ East with elevation of 786m in Shagai Lala Chena village. This site is almost complete damaged except a few partially surving walls. The surviving walls and foundation of rooms are in ashlar masonry and lime was used as the binding material mixed with small pieces of kanjur stones. In present state remains of four rooms can be seen at the site.  |

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| **32** | **BARLEY HILLS GRAVE YARD** | <br>This site is located 33.998316$^0$North and 71.292518$^0$East with elevation of 835m in Shagai Lala Chena village. Here is a group of five graves of the Indian army men and this hill is called Barley hill. The graves have been constructed with marble and provided with slabs contains names and other details of those buried with date as the 19th July 1919.<br><br>**Naik…… Mir Zaman**<br>**L/Naik……. Mohammad Khan**<br>**Sepoy…… ...Sardar Khan**<br>**Sepoy……... Fazal Ahmad**<br>**Sepoy…… ...Imam Din** |

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| **33** | **BARLEY HILLS PIQUET** | This site is located 33.997171$^0$ North and 71.291833$^0$ East with elevation of 871m in Shagai Lala Chena village. The name for this packet was given after a British Army Officer. This is the highest point in surroundings hills. It consists of two rooms and linked by a bricks made pathway. It is currently in a very bade state of preservation and  local people have almost completely demolished this piquet. |
| **34** | **RUPA SHAGAI PIQUET** | This site is located 34.011612$^0$ North and 71.284865$^0$ East with elevation of 829m in Shagai Lala Chena village. This Packet is totally demolished except a few partially surviving walls. Local stone was used for construction, while lime was used as bonding material.  |

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| **35** | **SHAGAI FAMILY FORT** | This site is located 34.014891$^0$ North and 71.283561$^0$ East with elevation of 836m in Shagai Lala Chena village. This fort located on the left side of road on the opposite side of the present Shagai fort. This is rectangular in plan with two entrances one each on the north and west sides.<br><br>It has 11 rooms on north side, 4 rooms on south side, and 4 rooms on east side meant for residential purposes. Kitchen and washroom are also provided, which have been renovated by Pakistan army. On each direction snipe view iron points were provided for observation and<br><br>manning the area. |
| **36** | **SHAGAI FORT** | This site is located 34.018278$^0$ North and 71.281704$^0$ East with elevation of 839m in Shagai Lala Chena village. Shagai means sound of fire or hurling of stones. The fort might have derived its name after the local people have heard the sounds of gun fires from here. It is also possible that in its original use, stones might have been hurled on enemies from here and thus the name was given. Another reason could be that the fort was originally considered to be belonging to royalty – '*Shah"* meaning king. The fort is located on the left side of road and on the opposite side of the old Shagai family fort. This is rectangular in plan with one entrance on south side. It is presently occupied by the Pakistan army and thus it could not be examined in details. |

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| **37** | **SHAGAI LALA CHENA BUDHIST SITE II** | This site is located 34.008390 North and 71.2906560 East with elevation of 827 m in Shagai Lala Chena village. This site totally damaged except a few wall and foundation of rooms. It is built in ashlar masonry in lime mixed with pieces of kanjur stones.<br> |
| **38** | **SHAGAI RAILWAY STATION** | <br>This site is located 34.018483$^{0}$ North and 71.275561$^{0}$East with elevation of 823 m in Shagai village. It is located near the Shagai Fort. It is square in plan with two entrance gateways and two watch towers. Access from inside rooms has been provided through wooden stair. Rooms are arranged around the central courtyard. The courtyard has iron water tank and two semi-circular iron roofs. Rooms are arranged on North-West and South-West directions. These structures are made of square stone block fix with lime mortar. These structures are lime plastered. The roofs of these structures are made of semi-circular iron sheets.<br>**Shagai Railway station**<br>**1923**<br>**Door 6 ½ ft x 4 ft.Window 3 ft 2 inch x 4 ft.** |

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| **39** | **RED HILL TUNNEL** | This site is located $34.025098^0$ North and $71.270239^0$ East with elevation of 833m in Maskot village. It is the 11th tunnel while coming from Jamrud Railway station. It was built in 1923 with a height of anout ten metres and width of more than six metres. The walls are curved shape and semi-circular at the centre. The name to this tunnel is given due to red stone of which this tunnel is made.<br>**Red Hill Tunnel**<br>**1923**<br>**Contractor**<br>**Langar Jadran**<br>**Length 446 ft.**<br> |
| **40** | **BARRACK RIDGE TUNNEL** | This site is located $34.027337^0$ North and $71.264582^0$ East with elevation of 836m in Maskot village. It is the 12th tunnel from Jamrud Railway station and was built in 1923. In construction and material, it is exactly similar to site no. 39.<br>**Barrack Ridge Tunnel**<br>**1923**<br>**Contractor**<br>**Usman**<br>**Length 276 ft.** |

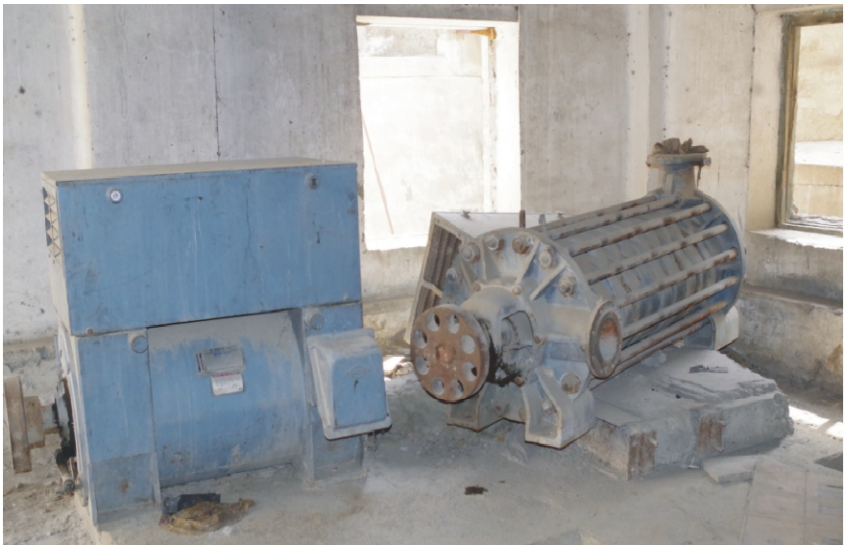
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| **41** | **ALI MASJID TUNNEL I** | This site is located $34.031331^0$ North and $71.261682^0$ East with elevation of 848m in Ali Masjid village. It is the 13th tunnel from Jamrud Railway station it was built in 1923. In construction and material, it is exactly similar to site no. 39.<br><br>**Ali Masjid Tunnel-I**<br>**1923**<br>**Contractor**<br>**Mahmud Jan Peshawari**<br><br><br><br>**Length 219 ft.** |
| **42** | **ALI MASJID TUNNEL II** | <br><br>This site is located $34.033008^0$ north and $71.260734^0$ east with elevation of 854 m in Ali Masjid village. It is the 14th tunnel coming from Jamrud Railway station it was built in 1923. In construction and material, it is exactly similar to site no. 39. However, concrete has been used in the roofing.<br><br>**Ali Masjid Tunnel-II**<br>**1923**<br>**Contractor**<br>**Mahmud Jan Peshawari**<br>**Length 293 ft.** |

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| **43** | **ALI MASJID TUNNEL III** | This site is located $34.037124^0$ north and $71.257924^0$ east with elevation of 867 m in Ali Masjid village. It is the 15th tunnel coming from Jamrud Railway station it was built in 1923. In construction technique is exactly similar to site no. 39, but concrete has been used in the roofs apart from locally available stone as construction material..<br><br>**Ali Masjid Tunnel-III**<br>**1923**<br>**Contractor**<br>**Amal Din**<br>**Length 1540 ft.**<br><br> |
| **44** | **ALI MASJID TUNNEL IV** | <br><br>This site is located $34.038543^0$ north and $71.256104^0$ east with elevation of 895 m in Katta kushta village. It is the 16th tunnel coming from Jamrud Railway station it was built in 1923. Its height and width are exactly the same as that of the other tunnels already described above. The façade is curve shaped, while the semi-circular roof is made of concrete.<br><br>**Ali Masjid Tunnel-IV**<br>**1923**<br>**Contractor**<br>**Malik Ghulam Muhammad**<br>**Length 347 ft.** |

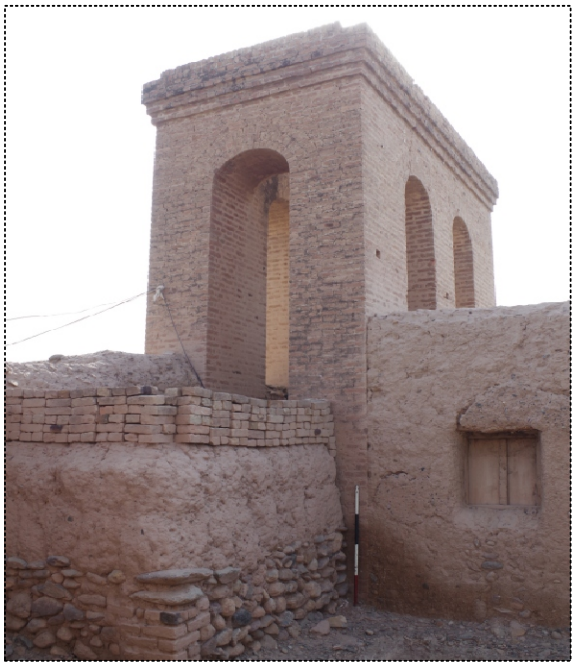
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| **45** | **ALI MASJID TUNNEL V** | This site is located 34.040191$^0$ North and 71.25593$^0$ East with elevation of 859 m in Katta kushta village. It is the 17th tunnel from Jamrud Railway station it was built in 1923. In construction technique and use of building material, height and width, it is exactly similar to site 44 described above.<br><br>**Ali Masjid Tunnel-V**<br>**1923**<br>**Contractor**<br>**Malik Latif khan**<br>**Length 152 ft.**<br><br> |

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| **46** | **ALI MASJID TUNNEL VI** | This site is located $34.043212^0$ North and $71.256305^0$ East with elevation of 871 m in Katta Kushta village. It is the 18th tunnel from Jamrud Railway station built in 1923. In term of height, width, construction, design and material, this tunnel is exactly similar the tunnels described above.<br><br>**Ali Masjid Tunnel-VI**<br>**1923**<br>**Contractor**<br>**Muhammad Akbar**<br>**Length 812 ft.**<br><br> |

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| **47** | **KHRASHA PIQUET** | This site is located 34.01505$^0$ North and 71.261544$^0$East with elevation of 871 m in Lala Kandao village. This Packet is located at left side of the road from Ali Masjid to Tehra area. It is totally demolished by the<br><br>Taliban and only debris are scattered all around. |
| **48** | **ALI MASJID FORT** | This site is located 34.03377$^0$ North and 71.25582$^0$ East with elevation of 910 m in Ali Masjid village. This fort is located on very important strategic position, on rectangular terrace. Originally buildings were constructed on southern and northern portion while the middle place was utilized later on. On both sides security posts are constructed for checking the area. The fort is now occupied by the Khyber Refiles Wing 105.<br> |

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| **49** | **FC FILTRATION PLANT** | This site is located 34.042026$^0$North and 71.254005$^0$East with elevation of 830 m in Ali Masjid village. This filtration plant located on left side of the Khyber road from Peshawar in the Ali Masjid area. It was basically used during the British period when the spring water was supplied to the upper area up to Landi Kothal though pumps. Electric motors were installed in 1992 and Khyber Mineral Water is supplied to other areas.<br> |
| **50** | **JIN PIQUET** | This site is located 34.032735$^0$ North and 71.252645$^0$East with elevation of 930 m in Ali Masjid village. This Packet is located opposite the Ali Masjid Fort and it was made for the protection of this fort. It is rectangular in plan. On east side double story building with iron water tanks are still in good conditions. The building on the third terrace i.e. at the highest level is a watch tower now in deteriorated condition. Being the highest point of this area Kabul-Peshawar highway can be clearly seen and easily monitored. |
| **51** | **ALI MASJID MOSQUE** | This site is located 34.031575$^0$ North and 71.259564$^0$East with elevation of 807 m in Ali Masjid village. This whole area is known after this mosque. There are two legends about this name. According to some people a saint from the lineage of Ali ibne Abi Talib, probably during the Umayyad period passed through this area and had built the mosque here naming it after Hadhrat Ali. Another view amongst the local people is that this mosque was constructed by Sayyid Ali Hajweri and named after him. However, nothing with certainly can be said as to who constructed this mosque and when.<br><br>This mosque is located on the right side of the river. It square in plan built on a high plinth. Four entrances have been provided from all |

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| | | directions. The low dome is supported by quenches. The mosque had originally no minarets; the minaret belongs to later period. Local sts been used as building material, while lime as bonding material. The diameter of the dome is about 2.5 metres while its height is about three metres. |
| **52** | **ALI MASJID BUNKERS** | This site is located $34.030951^0$ North and $71.258472^0$ East with elevation of 794m in Ali Masjid village. These bunkers are located around the Ali masjid area at many strategic spots for the security and supervision of the trade route. Internally they are square in plan, made of concrete with snap windows. The bunkers are paved with stone blocks. |
| **53** | **ALI MASJID TANK BLOCKERS** | This site is located $34.031827^0$ North and $71.258789^0$ East with elevation of 787m in Ali Masjid village. These blockers are located below the Ali masjid area at river, strategic spots for the security and supervision of the trade route. Internally they are of two types one are cone like structures and the second type are cylindrical in form, made of concrete with measure from 6-7feet in height and 4feet under the ground. |
| **54** | **KATA KUSHTA BUNKERS** | This site is located $34.045862^0$ North and $71.256452^0$ East with elevation of 855m in Ali Masjid village. These bunkers are located near the F.C filtration plant at many strategic spots for the security and supervision of the trade route. Internally they are square in plan, made of concrete with snap windows and paved with stone blocks. |
| **55** | **KATA KUSHTA RAILWAY STATION** | This site is located $34.046557^0$ North and $71.256145^0$ East with elevation of 864m in Ali Masjid village. It contains two rooms with four iron windows which measured 4 x 4 feet. The only iron door measures 6 x 4 ft. There is an iron water tank, cubical in shape. The roof is trefoil in shape. |
| **56** | **BAGIARI STATION** | This site is located $33.998644^0$ North and $71.324917^0$ East with elevation of 563m in Soor Kamar village. It contains two rooms with four iron windows which measured 4 x 4 feet. The only iron door measures 6 x 4 ft. The roof is cemented and provided with two iron ventilators. |
| **57** | **RAILWAY BRIDGE** | This site is located $33.99913^0$North and $71.401742^0$East with elevation of 463m in Takhta Bhaig Ghariza village. Only 8 arches made of bricks in semi-circular are surviving. |

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| | **TAKHTA BHAIG GHARIZA** | **Length……. 450ft.**<br>**Height……...32ft**<br>**Width……..15ft.**<br> |
| **58** | **TANK STAND** | This site is located $34.003043^0$ North and $71.386327^0$ East with elevation of 452m in Jamrud Malik Abad village. Stand made of brick for supporting water tank for supply of water to the stream engine.<br> |

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| **59** | **RAILWAY BRIDGE**<br><br>**GUDDAR RAOD BHAG KILI** | This site is located $34.008975^0$ North and $71.372054^0$ East with elevation of 455m in Guddar road Bhag village. Now one arch is intact, while the other has considerably damaged from top..<br><br>**Length 40ft.**<br>**Height 10ft**<br>**Width 15ft.**<br><br> |

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| **60** | **RAILWAY BRIDGE**<br><br>**NEW ABADI TD BAZAR** | This site is located 34.009311$^0$ North and 71.36726$^0$East with elevation of 461m in New abadi TD bazar village.<br><br>**Measurements**<br><br>**Length 64ft.**<br>**Height 10ft**<br>**Width 15ft.**<br><br> |

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| **61** | **RAILWAY BRIDGE**<br><br>**NEW ABADI TD BAZAR** | This site is located 34.008107$^0$North and 71.363508$^0$ East with elevation of 466m in New abadi TD bazar village.<br><br>**Measurements**<br>**Length 14ft.**<br>**Height 12ft**<br>**Width 26ft.**<br> |

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| **62** | **RAILWAY BRIDGE**<br><br>**SAT SORANG TD BAZAR** | This site is located 34.007511$^0$North and 71.356986$^0$East with elevation of 476m in Sat sorang TD bazar village.<br><br>**Measurements**<br><br>**Length 111ft.**<br>**Height 12ft**<br>**Width 29ft.**<br><br> |
| **63** | **RAILWAY BRIDGE**<br><br>**KAFAR TANGI** | <br>This site is located 34.0064$^0$ North and 71.312701$^0$ East with elevation of 599m in Kafir tangi village.<br><br>**Measurements**<br><br>**Length 230ft.**<br>**Height 58ft**<br>**Width 10ft.** |

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| **64** | **RAILWAY BRIDGE**<br><br>**KAFAR TANGI** | This site is located 34.005503$^0$North and 71.31284$^0$East with elevation of 602m in Kafir tangi village.<br><br>**Measurements.**<br><br>**Length 37ft.**<br>**Height 30ft**<br>**Width 16ft**<br><br> |

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| **65** | **RAILWAY BRIDGE**<br><br>**KAFAR TANGI** | This site is located $34.012745^0$ North and $71.311135^0$ East with elevation of 615m in Kafir tangi village.<br><br>**Measurements**<br><br>**Length 73ft.**<br>**Height 11ft**<br>**Width 15ft.**<br><br> |

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| **66** | **RAILWAY BRIDGE**<br><br>**KAFAR TANGI** | This site is located $34.011536^0$ North and $71.307778^0$ East with elevation of 626m in Kafir Tangi village.<br><br>**Measurements**<br><br>**Length 71ft.**<br>**Height 10ft**<br>**Width 22ft.**<br><br> |

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| **67** | **RAILWAY BRIDGE**<br><br>**SHAGAI LALA CHENA** | This site is located $34.005631^0$ North and $71.293012^0$ East with elevation of 759m in Shagai Lala Chena village.<br><br>**Measurements**<br><br>**Length 161ft.**<br>**Height 40ft**<br>**Width 19ft.**<br><br> |

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| **68** | **RAILWAY BRIDGE**<br><br>**KATTA KUSHTA** | This site is located 34.051637$^0$ North and 71.25004$^0$ East with elevation of 855 m in Katta Kushta village.<br><br>**Measurements**<br><br>**Length 150ft.**<br>**Height 14ft**<br>**Width 14ft.**<br><br> |

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| **69** | **RAILWAY BRIDGE**<br><br>**KATTA KUSHTA** | This site is located $34.055145^0$ North and $71.24968^0$ East with elevation of 869 m in Katta Kushta village.<br><br>**Measurements**<br><br>**Length 290ft.**<br>**Height 10ft**<br>**Width 15ft.**<br><br> |

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| **70** | **RAILWAY BRIDGE**<br><br>**PRANGSANG** | This site is located $34.061187^0$ North and $71.239238^0$ East with elevation of 892 m in Prangsang village.<br><br>**Measurements**<br><br>**Length 138ft.**<br>**Height 16ft**<br>**Width 15ft**<br><br> |

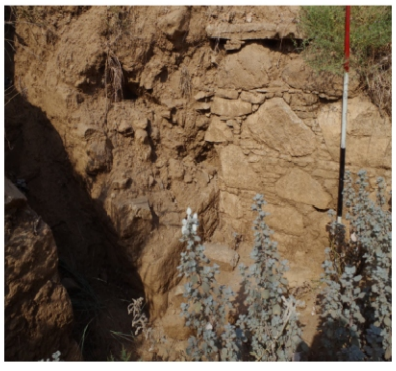
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| **71** | **RAILWAY BRIDGE**<br><br>**PRANGSANG** | This site is located $34.058125^0$ North and $71.244574^0$ East with elevation of 878 m in Prangsang village.<br><br>**Measurements**<br><br>**Length 140ft.**<br>**Height 15ft**<br>**Width 15ft.**<br><br> |
| **72** | **CAVE MOSQUE** | This site is located $33.975652^0$North and $71.281289^0$East with elevation of 633 m in Dre Zandhi village. This name is given due to three junctions who met here and this is the first mosque in this area inside a cave. It is square in plan mud plastered from inside while niches are present there .<br><br> |

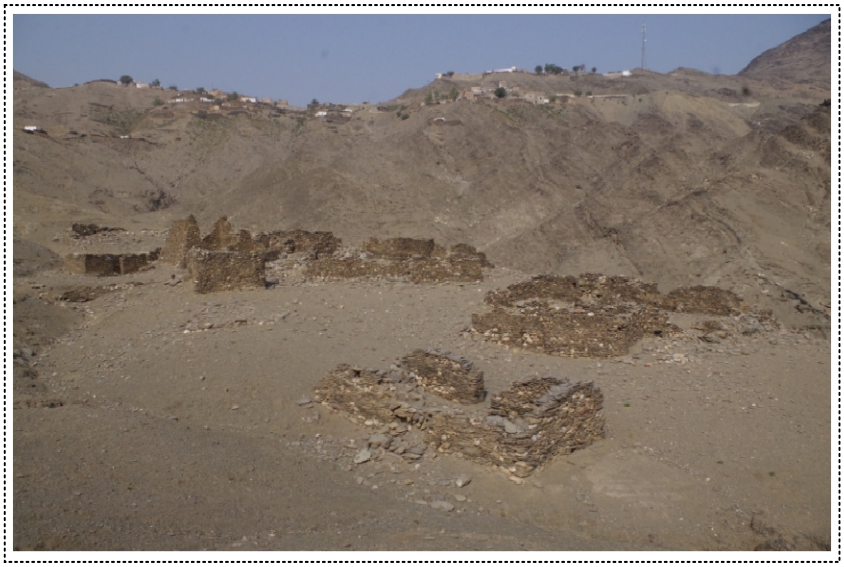
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| **73** | **TOMB** | This site is located 33.9753890 North and 71.2813780 East with elevation of 623 m in Dre Zandhi village. This name is given due to three junctions that meet here. Further, this is the first tomb in this area which is rectangular in plan.<br> |
| **74** | **BUUDDHIST COMPLEX** | This site is located $33.984547^{0}$ North and $71.272728^{0}$ East with elevation of 686 m in Shodani village. This is largest Buddhist site in this area. The mound on which it is located is 70 m high from the surrounding soil. The masonry is ashlar and the actual site measures 170 x 32 metres with watch towers like structures on the corners.<br> |

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| **75** | **SPENA QILA (FORT)** | This site is located 33.967338$^0$North and 71.184247$^0$East with elevation of 942 m in Chora village. This fort is located on the right side of the river at a high plinth of rock, constructed on three terraces. There is a mosque on the lower terrace, a Hujra on the middle terrace and residential area on the upper terrace. The structures are built from stone blocks in lime morter. The residential buildings are double story and wooden railings have been provided to the upper storey. Provisions for manning the surroundings and ventilation have also been provided in these buildings. Watch tower has been built in the northern corner of this complex.<br> |
| **76** | **SPENA QILA MASJID** | This site is located 33.967258$^0$ North and 71.184039$^0$ East with elevation of 938 m in Chora village. The walls of the mosque are raised in mud bricks and lumps, while wooden beams and wooden pillars have been provided to support the thatched roof covered with mud plaster. Niches have been provided at six different places for keeping the Holy books. The verandah of the mosque is similar in plan as its main hall. A wooden chajja raised on wooden pillars with decoration has been provided in the front. In order to give additional strength to the walls, wooden stick were provided at regular intervals.<br> |

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| **77** | **GUDAR BUDHIST SITE** | This site is located 34.028176$^0$ North and 71.361668$^0$ East with elevation of 491 m in Gudar village. This is a Buddhist site built on three terraces of three adjacent hills. The structures are in very bad state of preservation. Illegal diggers have played havoc with this important Buddhist sanctuary and have left nothing of it, except a few walls in dilapidated condition. The monastic complex appears to have been built in the north-west corner of the huge site, with an assembly hall. The buildings have been built in ashlar and diaper masonry. The   assembly hall has entirely been built in diaper masonry. |
| **78** | **CANAL FILTRATION UNIT** |   This site is located 34.06389$^0$ North and 71.380814$^0$ East with elevation of 399 m in Pump House village. This filtration unit was built by the irrigations department, which also served as a rest house. Water from the plains below used to be pumped up to this plant for filtration before further distribution. In the first place water used to be stored at the reservoir so that the sand particles settle down, then the clean water was transported to the pumping house or plant and thence distributed. First and last units of this filtration plant are quadrant in shape while the middle one is rectangular in plan. |

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| **79** | **JHANDO MAZAAR** | This site is located 34.08955$^0$ North and 71.374329$^0$ East with elevation of 392 m in Jhando baba village .This graveyard is divided into two portions i.e. huge tombs where wornout pages of the Holy Quran have been buried to avoid their desecration. The other part contains two tombs which is called Jhando Baba. These are the tombs of said to be that of a saint, who was killed here without any reason or fault of him alongwith his servant who used to take care of his cattles. It is said by the local people that these two tombs have been erected on the blood of the two innocent persons, while their mortal remains were buried at another place known as the Akhon Baba.<br> |
| **80** | **MURDA DAND KANDARAT** | This site is located 34.105965$^0$ North and 71.344262$^0$ East with elevation of 560 m in Murda Dand village .These fort like building are constructed on top of a hill, but presently survive in very bad state of preservation. Only foundations of the structures and walls of a few buildings are there to tell about the glory of this reasonably big complex. From the rough diaper masonry of the buildings, and<br><br>keeping in view their strategic location meant for overseeing the surroundings on one hand and to defend the inmats on the other hand from inending intruders, these structures can reasonably be attributed to the Hindu Shahi period. Niches are visible in the surviving walls of the rooms. |

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| **81** | **SHER BRIDGE PETROGLYPHS** | This site is located 34.145292$^0$North and 71.406063$^0$East with   elevation of 384m in Sher Bridge village .This is the first site containing petroglyphs. It is located on a top of the mountain terrace. There are three petroglyphs here. The first one is huge in size measuring about four metres in length and about seven metres in height. The second one 1.75 metres in height and its length is also approximately the same. The length of the third one is 3.75 metres with a height is about two metres. The main themes on all the three boulders are animals including goats, ibexes, oxen and human hands and chase pattern. |
| **82** | **ZHAGA BUDDHIST COMPLEX** | This site is located 34.129511$^0$North and 71.410547$^0$East with elevation of 473m in Zagga Ghar village. This site is scattered all around the mountain at different spot. Built in ashlar diaper masonry, the site is suggested to be a ruined Buddhist sanctuary. One circular shaped ruined structure indicative of a Buddhist stupa, badly ruined by illegal diggers in search of relics and other precious objects. Few surviving structures on top resemble square rooms. A dried well is also   there obviously necessary for sustenance of life at this elevated place. Though ruthlessly plundered, systematic archaeological excavations at this site may reveal some interesting features of this Buddhist complex. |

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| **83** | **ALI BABA BUDDHIST SITE** | This site is located 34.165845$^0$ North and 71.384793$^0$ East with elevation of 351m in Warsak Dam village This site is located on the right bank of Warsak dam along a big Pippal tree. Built in ashlar diaper masonry, it is a Buddhist monastic complex. On top only few buildings are surviving in very bad state of preservation. These buildings include square rooms and an assembly hall. The site has been ruthlessly plundered by illegal diggers in search of sculptures  and other precious objects. The site is now encroached by a modern graveyard. |
| **84** | **ZMAKO BARO KANDARAT** |  This site is located 34.125576$^0$ North and 71.337228$^0$ East with elevation of 589m in Lowara Maina village. The fort-like buildings are constructed on top of a mound. The structures are badly damaged and nothing can be said with authority about its original function. Most probably these structures belong to the Hindu Shahi period. The buildings appear to have served multiple purposes, including residential, defence, surveillance over the surroundings, etc. |

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| **85** | **CHOTTRA ENGRAVING** | This site is located 34.112641$^0$North and 71.330942$^0$ East with elevation of 647m in Lowara Maina village. This is the first site in this area with engraving of the pre-historic period. Carved on a big rock boulder, there are multiple scenes such as animals and human beings. In one scene a man is depicted shooting an animal with bow and arrow in his hands. The two animals depicted in the scene are  probably a fox and an ibex. |
| **86** | **SHAHIDA MAINA CAVE I** | This site is located 34.184742$^0$North and 71.287262$^0$ East with elevation of 624m in Shahida Maina area. This is natural cavemeasuring about two metres high and more than six metures long, while it is about 3.75 wide. The cave must have given protection to considerable number of people at one time from harsh weather and other natural calamities including heavy rains.  |

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| **87** | **SHAHIDA MAINA CAVE II** | This site is located 34.185308$^0$North and 71.291159$^0$ East with elevation of 629m in Shahida Maina. This cave is located on the opposite mound to the cave site no.86 and thus both facing each other. It is a natural cave which is about ten metres long, about six metres  wide and about 6.50 metres high. |
| **88** | **MASHOOM BABA MAZAAR** | This site is located 34.097732$^0$North and 71.274420$^0$ East with elevation of 1001m in Lower Tatara village. This tomb is located in the graveyard called the Mashoom Baba, named after an unknown saint. According to the local no one knew about to the history of this saint. Wooden slabs at both the head and foot of the grave are decorated with geometrical design. Some of the graves in this graveyard are in the east-west direction as against the typical Muslim  graves always with north-south direction. |

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# Archaeological Investigations in Manchar Concession Area (Area of Cooperation)

*SYED SHAKIR ALI SHAH**

Abstract:

*The Government of Pakistan awarded contract to E.N.I. - an Italian oil company to work on the potential development of oil exploration in Dadu district of Sindh province. Before embarking on actual job of exploration, a feasibility study of the proposed project operation area i.e. "Manchar concession area" was to be undertaken, taking into account technical, economic, environmental and social factors that could potentially influence the project. Realizing the importance of the region, authorities of E.N.I Company decided to organize a comprehensive evolution of the environmental and social impact, of the project by means of an environmental and social impact assessment process, which included archaeological investigations on seismic lines. For the purpose E.N.I. hired the services of M/s. Halcrow Pakistan as the leading consultant firm to undertake the environmental social impact assessment study for the proposed area. The consultant firm requested the Department of Archaeology and Museums, Governmet of Pakistan for the services of an archaeologist for archaeological assessment on the seismic lines in the operational area. The Director General Archaeology Government of Pakistan deputed the author for the purpose, who surveyed the project area. The present report is the result of the study undertaken in the project operation area with the specific purpose of identifying and recording archaeological sites and historic monuments.*

**Key words:**

Archaeology, Manchar, Dadu, Sindh, exploration

The area for Archaeological investigation is called "Manchar Concession Area", which lies in the southern part of the Indus valley between 26°, 57´, 00´´ and 26°, 13´, 00´´ north and 67°, 30´, 00´´ and 67°, 55´, 50´´, east, and covers an area of approximately 2435 km. The area where seismic survey was conducted is concentrated within two distinct units, one situated to the east and the other situated to the south of Manchar Lake between the towns of Bhan Saeedabad and Sehwan and the Indus River, within the flood bund system that protects the main cultivated area. The whole area is predominantly rural and is divided into two by the eastern flood bund. West of the F.P. bund is a well established rural area through which pass a number of major communication routes of small villages and big towns. The area on the east of F.P. bund that regulate the flood water through Sukkur Barrage, has also become extensively converted to agricultural use.

***Director Archaeology, Government of Sindh**

The area is to the south of Manchar Lake, within the limits between the village of Lakki and Jhangara and the Naing Nai is predominantly stony flat plain with minor rural developments centered on Manchar Lake, where isolated communities have settled predominantly in the south-west of Lake Manchar. The sustainance of these communities are mainly on boating and fishing.

The Indus basin covers an area of 207,200 km from Himalayan Mountains to the Mangrove swamp of southern Sindh. Its alluvial plain covers approximately 25% of the whole national territory of Pakistan. It has been exploited throughout historical times for irrigation and agriculture, the foundation of both ancient civilization and the current agricultural developments in Pakistan. The section of the lower Indus between Dadu-Moro Bridge and Sehwan that occurs within a seismic survey area is a large meandering river with a number of locally branching sections with in a large active flood plain.

The chief town is Sehwan, situated at a verge of swamp on the south-west bank of the Aral Canal, which flows from Manchar Lake into the Indus. A few years back, the river used to flow close to Sehwan, but it dried up and gives a deserted look now. On the south of Sehwan the Lakki Mountain terminates abruptly on the river and form distinctive feature in the scenery of this part of the town. Sehwan town is located on the main road leading from Karachi to Larkana..

Amid the generally arid, dreary and sterile character of the scenery of Sindh in general and the most important feature of Dadu district in particular, formed by the expansion of the Western Nara and the Aral streams, the Nara stream flows into it upto 19 km and forms a fair expanse of calm transparent water, lying beneath the mountains and surrounding with rich foliage. According to T. Postans that Manchar Lake is exceptional; being the seat of an old Sindhu civilization is the biggest Sweetwater Lake of Asia (Postan, T 1843). During the period of inundation the Manchar may be estimated at from 30 to 35 Km. in length with a breath of about 16 km but when the water is low the area is greatly contracted and then probably not more then 15 km in diameter, while at present the Manchar suffer more then estimated due to shortage of water.

Keeping in view the archaeological potential of the region lying west of Indus, it can safely be deduced that it has played a vital role in weaving and tinting the cultural fabric of the country and especially of the western part of south Asia. The two main cultural links, one with red ware

tradition and the other with buff ware comes from north and west, and gave rise to the world famous urbanized culture called the Indus Civilization, which is believed to be the utilitarian, sophisticated and the largest among the ancient civilizations of the world.

Historically, after the decline of Indus civilization numerous cultural traditions entered in this region, through the two main mountains passes i.e. Khyber Pass and Bolan Pass. Sindh has usually not been out of the reach of those rough and rustic waves of the nomads. In this context if the architectural aspects of the region are studied, it will prove that right from the Neolithic period about 7th millennium, B.C. the people living west of Indus must have their own architecture with high perfection during the mature phase of Indus Civilization. The region between Mohenjodaro and Amri on the west of Indus has remained the hub of cultural activities in the past.

Archaeological sites and monuments have been documented during the present exploration around Manchar Lake and on its north-eastern side. N.G Majumdar between 1929 and 1931 and again in 1938 (Ahmed, Mukhtar 2014: p.51, Louis Flam from University of Pennsylvania USA in 1980's (Flam, Louis 1993, 1996, 1998) and Qasid Mallah from Shah Abdul latif University Khairpur conducted explorations in 1990's in search of buried archaeological sites in this region (Mallah, Qasid Hussain 2010: pp.93-112). Zulfiqar Ali Kalhoro from Pakistan Institute of development Economics Islamabad also conducted survey in search of rock carvings in Khir Thar range and paintings in monuments (Kalhoro, Zulfiqar Ali 2012: 3:79-97).

During the exploration in Manchar Concession Area with E.N.I Company a few site & monuments have been documented along the seismic lines. These same sites & monuments of Kalhora and Talpur period (18$^{th}$ and early 19$^{th}$ century) abound in the area have been briefly described with drawings and photographs.

## KOT LASHARI (FORTRESS)

This square shaped fortress measures 70 x 70 metres with height of 4 metres and is situated in village and Deh Kot Lashari, Taluka Sehwan and District Dadu 98°, 44', 56" N, 21°, 25', 27"E. In the north of monument Mian Muhammad Essa Village, while in the east Deh Shahgarh, Talti Kot Lashari road is in west of fortress. It is constructed with mud bricks and mud mortar mixed with straws.

In the present state, only the remains of mud bricks wall of western and northern side are remaining while rest of the structures with the exception of their foundations have

disappeared due to neglect and weather effects over the time. Local people have utilized the plain land inside the fort for cultivation and signs of ploughing are clearlyv isible. Traces of mud plaster mixed with wheat straws are still visible on the inner sides of the standing walls. Since the cultivators have leveled the structures inside the fortress for agricultural activities, it is impossible to reconstrut the exact plans of the buildings there, which can only be possible with scientific archaeological excavations. While looking at the remains from outside the fortress, only the ruins of western and northern walls with two bastions one each in the north-western and south-western corners are visible. The bastions are almost in round shape. Entrance was provided to the fort from the eastern side, where remains of two bastions in the corners and two bastions at the entrance are still visible. There are remains of screen wall or reception point in front of entrance. (see fig # I) (PL-1a). According to local people and as also visible from the architecture of fortress, it was built during Talpur period (19$^{th}$ century CE).

## TOMB OF HUSSAIN SHAH

This tomb is situated 67°, 51', 03"N 26°, 27', 57" E in Dah Karampur, Taluka Sehwan hardly at a distance of 100 metres from F.P bund falling on the east. This square shaped tomb measure 4.80 x 4.80 metres with a height of 7 metres (See fig No.2). It is built of burnt bricks laid in mud mortar mixed with wheat straws and lime plastered. Entrance to the tomb has been provided from east through pointed arch, fixed with a wooden frame. There are two rectangular panels above the entrance, while two rectangular panels and blind arch panels are also provided on both sides of entrance in vertical direction. The tomb is devoid of any decorative motifs except a glazed medallion of the dome. The inverted bowl shaped dome of the tomb rests on a low octagonal drum, crowned with glaze finial. The zone of transition has been created with the help of corner squinch to convert its top into an octagon to support the inverted bowel shape dome. A large size niche has been provided in each wall inside the tomb. The western wall has two small niches one in each corner.The tomb has been lime plastered from outside (See fig No.3) (Pl-1,b), while mud plaster has been applied from inside after renovation. There is only one grave inside the small building. Built in early twentieth century CE, this tomb is presently in reasonable condition mainly because the local people are taking care of it and renovate it from time to time.

## KOT LASHARI MOUND

This archaeological mound is situated 98°, 44' 56'' N, 21°, 25", 27" E. on the northern edge of deh Kot Lashari, taluka Sehwan. In the west of tomb lies the shrine of Shaheed Bachal Shah at a distance of approximately 500m. This is rectangular site measures 70 x 50 metres

with height of 2 metres. Major portion of the mound has already been encroached by the villagers. Potsherds and burnt brick bats are scattered on the site, while wild bushes are also grown over the mound. Local people have excavated the site in a bid to get mud for construction their houses.(See PL-II a).

Red ware thick textured pottery was collected from the surface. The sherds are mostly painted in black on red with red slip as background, with floral and gemoertical designs in black colour. The types of sherd collected are with grooves pattern, and incised wavy lines. Cut mark design on rim and embossed decorated floral pattern are also observed on few glazed sherds. Not other objects could be found at the site. The reason could be that the site has already been occupied to a great extent and plundered for getting construction material from the ancient structures. (See fig No.4). On the basis of pattern and texture of the potsherds obtained from the site, the site can conveniently be attributed to $17^{th}/18^{th}$ century CE.

## TOMB OF QAIM SHAH

This tomb is situated on the west of Deh Traini, Taluka Sehwan at 26°, 22', 53'N and 67°, 39', 48" E. Manchar Lake lies at a distance of ½ kilometre on the north. This square structure measures 5 x 5 metres with a considerable height of 8 metres (See Fig No.5). Entrance to the tomb has been provided from east side through a pointed arch, while a new wooden frame has been fixed later at the time of renovation. Facade has been decorated with three rectangular panels while windows have been provided in the north and south sides. Four Pinnacles on parapet wall are visible on facade and two on east side. Low octagonal drum is crowned with inverted bowl shaped dome and the same is decorated with mahapadma and glazed finial. Lime plaster and cement plaster has been applied from outside. (See fig No.6) (PL-II,b).

Each wall from inside has been provided with deep recessed arch, while western side has three niches. Four squinches have been provided in each corner to support the dome. There are four blind arched panels between the squinches. Parts of drum and dome are newly constructed because the old dome had partially collapsed with the passage of time. The building is lime plastered with painting in floral and geometrical designs. The tomb was constructed in the $19^{th}$ century and still survives in good condition.

## MOUND NEAR IMAM BUX KHOSO VILLAGE

This rectangular archaeological mound is located 26°, 20', 18" N and 67°, 38', 36" E near Imam Bux Khoso village in deh Garmchat, taluka Sehwan. It measures 130 x 90 metres with a height of 2 metres. It is located in barren land with huge quantity of medium size boulders and small gravels on surface. The soil of the site is of brownish. Roughly moulded thick textured dark red potsherds were collected from surface while structural remains were not visible (PL-111, a). The shreds indicate that the pots were made on wheel. A few shered with thin texture and still a few sherds in polychrome having black and orange color painting on red slip background were also collected. The painted designs are floral and geometrical in character while incised patterns were also noticed (See Fig No.7). On the basis of the potsherds collected from the site, it can be assigned to the time frame of $14^{th}/15^{th}$ century CE.

## QALANDAR JI CHAU THAMBI

This square monument is located 26°, 25' 50" N and 67°, 51' 15" E. in south-west of Sehwan town on a hillock on the south of the shrine of Sufi saint Lal Shahbaz Qalandar at a distance of one kilometre. It measures 8.20 x 8.20metres with a height of three metres (see Fig No.8). This monument has been built on a hillock top while a cave known as Yak Thambi is below this monument on a terrace. Its platform is constructed with burnt bricks and charoli used as mortar. It is decorated with four pinnacles on top one on each corner. For easy approach stair cases have been provided in east side. Each of the four sides has plain surface treatment of lime plaster, while in later period cement plaster has also been applied at some places. There is an octagonal sitting throne on top of the platform. According to local people it was the court of justice of Shahbaz Qalander. The yak thambi cave below was a place of meditation where the saint used to pass considerable time in seclusion while busy in prayers. Entrane to this cave is from the northern side with a pillaer in centre (see Fig No.9) (PL-III,b). The monument belongs to $17^{th}$ century CE. The monument is in good state of preservation as the locals are taking care of it.

## DAIM JO DARO (DAIM JI MIANI)

These ancient remains are located 26°, 28', 30" N, and 67°, 40', 45" E in village Daim ji Miani, deh Supar, Taluka Sehwan. This rectangular site measures 120 x 70 metres with a height of 2 metres. The local people have built a mosque on the site which lies on top of the

triangular shaped mud mound. The northern portion of the mound has also been encroached by the villagers. Structural remains are not visible from any side. The rain water has made fissures and gullies on the site, exposing the remains of small finds (see PL-IV,a). From the surface of mound only potsherds are found in good numbers. Majority of pot shreds plain red ware and medium in texture with red slip coating. The patterns found on the potsherds are incised, cut mark, and grooves pattern. The painted shreds show variety of geometrical designs in black color on red background. Thick textured shreds were also collected with few shreds of glaze pottery having green and dark blue colors. Among small finds one ring and a fragment of copper coin were found from surface (see Fig No.10). On the basis of pottery collected from the site, it can safely be placed in the time frame of $16^{th}/17^{th}$ century CE.

## Lakhmir Ji Mari / Kotiro

Archaeological mound is located 26°, 16', 46" N and 67°, 30,' 55" E in village and deh Naing, Taluka, Sehwan and District Dadu, Naing Sharief Jhangara road in on east side about 1.5 Km, kai village is about 9 Km in north east of mound. Jahangara village is about 25 km in east. This site has two parts i.e. a conical shaped hill which is approximately 17 metres high had a lower town. Then on the slopes of hill are the remains of terraced fortification wall. It is evident that the conically shaped hill rests on a natural rock outcrop, but that its form had been shaped by the addition of earth. Bellow the hill are numerous remains of stone structures. The water from a spring flows in a channel past the site. The site is much eroded from all sides (see PL-IV, b). The surface collection of the site included black on red pottery and chert flakes in small numbers. Mostly shreds are of thin texture fine material and red ware. Pottery is painted in floral and geometrical design in black on red. The incised and groove pattern on body are observed while few perforated shreds and one buff ware shred was also collected. Buff ware pottery shows that the site had trade links with any site in Kachi plain area (see fig No.11). On the basis of surface collection the site can reasonably be assigned to mature Indus period or Harappan period.

## MOSQUE IN TRAINI VILLAGE

Thia mosque is located 26°, 22' 53" N and 67°, 39', 48" E in southern part of Traini village and deh, Taluka Sehwan. Manchar lake is about 400 m on the east, while Jhangara Traini road is on north west side of mosque hardly at a distance of about 200 m. This rectangular building measures 12.50 x 5.70 metres with a height of 8 metres (see fig No. 12). Burnt bricks**,** Charoli, mud mortar, lime mortar are used in construction of this monument.

The prayer chamber of mosque is rectangular in plan, and has three rectangular wooden door frames from eastern side in façade. These entrances have been provided through pointed arches openings, central entrance is large then other two. The portion above the main entrance is decorated with two triangular panels within a recessed arch panel. Rectangular arched panels have been provided above other entrances. Windows have been provided in the northern and southern sides. Except for the façade all other sides have plain surface treatment of lime plaster. There is a series of merlons on top of parapet wall with four turrets on façade and two on western wall. Three onion shaped low height domes are placed on octagonal drum. All the three domes are decorated with inverted lotus mahapadma designs and glazed finial. Central dome at prayer chamber is much larger then the side ones. The interior of the mosque has been plastered with lime. A rectangular courtyard is in front of prayer hall (see fig No. 13) ( PL- V,a).

The interior of prayer hall is consisting of three rectangular chambers in north to south direction separated by arched bays. Central chamber is wider than other flanking once. Western wall has three resses arch panels with three rectangular panels in it. The eastern wall has three recessed arches above the entrance and north south side has one. Western wall has a projection to accommodate the mehrab. In the central portion of prayer hall there are four squinches in corner with four arched panels to provide base for the drum. Central dome has a glazed plate at medallion. Interior has also been plastered with lime. The Mosque was built during Kalhora period ( 1700 – 1783 CE)

**Bado Jabal site (Stone tools Workshop)**

This site is located 26°, 16', 39" N and 67°, 34', 28" E near Jhangara Bado Jabal road at a milestone mark, shows Bado police post in 23 Km in south west. A deep nala or stream carrying rain water lies on its east. Site comes in the limits of taluka Sehwan and District Dadu. This rectangular site of pre-historic period measues 25 x 8 metres. It served as a workshop of stone tools which are still lying on surface of Bado Jabal in large quantity. There is a series of stone manufacturing platforms of round shape, while raw material meant for stone tools is also scattered on ground surface in large quantity. Chert blades, retouched and sharp blades, few scrapers and cores stone were collected from surface (see fig No. 14). The workshop of stone tools belongs to prehistoric period and might have served as the main supply center of stone tools to the prehistoric period settlements located in the surrounding region.

## SHAHAB UDDIN SHAH BUKHARI TOMB

This tomb is situated 26°, 31', 17" N and 67°, 49,' 44" E near village Talti, Taluka Sehwan. The site lies on the east of Talti village at a distance ofs about 400 m, while F.P. bund is in east about 300 m. Talti Bubak road is also in west of tomb. Bhan Saeedabad is about 13 Km in north-west. This square structure (see fig No. 15) measures 8.10 x 8.10 metres with a height of 9 metres. It is made of Burnt bricks, lime mortar, cement plaster, glazed tiles Entrance to the tomb has been provided from east side through a rectangular wooden frame, while originally tomb had pointed arch entrance. Façade is decorated in rectangular panels with lavish ornamentation of glazed title work. Two turrets and two pinnacles with crowns in centre have been ornamented on parapet wall. Series of merlons on top of parapet wall are there as per architectural traditions of Sindh. Eccept for the façade the remaining sides have plain lime plaster surface treatment. Low octagonal drum is crowned with inverted bowl shaped dome while the dome is decorated with inverted lotus flower and glazed final (see fig No. 16) (PL- V,b).

From inside each wall has recessed arch panels, while mehrab size niches and rectangular panels are in them. The zone of transition has been created with the help of corner squinches to convert its top into an octagon to support the dome. Corbelled arch panels and blind arch panels have been provided between squinches. The dome is decorated in multi floral motifs in medallion portion. From dado portion to upward at medallion the newly mirror work (Aina Kari) has been applied in floral and geometrical designs. One grave of saint is inside the tombs. The tomb is properly looked after and maintained by local people. It is being renovated from time of time, as major tiles work and mirror decoration has been completed few years ago. The tomb belongs to late 18$^{th}$ century CE.

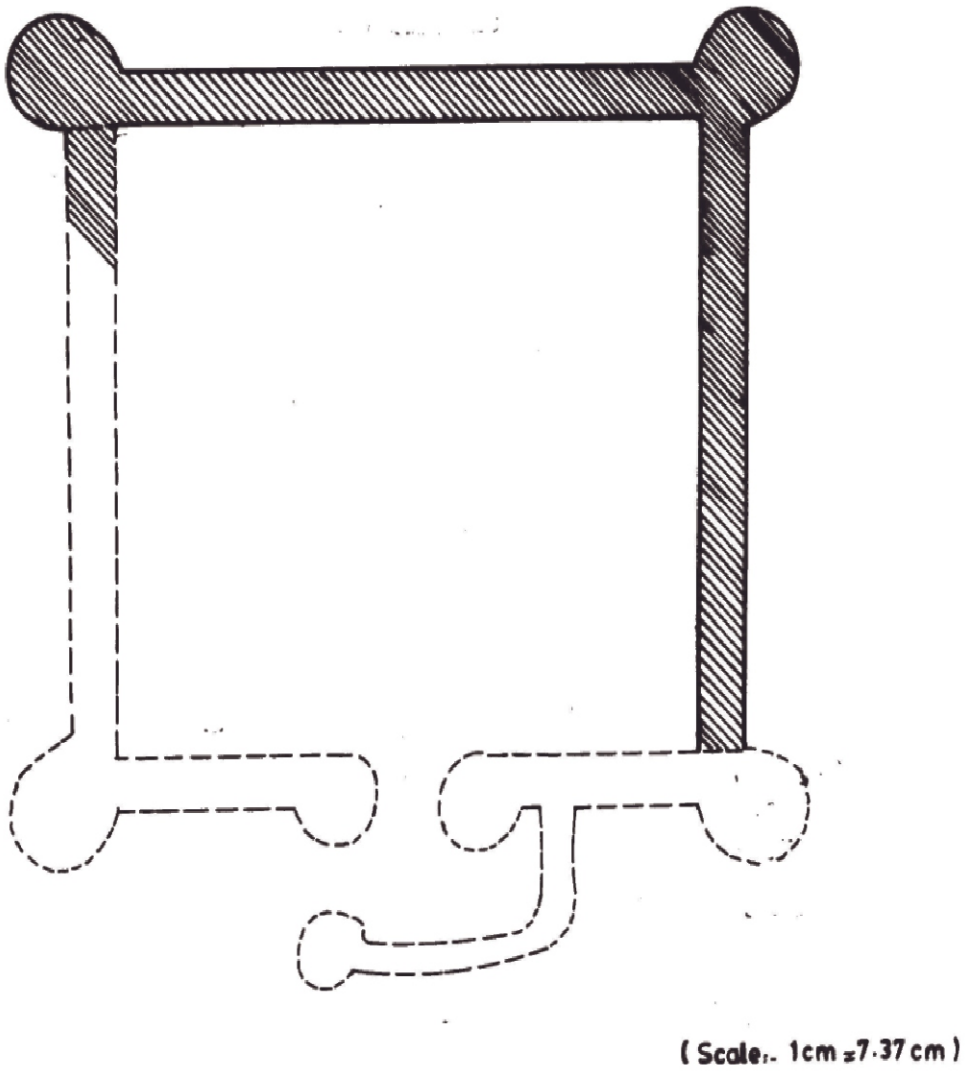
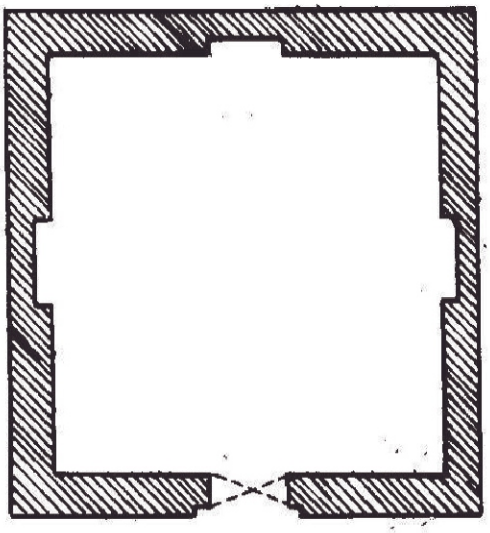



Fig. No.1. Plan of Kot Lashari (Fort)



( Scale:- 1cm = 0.632cm )

Fig. No. 2. Plan of Hussain Shah Tomb

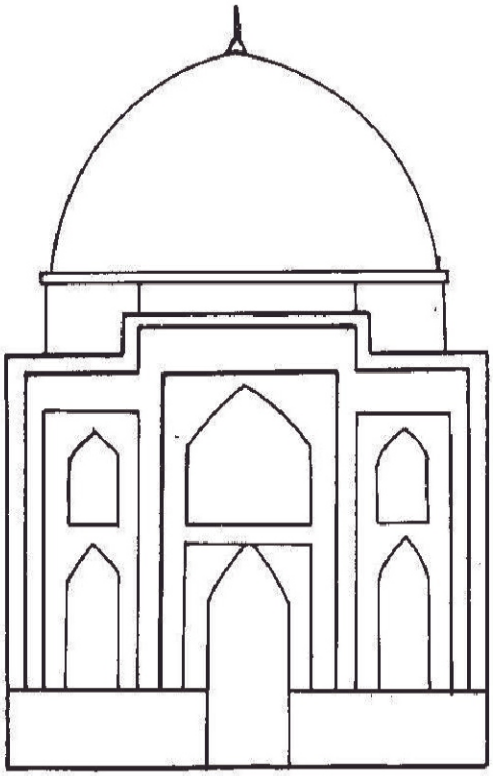


Fig. No. 3. Elevation of Hussain Shah Tomb

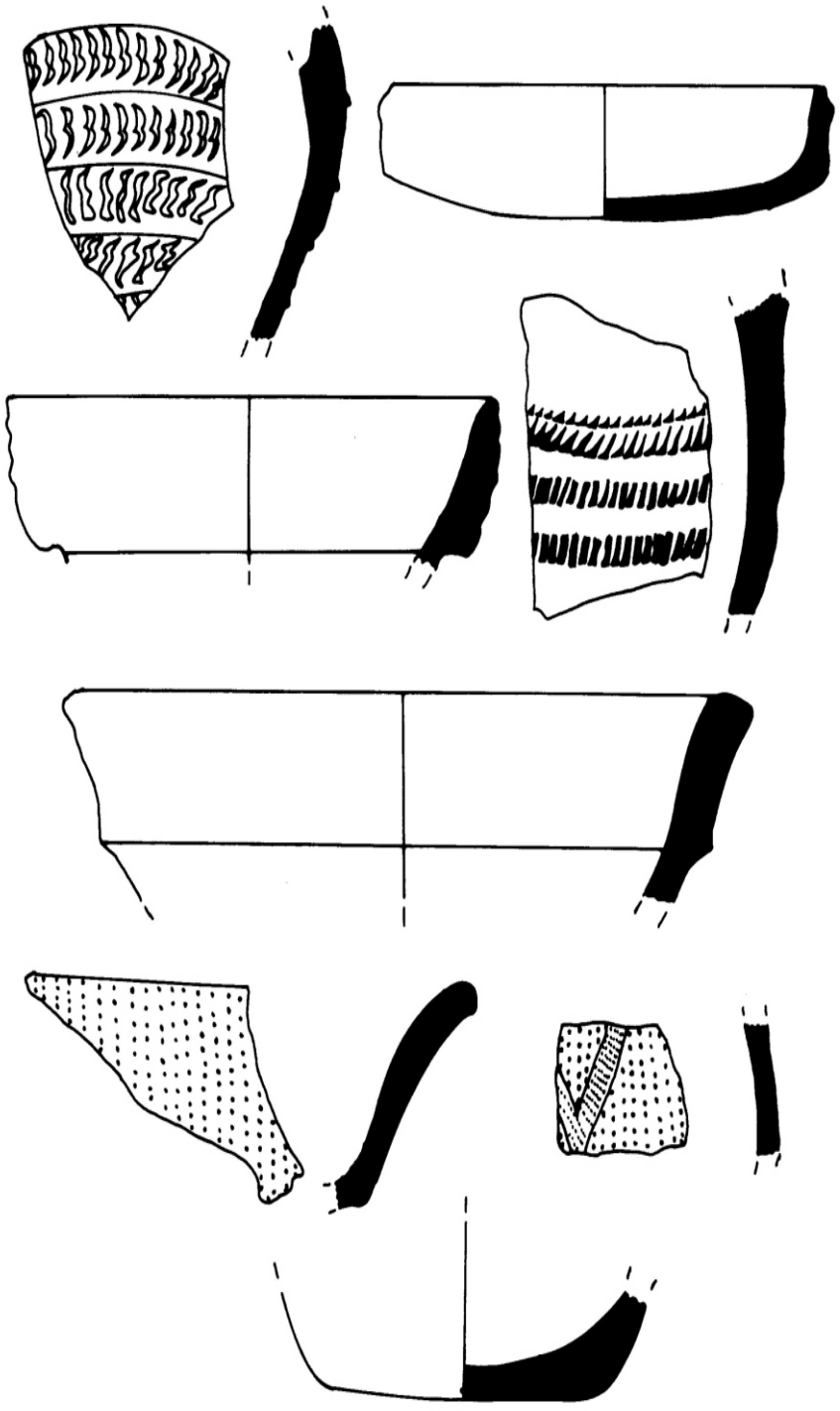
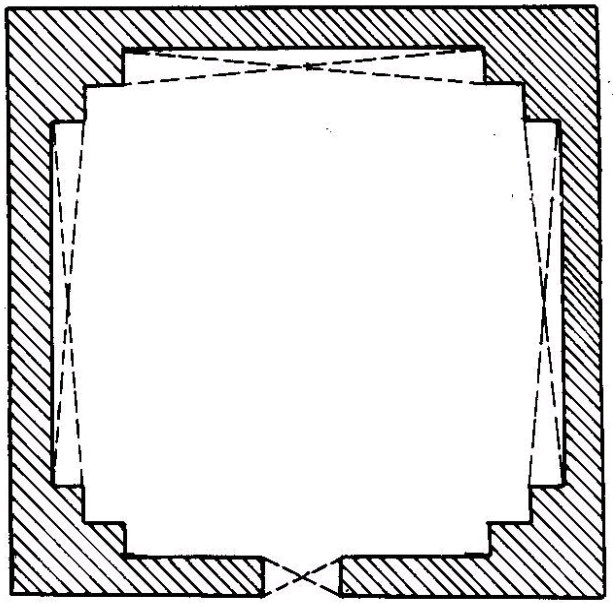


Fig No. 4. Type of Pottery from Kot Lashari Mound (17th -18th Century A.D)



( Scale:-1cm = 0·50cm )

Fig. No. 5 Plan of Qaim Shah Tomb

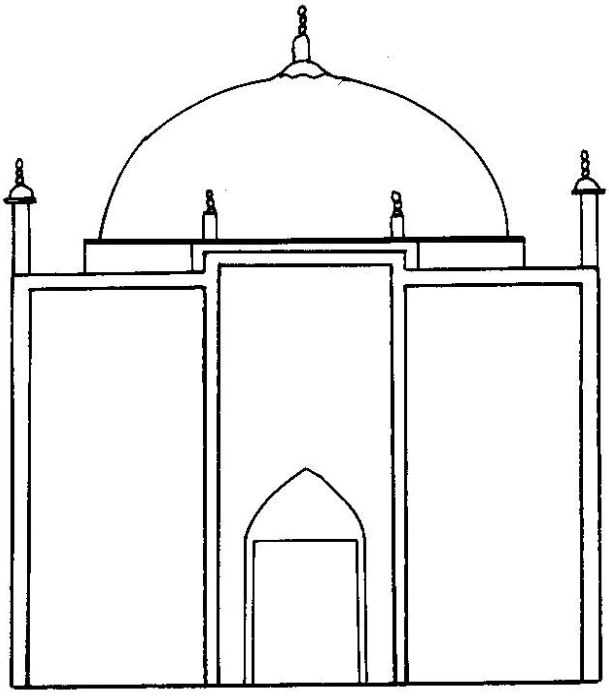


Fig. No. 6 Elevation of Qaim Shah Tomb

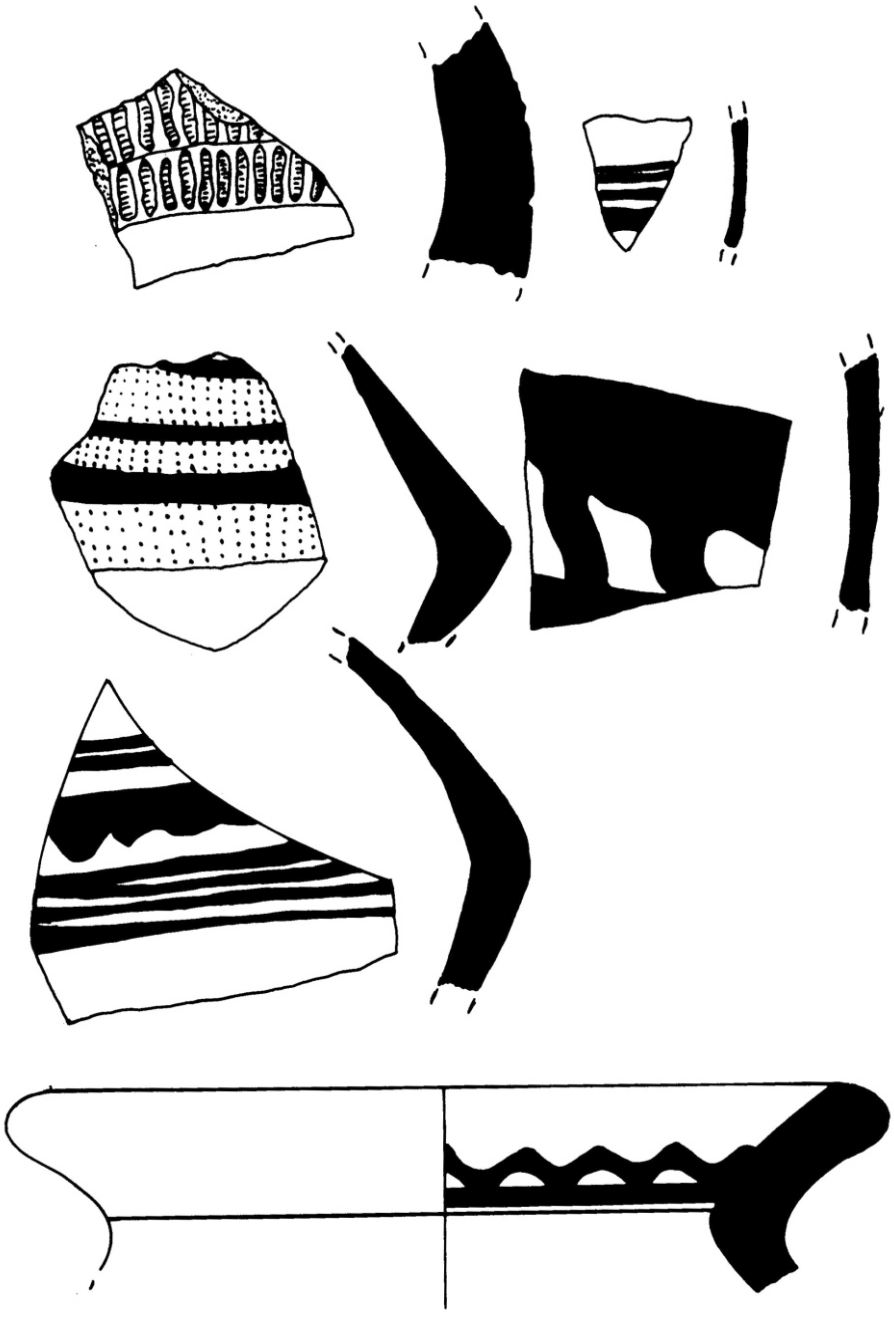


Fig No. 7 Type of Pottery from Imam Bux Khoso Mound (14th-15th Century A.D)

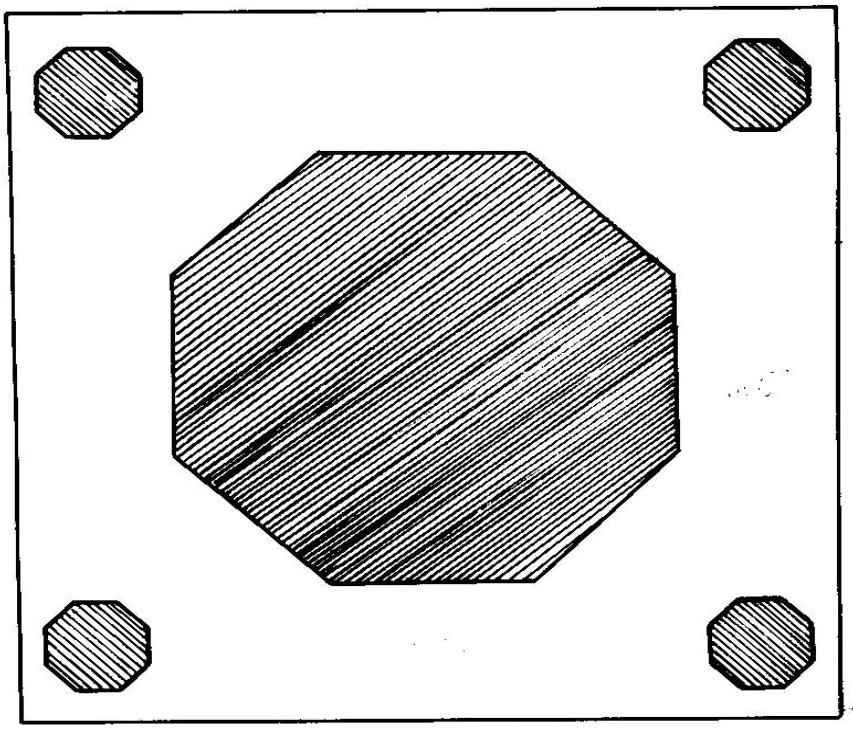


Fig. No-8. Plan of Qalandar Ji Chau Thambi

(Scale:- 1cm = 0.656 cm)

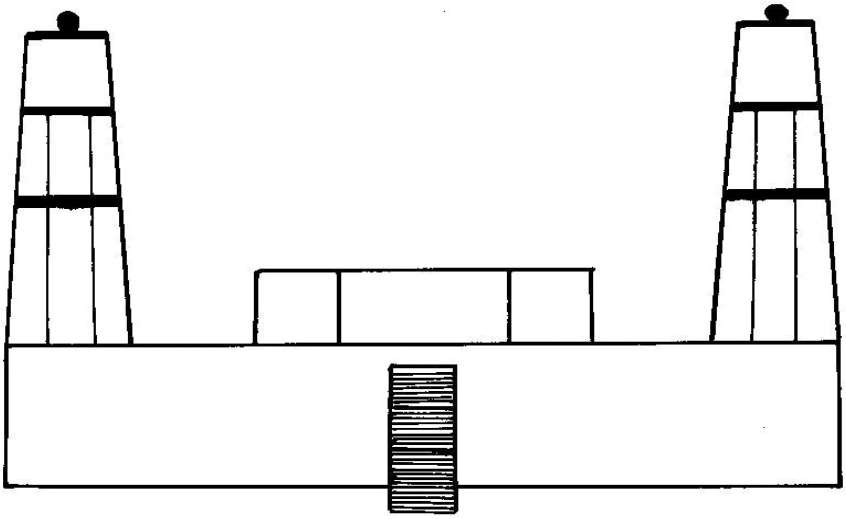


Fig. No-9. Elevation of Qalandar Ji Chau Thambi

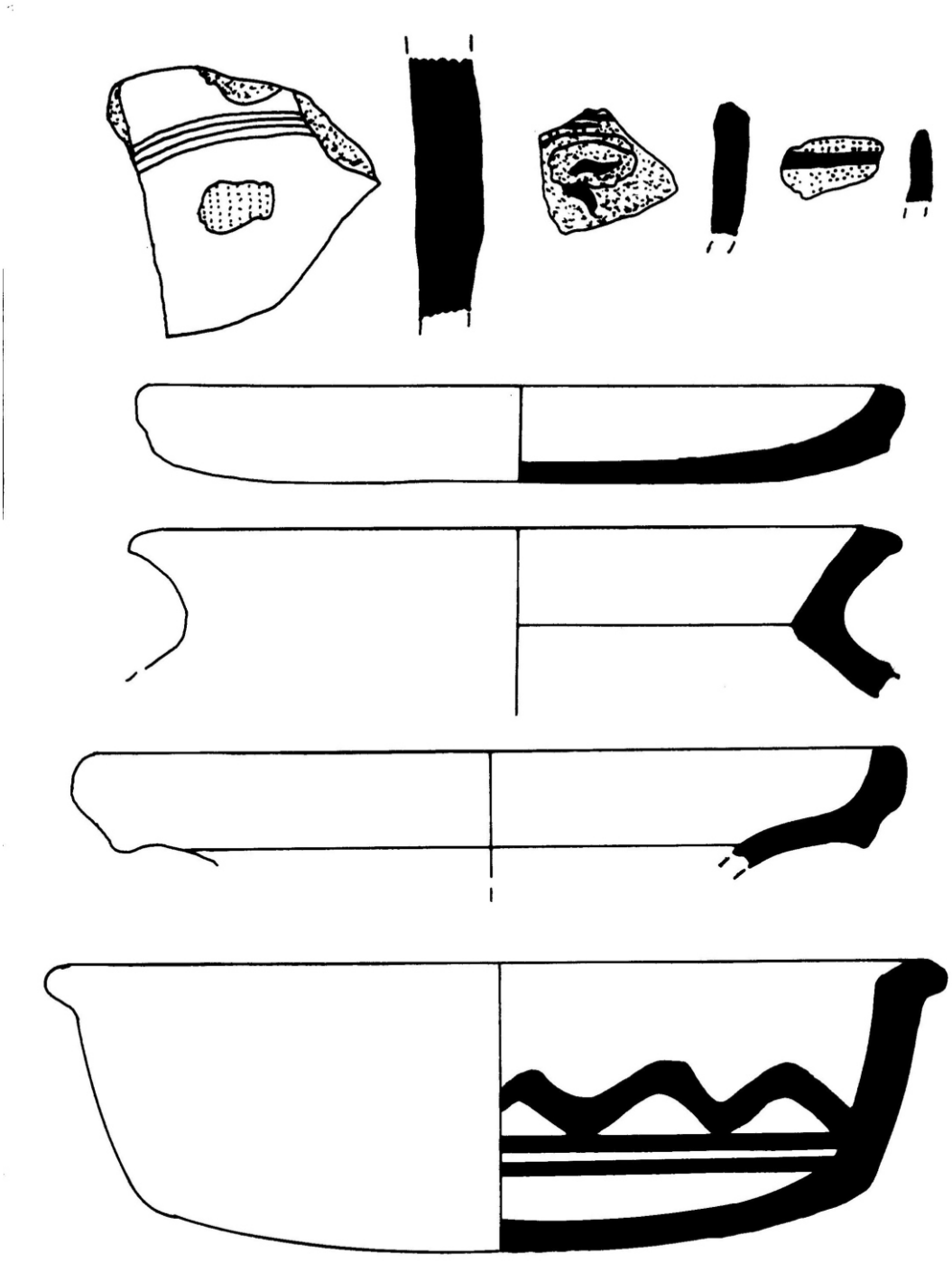


**Fig No. 10 Type of Pottery from Daim jo Daro (16th - 17th) Century A.D**

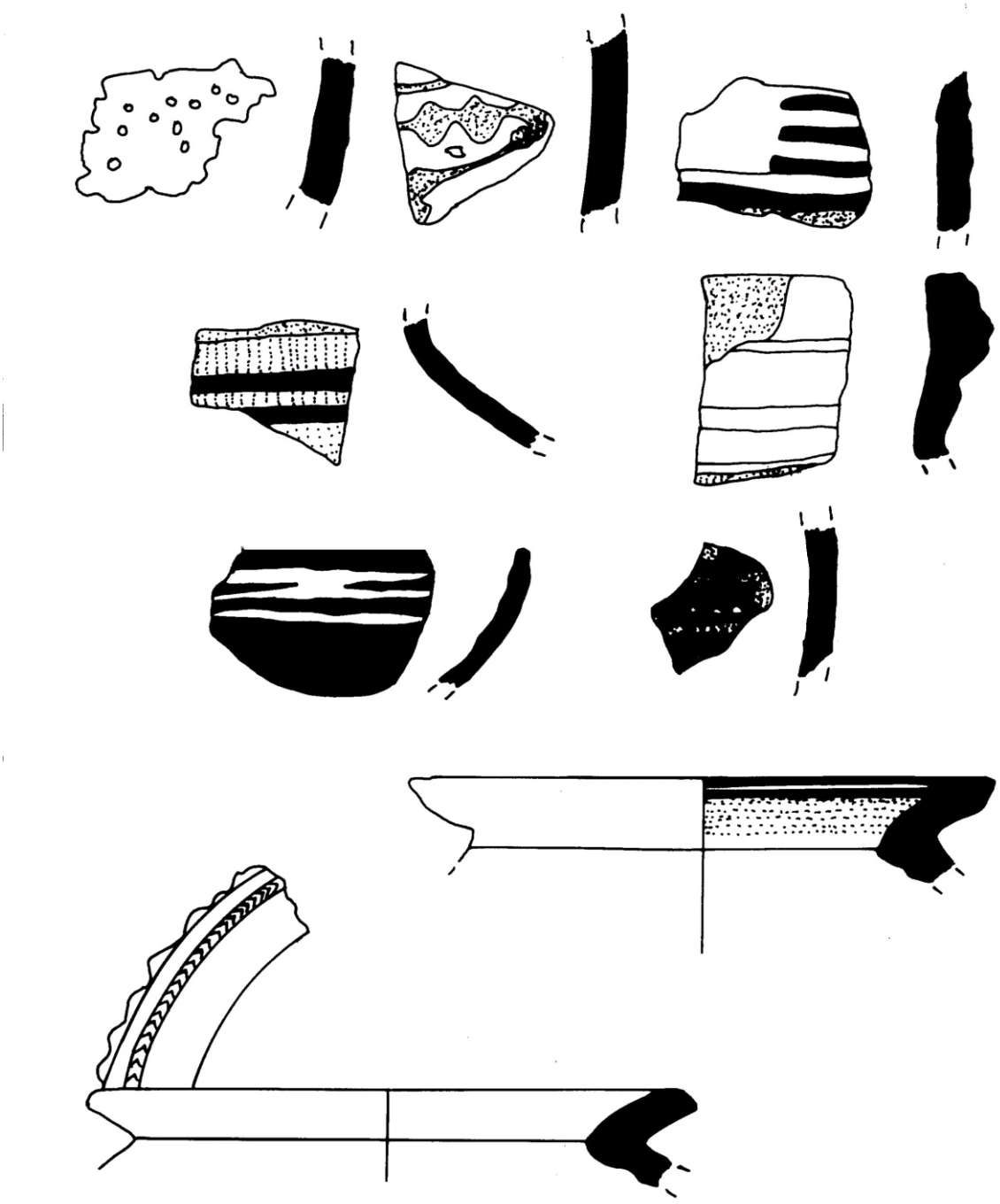


Fig No. 11 Type of Pottery from Lakhmir Ji Mari /Kotrio ( Harrapan Period)

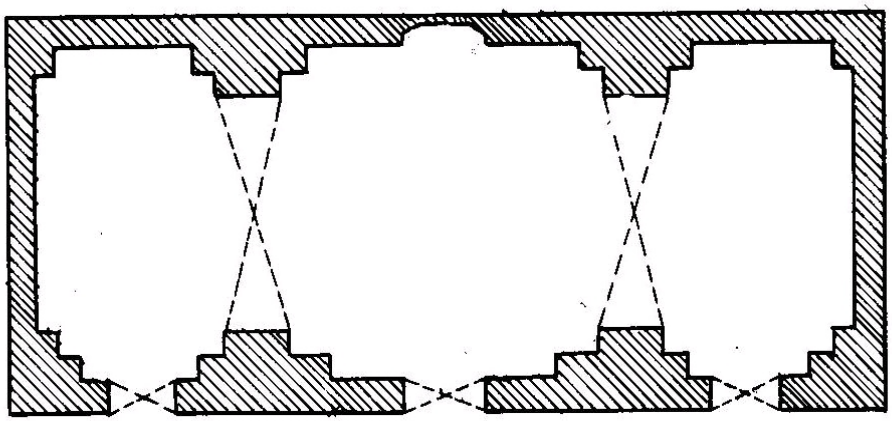


Fig. No-12. Plan of Traini Village Mosque

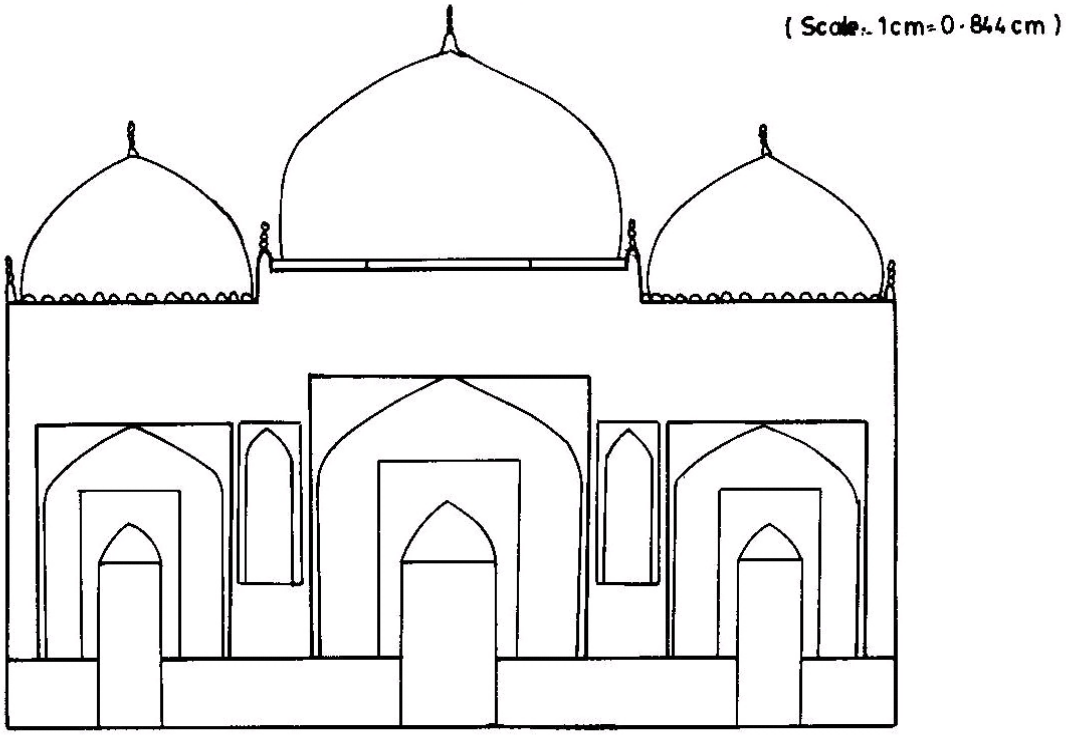



Fig. No-13. Elevation of Traini Village Mosque

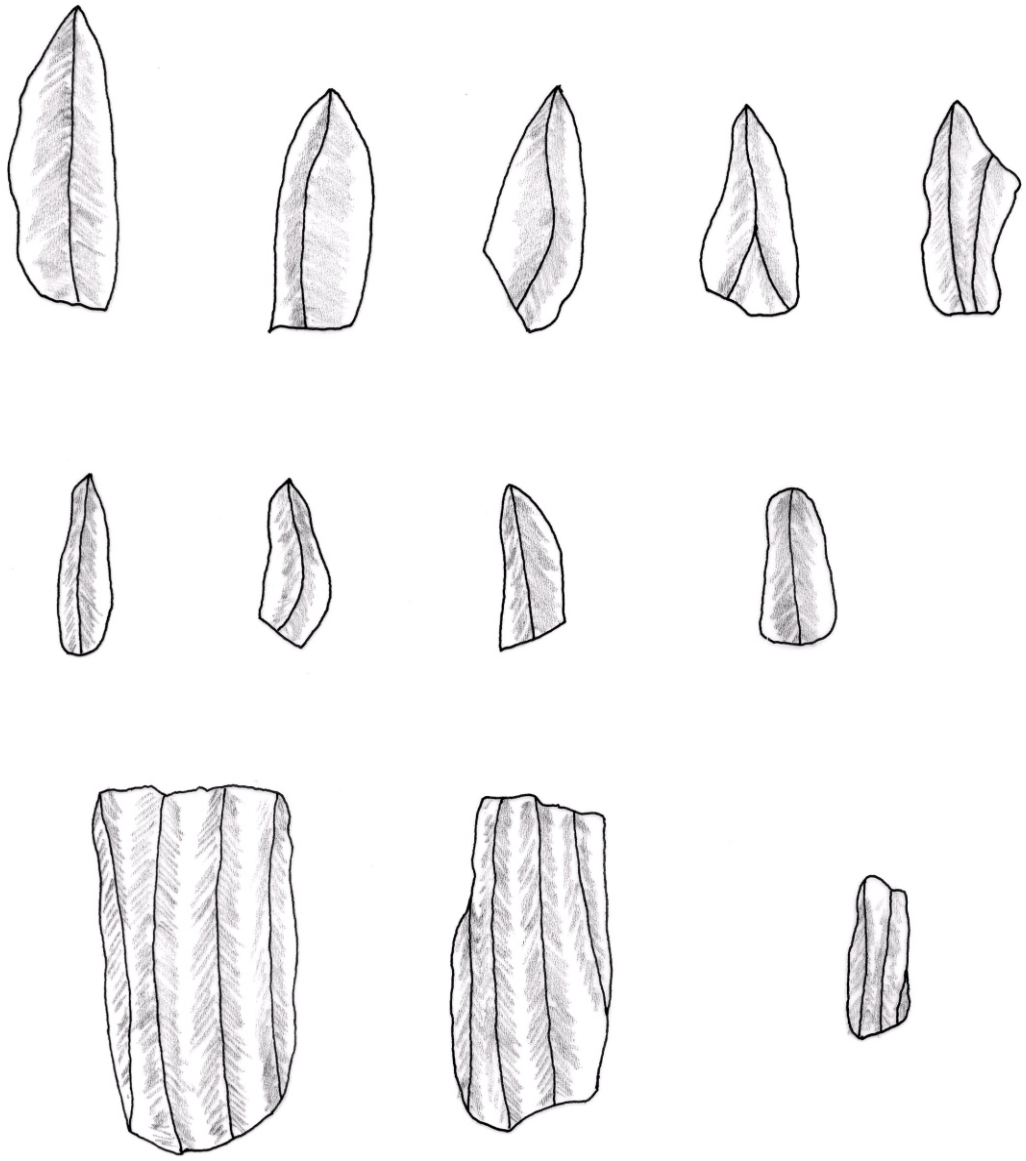


Fig No. 14 Surface Collection of Stone tools from Bado Jabal Site (Prehistoric Period)

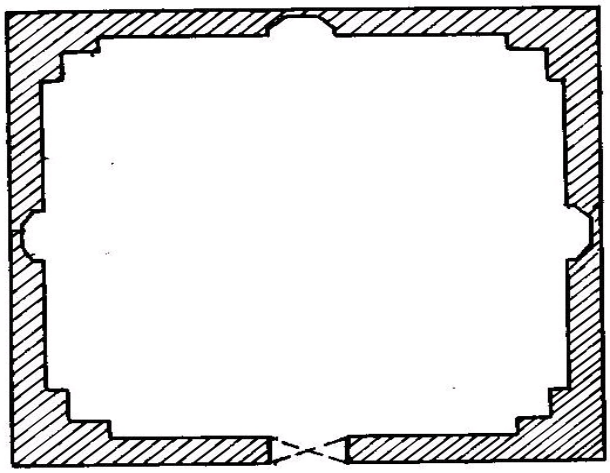


Fig. No-15. Plan of Shahabuddin Shah Bukhari Tomb

( Scale :- 1 cm = 0 · 80 c m)

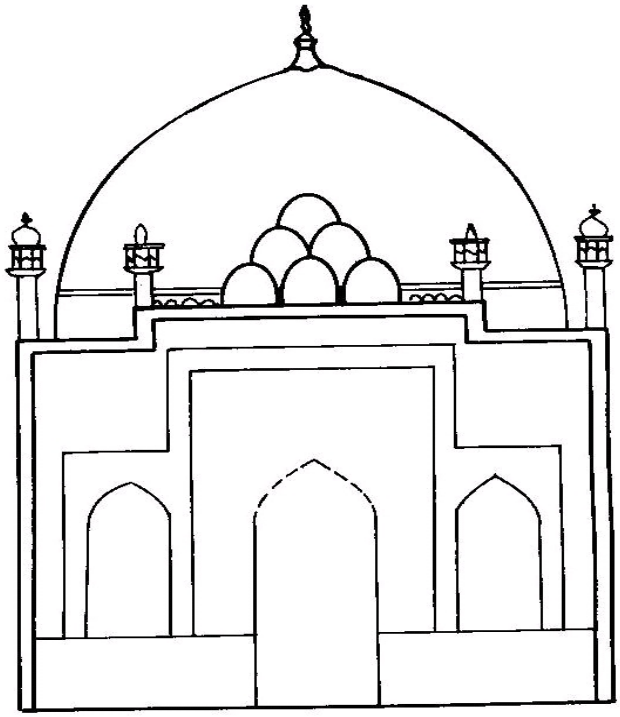


Fig. No-16 - Elevation of Shahabuddin Shah Bukhari Tomb

PL.1



a. General view of ruins of Kot Lashari (Fort)



b. North eastern view of Hussain Shah tomb

PL.II



a. General view of Kot Lashari mound from east



b. South eastern view of Qaim Shah tomb

PL.III



a. General view of mound, near Imam Bux Khoso Village



b. General view of historical monument, locally known as Qalander ji Chau thambi

PL.IV



a. General view of Dam Jo Daro /Daim Ji Miani site



b. General view of Lakhmir ji Mari/Kotiro site

PL.V



a. General view of Mosqu in Traini village



b. Southern eastern view of Shahabuddin Shah Bukhari tomb

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# Archaeological Surveys of Waziristan

**Shakirullah***
**Humayun Khan****

**Abstract**

*Little has been written on the archaeology of Waziristan. The aim of this research article is to draw the attention of government towards the hidden treasures of Waziristan that had been surveyed by Sir Aurel Stein and Ahmad Hassan Dani long ago. Afterwards, no attention has been paid so far to this region by any government department. If government or any foreign archaeological missions start the initiation, it is sure that the step would bring positive impacts on the area and its inhabitants in terms of their socio-economic situation. Furthermore, the initiatives will create job opportunities for the local people. That could also contribute positively to the worse law and order situation. If this region gets the opportunity to be explored than it would be a great milestone in the history of Pakistan's Archaeology in particular and Asian in general.*

**Key words:**

**Waziristan, Archaeology, Pakistan, Asia, FATA**

Waziristan is a mountainous region that covers an area spanning over 11,585 km² (4,473 sq. miles). It is situated in northwestern Pakistan bordering Afghanistan on the west. It is part of the Federally Administered Tribal Areas (FATA). FATA is considered autonomous region, outside the Pakistan's four provinces and directly controlled by the federal government of Pakistan through a special set of laws known as Frontier Crimes Regulations (FCR ) (Rabasa, A 2007).

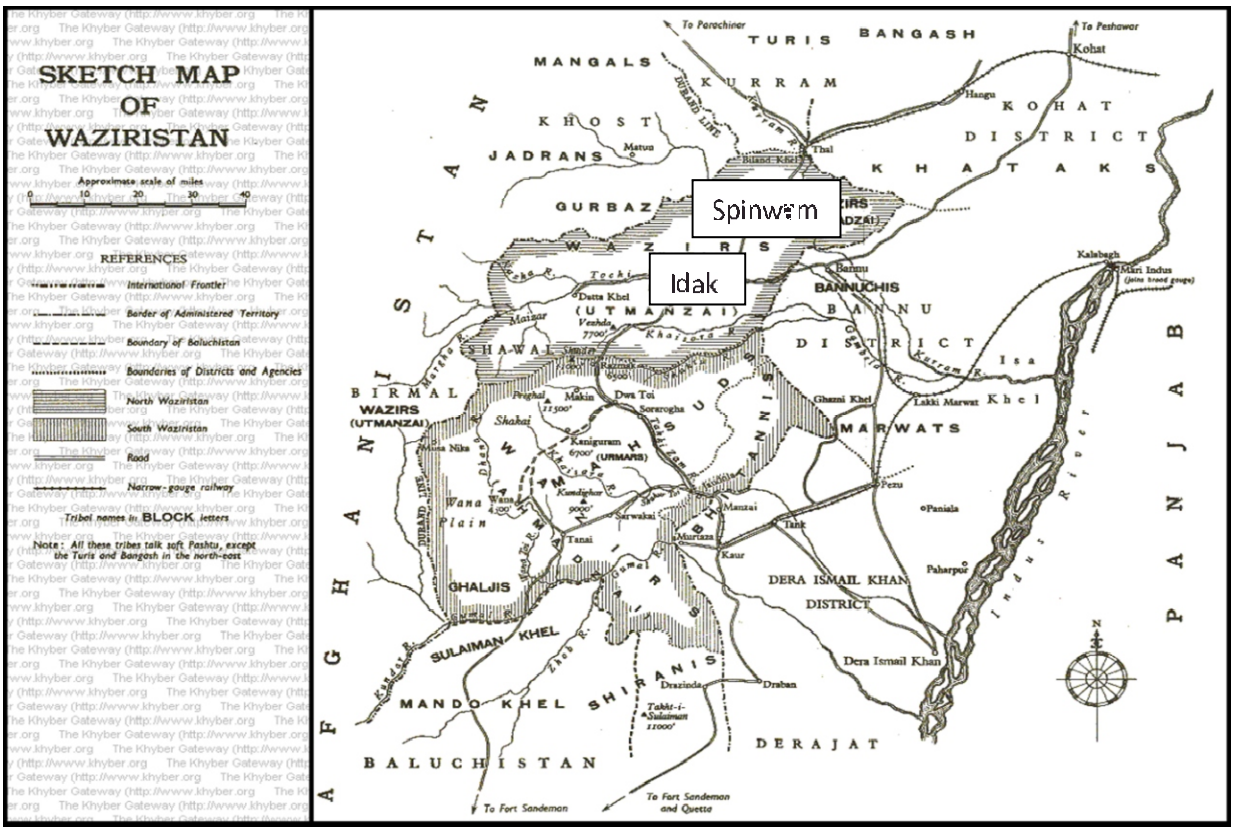
Waziristan lies on the west and southwest of Peshawar between the Gomal River to the south and the Tochi River to the north. Khyber Pakhtunkhwa (KP) lies immediately to the east. Until 1893, the region was an independent tribal territory, remaining outside the British Empire. Tribal raiding into British-ruled territory was a constant problem for the British. That is why British had launched frequent military expeditions between 1860 and 1945 aand against the brave and freedom loving Pashtuns of Waziristan. The region became part of Pakistan in 1947.

For administrative purposes, Waziristan has been divided into two "agencies"i.e. North Waziristan and South Waziristan, with estimated populations of 361,246 and 429,841 respectively according to census carried out in 1998. The two parts have quite distinct characteristics, though both tribes are sub-groups of the Wazir Tribe and speak a common Wazirwola language. They have a reputation of formidable warriors, and are known for their

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frequent blood feuds. Tribal cohesiveness is also kept strong by means of the so-called Collective Responsibility Acts in the Frontier Crimes Regulation (FCR).

The archaeology of Waziristan has not been explored yet, because of the worse security situation in the region. Attempts have been made several times to excavate some of the sites locaed there, but the missions failed due to the security reasons and fragile law and order situation after 9/11. Ahmad Hasan Dani located Buddhist sites from the area in 1966. Previously in the Sheratala plain, coins of the Kusana and Parthian rulers have been found. Some archeological finds were reported by Sir Aurel Stein. They also located during their visit to a Buddhist Stupa site near Spinwam area of North Waziristan. But nothing definitely is known about the early history of this region. The Tochi Valley inscriptions for the first time attest to the presence of the Shahi rulers here (Dani. A. H, et al. 1964).




Map Of Waziristan

Waziristan lies on an important route and has a vital significance in the region. It is used in the past as a pass by foreign invaders into South Asia and Far East Asia. It has been proved by the inscriptions found here that this region has seen several cultures and civilizations. The Tochi Valley inscriptions for the first time attest to the presence of the Shahi rulers here. Furthermore, a

Buddha stupa site is also discovered in the area which shows that Buddhism had also flourished in this area, so there are diverse discoveries in this region, but unfortunately the insecure situations are obviously great impediments in further exploration and excavations. We have a few questions to be addressed in an effort to emphasise on major steps for the documentation and preservation of the archaeological wealth of the so far largely unexplored region. These questions include;

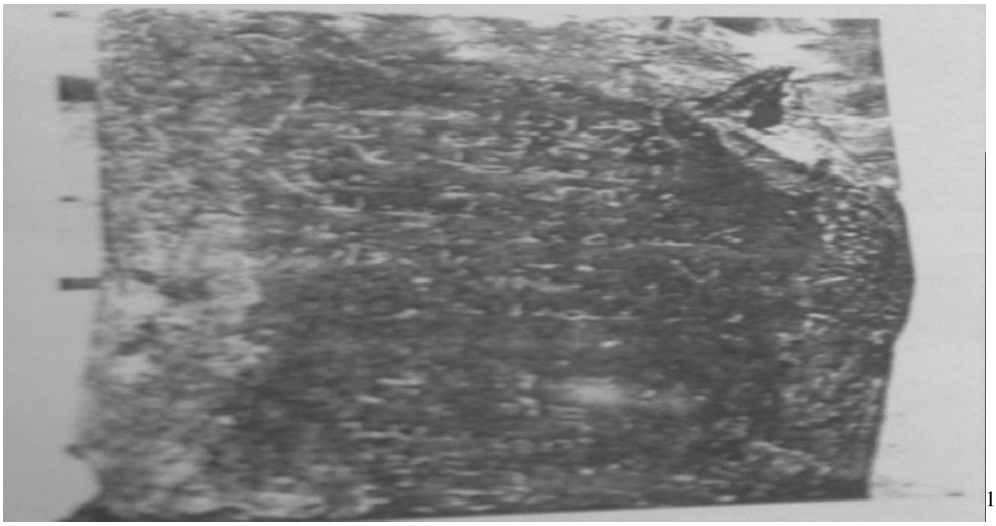
1. How Sir Aurel Stein visited and conducted survey in Waziristan?
2. What are the findings of the first survey conducted by Sir Aurel Stein?
3. What were the findings in Waziristan by Ahmad Hassan Dani after the creation of Pakistan?

We have opted for the *descriptive method* to solve the above key questions of this research paper by taking advantage of the published material in books, journals, thesis, articles, internet and the archives archives at Taxila Museum. Sir Aurel Stein was the first man who conducted surveys in Waziristan in 1926-27. He started his archaeological tour along the Waziristan border, which kept him fully occupied until the middle of April 1927. The object of this tour was a systematic survey, accompanied where advisable by trial excavations of such ancient sites in the border regions between India and Iran as are likely to throw light on the connection between the prehistoric civilization revealed by the excavations at Mohenjo-Daro and elsewhere in the lower Indus valley and corresponding cultures traced westwards in Persia and Mesopotamia. Sir Aurel Stein extended his survey to both North and South Waziristan. The remains of an ancient stronghold examined at *Idak* were proved by the evidence of coins and of a ruined stupa to date from the indo-Scythian period. Further North at *Spinwam* was found a mound formed by culture strata of approximately the same epoch as noted around *Draband* and *Tank.* Remains of forts visited in the Spin plain proved to belong to late historic periods (Stein 1931).

The whole area Waziristan, barren as it is, presents a special interest to the students of the ancient geography of India. Its chief rivers, the Kurram and Gomal, have been mentioned in the famous *Nadistuti* or River Hynm of the Rigveda under their ancient Sanskrit names of *Kruma* and *Gomati.* It appears very probable that this region might have been for some time occupied by the Aryan tribes before they descended from their hills to conquer the Indus Valley and the Punjab plains. The description which Hsiian-tsang, the great Chinese Buddhist pilgrim of the seventh century CE, has left for us mentions the territory Chichiang-na which corresponds to the present Waziristan region, and the Qiqan of early Arab history, clearly shows that in his time, centuries before the advent of Pathan tribes, this territory “under separate local chiefs but without

a supreme ruler," "abounding in sheep and excellent horses" had already a reputation not unlike its present one (Stein 1931:pp.222-223).

Three inscriptions on stones from Waziristan are preserved in Peshawar museum. All of them have been found between *Idak* and *Spinwam* region of North Waziristan, situated in the west of Bannu, a region which lay en route the early Arab invasions in the North West Frontier of Pakistan. The inscriptions on the first stone are containing Arabic and Sanskrit texts in a tablet measuring 24" X 12". The Arabic text is on the upper half and the Sanskrit on the lower half. The tablet was found in 1907 and was presented to the museum by Mr. Pears. It was first edited by Mr. Muhammad Hamid Quraishi and then re-edited by Dr. Muhammad Shafi. Mr. Quraishi also gave the Sanskrit text as read by Dr. Hiranand Sastri, the Government Epigraphist for India (Dani, A.H. 1964: pp.125-126).

[1]

The Arabic paleography on the first stone is most interesting. As Quraishi has pointed out, the writing is somewhat crude. It is strange that the inscription doesn't begin with Bismillah. The style of writing has been described as Kufic. The features suggest that the style was influenced by the curved forms of letters. Dots are omitted, and hence the reading is difficult. The Arabic script reads that "It was ordered by Hayy, son of 'Amar' to construct this tank. May God accept his pious deeds and forgive his sinful deeds. It was recorded on Friday, the 13$^{th}$ day of Jumada I of the year 243 (7$^{th}$ September, 847 A.D.). Blessings of God be upon Muhammad, the chosen, and his descendants." The Sanskrit version of the inscription on the first stone reads, "Om. Salutation. In the year 32$^{nd}$, in the month of Kartika (Sept-Oct), on the second day of dark fortnight, on this day".

[1]Stein, A, *Officers on Special Duty* in *Annual Report of the Archaeological Survey of India 1926-27*, Government of India Central Publication Branch, 1931.

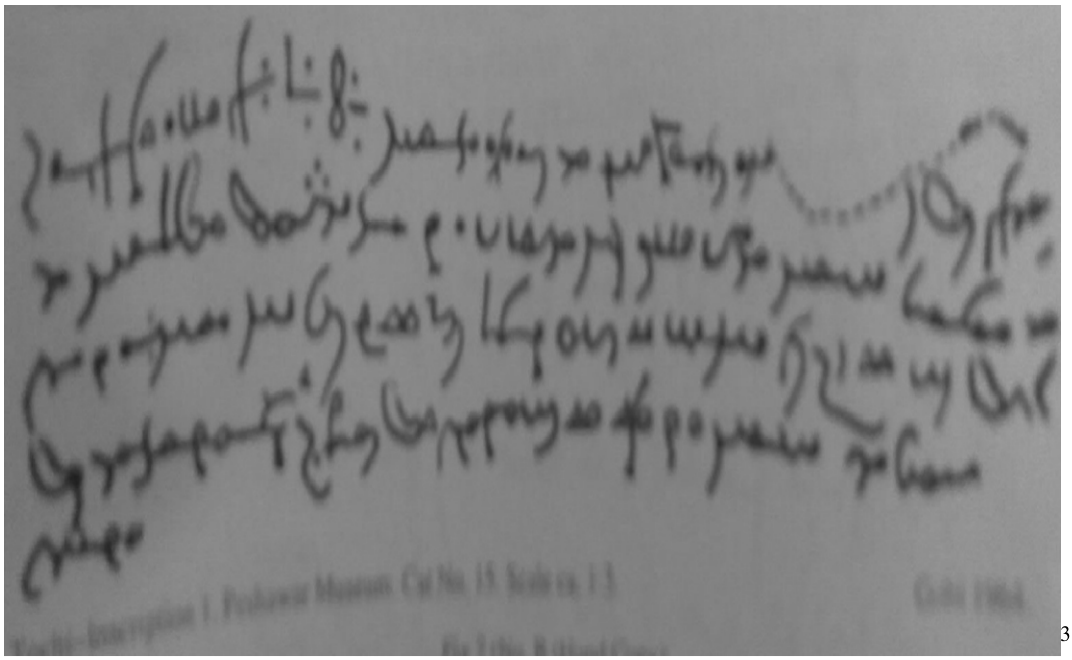
The inscriptions on the second stone are containing Bactrian and Sanskrit texts in the same tablet measuring 25" X 8". The inscription is divided by a vertical line. The Bactrian writing is on the right portion occupying 2/3rd space and the Sanskrit on the left. The stone was discovered at a place called 'Khazana' about four miles from Mir Ali on the Idak-Spinwam road in the Tochi valley. It was received from Captain H. A. Barnes, Indian Political Department on 30th July 1928. Mr. Barnes adds, "There are several remains of ancient forts and buildings at Idak-Spinwam and Shiratala plain. In addition I have had coins brought to me discovered on three sites. The coins were chiefly of Azes I and those of several Kushana kings, notably Kanishka I." The inscription has not been properly deciphered so far. Dr. Hiranand Sastri, as noted in the museum file, read a few words like *titme, Samvat, bhupa*and *putra,* he also suggested that the date should be referred to the Sastra era.

[2]

Bactrian Inscriptions on the Second Stone

The Sanskrit text is in five lines. Unfortunately the stone is broken on the left hand side resulting in the loss of the first few letters in every line. In consequence, it is difficult to make sense by Sanskrit text alone. But with the knowledge gained from the Bactrian text, the interpretation is not difficult.

[2] Stein, A, *Officers on Special Duty* in *Annual Report of the Archaeological Survey of India 1926-27*, Government of India Central Publication Branch, 1931.

[3]

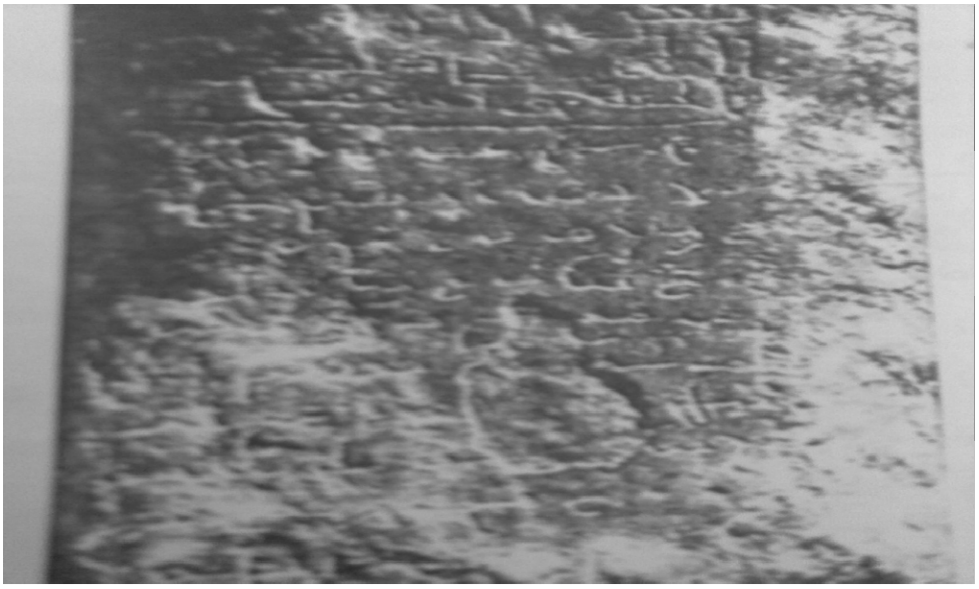
The Hand-written Copy of the Bactrian text on the Second Stone

"In the year 632, month six, written by Gomo Sahi, by him, the drinker of liquor, the lord, the shepherd of the cows, the member of the cow family, by him the Kaldo was made at the arrival of the star (refers to a king), by him who is a preserver, a king of the nobleman and a custodian of the inscriptions elevated beyond the stars and a scion-of-Fromo, a member of the cow house, a star."

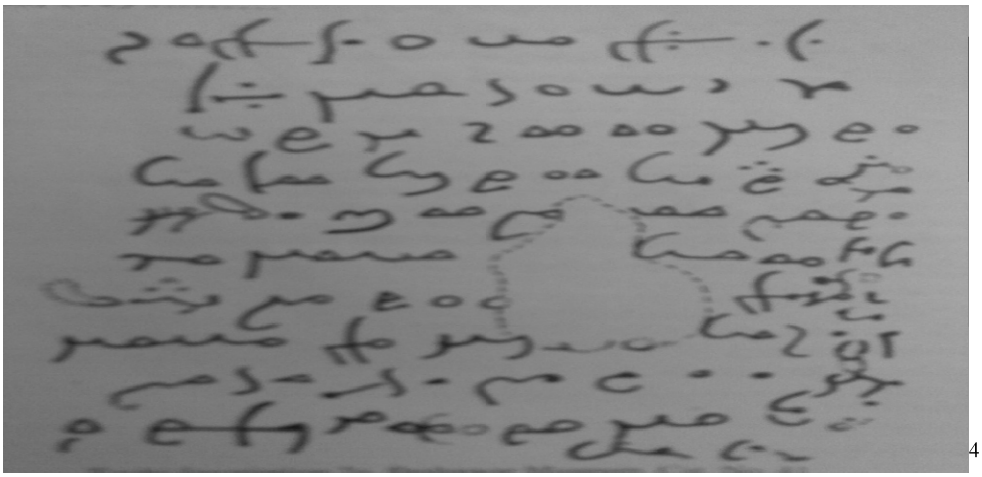
"Hail. Salutation. In the year 38, on the 7th day of the bright fortnight of the month of Bhadra. On this day……Nai (vi) na-chandra Phruma…..?....king of the family of……the son of Khojana (i.e. The Kushana)."

[3] Stein, A, *Officers on Special Duty* in *Annual Report of the Archaeological Survey of India 1926-27*, Government of India Central Publication Branch, 1931.

The inscriptions on the third stone are in two pieces, the larger one measuring 34" X 11". Both the pieces were found together at Sherathala and were received from Major Keene. They contain Bactrian text with two lines in Arabic (now chipped off or broken) on the top. Thus the fragmentary nature the Arabic text does not give any sense (Dani, A.H. et al. 1964: p.126).



Inscriptions on the Third Stone

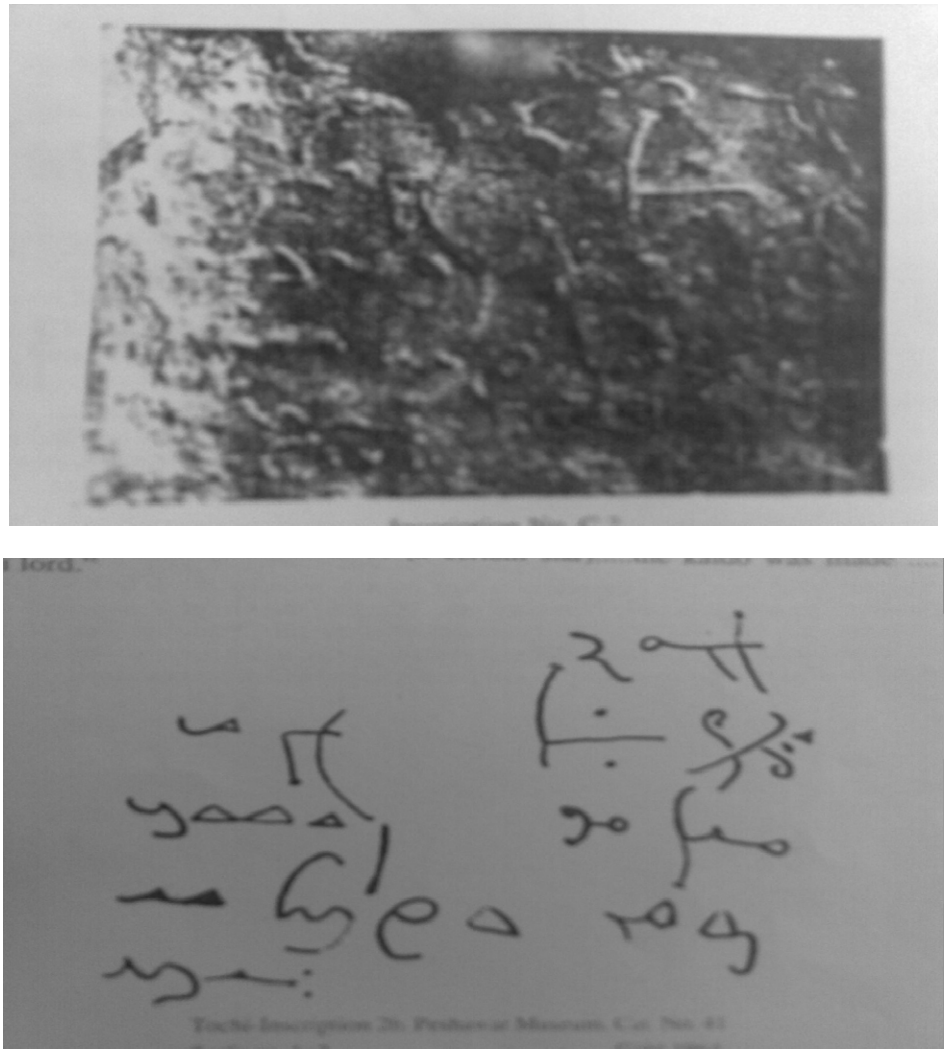


Hand-written Copy of the 1st piece on the Third Stone

[4] Dani. A. H, Helmut Humbach and Robert Gobl. (1964). *Tochi Valley Inscriptions in the Peshawar Museum* in *Ancient Pakistan Journal,* Volume 1, p.132.

The writing on the first piece has been translated as under:

the drinker of liquor, the nobleman, the brilliant one, the star, the member of the cow family, the member of the cow house, the king, the lord, the headman, the member of the Khagan-house, the owner of cows, the Kuzula, the increaser of the goods, the leader, the scion-of-Fromo." (Dani, A.H. et al. 1964: p.126). "In the year 635, month one for Ormuzd and Mihr the Kaldo was made by the Kozano by him,



Hand-written Copy of the 2nd piece of the Third Stone

The text on the second piece has been translated as below:

"In the year 635, at the arrival of (a certain star)……..the Kaldo was made……..by the tadi lord."

The use of three languages in the inscriptions is very significant. Sanskrit decidedly proves that the language of the educated people was Sanskrit. Hence this was adopted as one of the media, as it was common among the Hindus of that time in India and Pakistan. Bactrian is connected with the Shahi rulers of this region and it was the language used by these rulers in the Pak-Afghan region. The Arabic was the new language introduced in this part by the Arab conquerors. Its use in two of the inscriptions definitely proves that the Arab conquerors had a firm hold over this region at the time when these inscriptions were written (Dani, A.H. et al. 1964: p.126).

Three different systems of dates are given in these inscriptions. The Arabic inscription on 'First Stone' is dated Friday the 13th Jumada 1, 243 (A.H), i.e. 7th September 857 A.D, which is also Friday. The Sanskrit text of this inscription is dated 2nd day of Kartika Samyat32 referable to the Laukika or the Sastra era with the hundred digit omitted, i.e. 3932, which is equal to A.D. 856-57. The inscription 'B' is dated on the 7th day of Bhadra Samyat38, i.e. Laukikaera 3938=A.D. 862. It also contains *Bactrian* date 632. After calculation, the beginning of the *Bactrian* can be placed in A.D. 230. In inscription 'C' only Bactrian date 635, i.e. A.D. 865 has been read. The Laukikaera, as Alberuni (Biruni, Muhammad Abu Rehan Ibn Ahmad 1910: pp.9-11) informs, was used in this region by Hindus. The Hijra date was decidedly brought by the Arabs, and the Bactrian date can be assigned to the local Kushana rulers, though the reason for its origin is disputed.

## Conclusion

The scanty available data as a result of limited survey of the region, the history of the occupation here goes back to the pre-historic period, while significant evidence of Buddhism as a dominant faith is testified by the presence of Buddhist sites. Bactrians, Scythians, Kushans and Hindu-Shahis and the Arabs remained lord of the region are also attested by their buildings, coins and inscriptions. There is an urgent need for extensive archaeological survey and documentation to map up the rich cultural wealth of the region, before it is completely vanished. This should be a priority task on return of normalcy and stability in the two Agencies.

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# The Largest Mahaparinirvana Statue from Bhamala

Abdul Samad, Mark Kenoyer and Abdul Hameed

## Introduction:

The Mahaparinirvana or great salvation is an important event which is elegantly carved in stone or molded in stucco by the Gandharan sculptors with religious zeal. Buddha is said to have died in 480 or 483 BC at the age to 80 years according to various traditions. He along with Ananda entered at last the country of Kuśinagara and selected a mango grave for his stay. During his stay at Kuśinagara Buddha was offered meat and, while eating it he suffered with calcinatory attack and became very weak and was even unable to move. Thus he departed during the last hour of the night and there assembled hundreds of his followers to mark the event. His body was cremated according to his wish he made known to Ananda before his death. Three major events took place before his death which includes the conversion of Subhadhra, offering of food by Chunda's and the last sermon (Qazi et al 2009: 253).

Buddha stressed on the Tri-Ratna; Buddha, Dharma and Sangha in the last sermon and clearly defined the importance of nirvana and other mode of discipline. After cremation, there started a war among seven different states over the relics, which was finally solved by a Brahman named Drona who divided the relics into eight equal parts (Fig. 1). As the figural representation was prohibited in the early Hinayana sect instead they preferred symbolic representation like empty seat, turban and bowl etc. While the Mahaparinirvana or the phase of great salvation is often symbolized with a stupa (Fig. 2) (Tissot 1985). As the figural representation was prohibited in the early Hinayana sect instead they preferred symbolic representation like empty seat, turban and bowl etc. While the Mahaparinirvana or the phase of great salvation is often symbolized with a stupa (Fig. 2) (Tissot 1985).




Figure 1. (PM 02831 (PM_02831) Panel Illustrating scene showing distribution of relics



**Figure 2. (02840) Panel depicted with veneration of stupa with a stylized pointed arch**

The death of Buddha is said to have taken place after a short illness at Kusìinagara. The scene elegantly depicted in Gandhara Art mostly in stone. In some of the panels Buddha is lying on a coach in the center. His right hand under the face and placed atop the pillow. The body is covered with drapery and he is shown with wavy hairstyle and raised *ushnisha*. Subhadra, the last convertee is shown sitting on the ground facing towards the coach. The coach is surrounded by other figures including the Mahaksìyapa standing in *Anjali mudhra* at the feet of Buddha and Vajapani standing near the head of Buddha. The other mourning figures are shown in the background (Fig. 3). While in other panels Buddha is provided with halo, the pillow under the head is absent and the feet are covered with sheet (Fig. 4) (Spooner 1910: 27-28; Hargreaves 1930: 46,84; Shakur 1954: 53, 100; Ingholt 1957: 94; Sehrai 1991: 60; Qazi et al 2009: 256-57). In addition to these there are many other stone panels showing Mahaparinirvana recovered from Sahri Bahlol & Takht-i-Bahi (Mardan), Mamane Dheri (Charsadda) assigned to 2$^{nd}$ -3$^{rd}$ century A. D (Majumdar 1937: 71-72; Murthy 1977: 79-80; Qazi et al 2009: 53-60).




**Figure 3. (PM_02829) Panel showing the Mahaparinirvana**



**Figure 4. (PM_02828) Panel showing the phase of great salvation**

**Mahaparinirvana in Stucco**

The Sculptors of Gandhara also used stucco material for depicting the death scene of Buddha. The sole example of stucco panel (Fig. 5) representing the Mahaparinirvana has come from Bhamala (Taxila) during the process of excavation conducted by Sir John Marshall in 1930-31 which is now on display in Taxila Museum. The Stucco panel shows the death scene of Buddha measuring 2.4 feet in length and 1.6 feet in height. Buddha is lying at full length at his right between the two Corinthian pilasters. He is provided with halo behind head and high *Ushnisha* badly damaged. The body is covered with drapery while the feet with sheet closely resemblance that of (PM_02828). In the background four figures are shown in mourning over the death of their master, of whom the one near his feet seems to be a woman. Below on the face of the plinth, four small figures are shown; of whom the one near the Buddha's head is Dhyani Buddha and the one near his feet is a devotee in Anjali mudra (Marshall 2007: 173).



**Figure 5. Bhamala Excavation 1930-31: Stucco panel showing Parinirvana Scene (After Marshall 1936)**

## The Largest Parinirvana Scene in Kanjur Stone from Bhamala

The current excavation conducted at Bhamala revealed a Mahaparinirvan statue (Fig. 6) which is exceptional in terms of material and size. The statue is made of Kanjur stone which is the sole example and it measures 14 meters, the largest one ever found from Gandhara region. It is provided with a stone platform which is 1 meter high from the original floor level. The Parinirvana statue was reported in a very poor state of preservation. And the illegal operations of the antiquarians at the site resulted irreparable damage parinirvana statue as the head, chest, arms and upper leg of the Buddha were found badly damaged and missing. The only preserved portion of the figure was the right leg with foot on which the curves of the drapery are clearly visible.

The Mahaparinirvana statue is placed inside a rectangular chamber (Fig.7, 8 & 9) measuring 22.72 meter (NS) in length and 7.56 meter (EW) in width. The Chamber is provided with three openings on the eastern side. The central entrance and the other one to its right are of the same size each measuring 2.20 meter in width while the 3rd one is 2.30 meter wide. The position of the parinirvana statue of Buddha also shows that it was facing towards the east to the main

stupa. Like the rest of the structures the parinirvana is made in the late semi ashlar kind, frequently with two ashlar courses between diaper ones and with small flat stones inserted between the squared ashlar in order to level up the beds. Granite is the major construction material used in the construction of the chamber however; the upper two rows of the platform supporting the parinivana statue are made of kanjur stone. The platform provided to the parinirvana statue measures 15.63 metre in length. The other important structures inside the chamber are the two niches provided on either side of the platform each measuring 65 cm in width. At the floor level, the platform is also provided with ledge which runs along the platform in north south direction. The ledge is made of stone slabs of different sizes. The ledge itself measures 45 cm east-west in width and 15 metre north-south in length. In addition, stone platforms were also exposed provided along the southern and northern walls inside the chamber accommodating the terracotta sculptures. Remnants of the sculptures were reported during the excavation on the northern, northwestern, southern and southeastern corners of the chamber. The floor level provided to the chamber is made of lime mortar mixed with pebbles. No traces of other figures in the same material were reported inside the parinirvnana chamber but remnants of large terracotta standing figures were reported along the eastern, northern and southern walls. Based on the large size terracotta figures we may deduce that the artists preferred to use terracotta for molding the rest of the figures probably either to distinguish the image of Buddha or for their own ease.



**Figure 6. Bhamala Excavations 2014-15: A View the largest Mahaparinirvana Statue in Kanjur stone from the north-eastern side**



**Figure 7. Bhamala Excavations 2014-15: Right foot of parinirvana statue overlooking southeast**

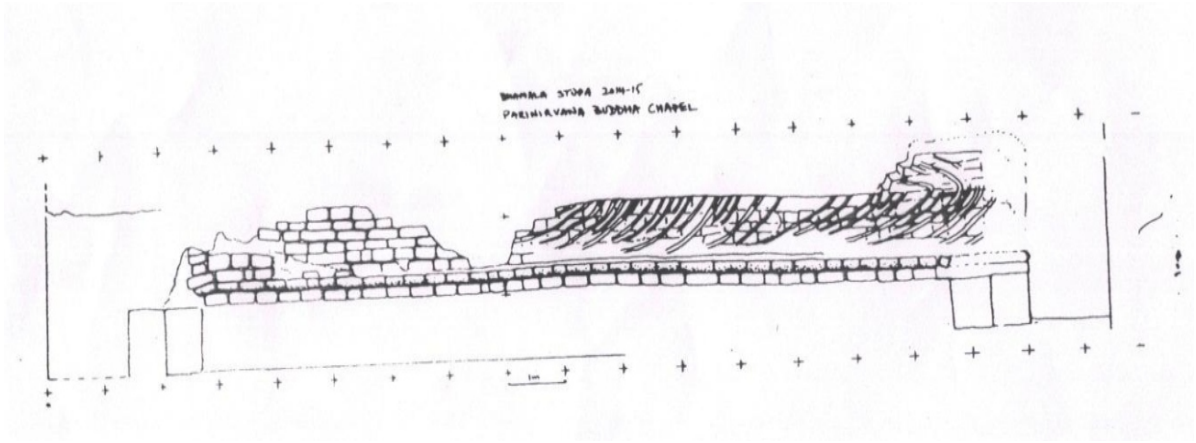


**Figure 8. Bhamala Excavations 2014-15: A View the Parinirvana Chamber**

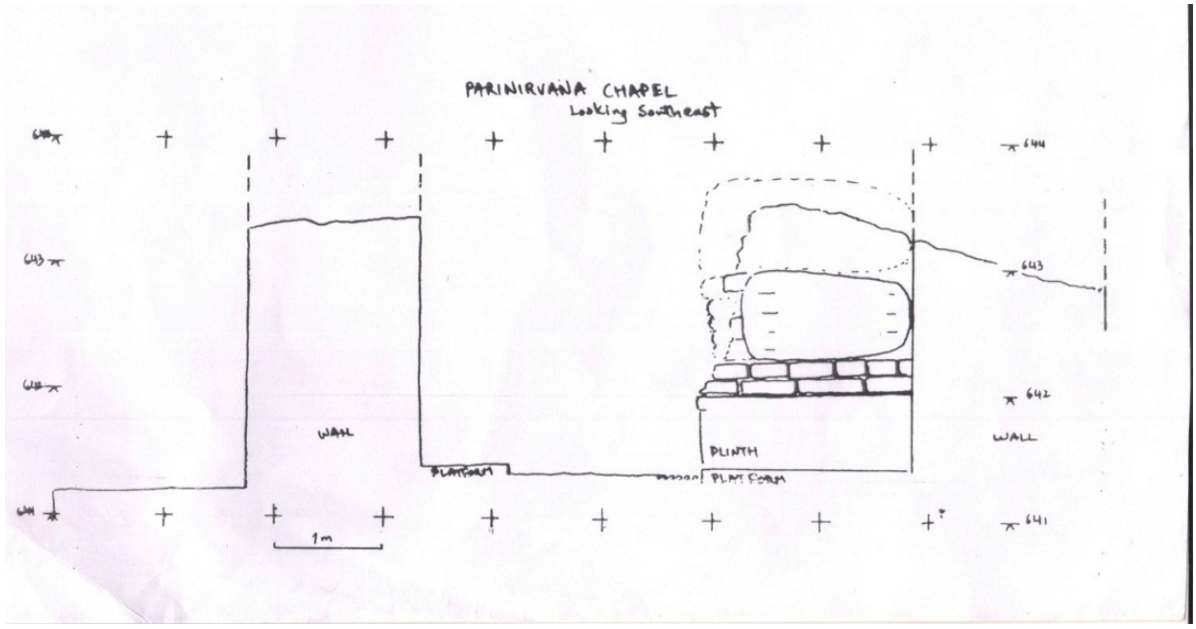



**Figure 9. Bhamala Excavations 2014-15: Right foot of parinirvana Chamber looking southeast**

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# Structural Remains at Bhamala Exposed during the Second Season

Abdul Samad, Mark Kenoyer, Abdul Hameed and Aamir Sajjad

The current excavation conducted at Bhamala by the Directorate of Archaeology & Museums Government of the Khyber Pakhtunkhwa revealed a number of structural remains. Worth mentioning among these are; the parinirvana chamber housing the largest death scene of Buddha, the cruciform form stupa and the chapels adorned with stucco sculptures. A detailed description of these structures is given as under:

## The Parinirvana Chamber

The Mahaparinirvana being one of the most important events is elegantly carved in stone or molded in stucco by the Gandharan sculptors (Qazi et al 2009: 253). Such images usually adorned the stupas and the chapels. The current season of excavation at Bhalama revealed the largest Mahaparinirvana scene in Kanjur (Porous) stone measuring 14 meter in length. A special chamber was built to accommodate the parinirvana statue. The Parinirvana Chamber is located to the west of the main stupa. The eastern wall of the chamber along with the stone paved passage was exposed during the first excavation conducted by Sir John Marshall. In 2012-13, the area was selected for excavation by the Department of Archaeology, Hazara University, Mansehra and four trenches i.e. A/I, A/II, A/III and A/IV were laid in the area. These trenches were partially excavated by the said department exposing the northern and southern walls. As mentioned earlier that the eastern wall of the chamber was exposed by Sir John Marshall; while the western wall was partially exposed most probably by the antiquarians.

The Chamber was fully exposed during the 3rd excavation up to the floor level and was named as Parinirvana chamber (Fig. 1) after the parinirvana statue exposed inside this chamber. The chamber is rectangular in plan measuring 22.72 metre (NS) in length and 7.56 metre (EW) in width. Entrees to the chamber are provided through three openings on the eastern side. The central entrance and the other one to its right are of the same size each measuring 2.20 metre in width while the 3rd one is 2.30 metre wide. The position of the parinirvana statue of Buddha also

shows that it was facing towards the east to the main stupa. Like the rest of the structures the parinirvana is made in the late semi ashlar kind, frequently with two ashlar courses between diaper ones and with small flat stones inserted between the squared ashlar in order to level up the beds. Granite is the major construction material used in the construction of the chamber however; the upper two rows of the platform supporting the parinivana statue are made of kanjur stone. The platform provided to the parinirvana statue measures 15.63 metre in length. The other important structures inside the chamber are the two niches provided on either side of the platform each measuring 65 cm in width. At the floor level, the platform is also provided with ledge which runs along the platform in north south direction. The ledge is made of stone slabs of different sizes. The ledge itself measures 45 cm east-west in width and 15 metre north-south in length. In addition, stone platforms were also exposed provided along the southern and northern walls inside the chamber accommodating the terracotta sculptures. Remnants of the sculptures were reported during the excavation on the northern, northwestern, southern and southeastern corners of the chamber. The floor level provided to the chamber is made of lime mortar mixed with pebbles. The chamber must have been constructed to accommodate the parinirvana statue generally known as the dying Buddha. Remnants of the statue were exposed during the excavation. The statue is made of kanjur stone and provided with a stone platform which is 1 metre high from the original floor level. Unfortunately, most of the body part of the Buddha figure including head, chest, arms, were found missing. The only preserved portion of the figure was the right leg with foot on which the curves of the drapery are clearly visible.

The flight of steps exposed on the northeastern corner outside the chamber shows that the chamber was most probably a double story building. The evidences of upper floor in the form of complete layer composed of lime mortar; the stone door sockets, door fitting and door chain were also revealed during the excavation from the chamber also support this assumption that this was not a single story building. The Parinirvana chamber is the first of its kind in the entire Taxila and Gandhara.



**Figure 1. Bhamala Excavations 2014-15: The Parinirvana Chamber overlooking northwest**

## The Second Cruciform Stupa

In Taxila the cross planned or cruciform style stupa was for the first time reported by Sir John Marshall during the archaeological excavations at Bhamala in 1930-31 (Marshall 1936: 152-58). However, such type of stupas have been reported form the surrounding regions. The smaller cruciform stupas were reported at Sarnath by Marshall. Remnants of such stupas were also reported from mound G at Sahri Bahlol during the excavations carried out by Aural Stein in 1911. But the large cross-planned stupas are confined to Trans-Indus regions and would appear to be connected with similar monuments in Central Asia *(A.S.I.* 1909-10:25-27).Of the large cruciform stupas, the Rawak reported in Khotan, the Ahin Posh stupa in Jalalabad, the stpua at Thakal Bala near Jamrud, and the Zar Dheri stupa (Mansehra) are worth mentioning*(A.S.I.* 1909-10:25-27; Paskaleva 2012: 39-40; Report of the *Tokyo National Museum Archaeological Mission to Pakistan*2013:391-92). Another example of cruciform stupa was reported by D.B. Spooner

during the excavation conducted at Shah-ji-ki-Dheri in 1907-08 (A.S.I. 1909-10:25-27). According to Kuwayama, the plan of the stupa was changed twice before the cross-plan was finally adopted around AD 560-630. But no traces of this stupa are left now for comparison (Kuwayama 1995: 354; 2002: 71).

During the current season field investigation at Bhamala, after clearing the parinirvana chamber the excavation was extended towards west, south and north of the said chamber that resulted the discovery of a number of stone structures. Worth mentioning among these are the second cruciform stupa (Fig. 2) and the chapels provided to the eastern side of the same stupa. The southern and southwestern portions of the stupa were found severely damaged and missing most probably due to the operation of the antiquarians. However, the northern and eastern portions of the stupa partially exposed give enough clues for its cruciform shape. The upper portion of the stupa upto the plinth was also found missing. The lower part of the stupa was once applied with lime plaster and stucco sculptures were also placed around the stupa. Traces of the plaster and stucco fragments of sculptures were reported during the excavation.

The stupa is also provided with chapels on the eastern side. Five of the chapels were excavated and were allotted numbers from the southern side i.e. chapel 1, chapel 2. Chapel 3, chapel 4 & chapel 5.



**Figure 1. Bhamala Excavations 2014-15: the second cruciform stupa overlooking south-west**

**The Chapels**

Enclosing the stupa court with rows of chapels has long been familiar to the Buddhists. Sometimes these chapels were arranged in a circle immediately around the main stupa as we see at Jamal Garhi and Dharmarajika ; while other times in the form of quadrangle sufficiently large enough to enclose the chief edifice but also all the subsidiary structures group around it (Marshall 1921:11).

The current excavations conducted at the site revealed a total of nine chapels on the eastern side of the newly exposed cruciform stupa against the back of the western wall of the parinirvana chamber. These chapels are almost of equal size measuring 73 cm in width x 84 cm in depth. Five of the chapels were excavated; while the remaining four were left unexcavated due to the shortage of time. Among the excavatedchapel nos. 1 & 2 were found badly disturbed; while chapel nos. 3, 4 & 5 were found adorned with stucco sculptures. A detailed account of the excavated chapels is given as under:

**Chapel 1 & 2**

Chapel 1 & 2 (Fig. 3) were found empty and severely disturbed by the antiquarians. Fragments of stucco sculptures were found outside the chapels indicating the illegal operation of robbers. Some stucco sculpture fragments including two small heads, a bust and two heads of unknown figures found out of context from U/27 outside the southern wall of the parinirvanan chamber might have been removed from these chapels. Both these chapels are of the same size measuring 73 cm in width and 83 cm in depth. The height of the chapels could not be determined as the upper portions were found fallen and badly disturbed. The chapels were applied with lime plaster on the inner as well as outer sides. Traces of the plaster were reported during the excavation. Like the rest of the chapels these are also facing toward west towards the second cruciform stupa.



**Figure 2. Bhamala excavations 2014-15: Chapel nos. 1 & 2 Overlooking east**

**3.2. Chapel 3**

Chapel 3 was exposed in the balk between T/26 & U/26. Chapel 3 (Fig. 4) was found in a better state of preservation as compare to the first two chapels. Chapel 3 contains a total of seven

stucco figures. Six of them were found headless including the central figure of Buddha seated in meditation pose. The headless Buddha is flanked by two standing figures most probably Indra and Brahma. The right side figure is almost complete while head of the left side figure was found badly damaged and broken. The image of seated Buddha is placed on the western wall facing towards the second cruciform stupa. The most important features noticed were the double haloes provided to the seated Buddha, the upper one behind his head and the lower one behind the body. The lower halo is elaborately decorated with beaded design. The Buddha is shown with both shoulder covered with drapery. The rest of the four figures are also shown in standing position two each on the northern and southern walls. The chapel is also provided with floor made of lime mortar. Apart from the stucco sculptures, two copper pieces and one door fitting made of laminated steel were also reported from chapel 3.



**Figure 3. Bhamala Excavations 2014-15: Chapel 3 overlooking east**

**Chapel 4**

Chapel 4 (Fig.5) was exposed to the northern side of chapel 3 in T/26. The size of this chapel is almost the same i.e. 73x 82 cm. This chapel also contained stucco headless sculptures. The central image of seated Buddha was found completely missing. However, the traces of double halo provided to the figure were reported. Like chapel 3, the seated Buddha was also flanked by standing figures but trace of only four standing headless figures are now present. This chapel is also provided with lime mortar floor.



**Figure 4. Bhamala excavations 2014-15: Chapel 4 overlooking east**

**Chapel 5**

Chapel 5 (Fig.6) is situated to the northern side of chapel 4 and was exposed in the same trench T/26.This chapel contains a total of seven stucco headless sculptures. Like chapel 3 the central seated figure of Buddha is flanked by six attendants three on either side. The Buddha is presented in preaching pose and is provided with single halo. This chapel is also provided with floor made of lime mortar.



**Figure 5. Bhamala Excavations 2014-15: Stucco Buddha seated in preaching pose exposed in chapel 5**

Apart from these traces of other chapels were also reported on the northern side of chapel 5 that were left unexcavated due to shortage of time. These small chapels are identical to those reported from Julian generally known Gandakuchi chapels. Other important structures include the two unidentified cells reported from U/30 & U/31 and V/29 & V/30. Both these structures were found blocked from all side provided with no entrance. These structures are made of stone block in semi ashlar masonry. Further investigation is needed to throw light on these structures. In addition remnants of wall structures were also partially exposed on the northern side of the parinirvana chamber that need further investigations to be determined.

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# Stucco Objects Reported during the Excavations at Bhamala in 2014-15

Abdul Samad, Abdul Hameed and Nawaz-ud-Din

Stucco being the second material extensively used for making sculptures in ancient Gandhara, particularly in Taxila. Evidences of the use of this material have also been reported outside Gandhara and Taxila i.e. Hadda in Afghnaistan and Central Asia including Chinese Turkistan (Dar, F., 2010:113). As building material, stucco appeared in the Indo-Pak subcontinent as early as 2500 BCE. But as modelling and sculpturing material it can hardly be traced back to the 1st century BCE. According to Sir John Marshall, the term is used for a material composed of lime mixed freely with small broken stone. Different type of stucco or stucco with clay core became an essential material making sculptures as well as decorative items. The stucco clay material was on wall and niches etc. And the analysis of the stucco sculptures has revealed that lime was used as the main constituent for stucco in present Pakistan and India; while in Afghanistan it was gypsum (Saeed, T., and A, Ahmad 2010: 152).

In Taxila and Gandhara the term stucco is used to designate a class of sculptures completely or partially made of plastic material composed of lime sand and small crushed stones locally known as bajri. The stucco sculptures were later on finished with fine coat of lime cream or past of plaster except those of the Pre-Kushan sculptures. In this respect the stucco sculptures made in Gandhara and Taxila have closer resemblance with those of the Greeks rather than the Romans (Dar, R. 2010: 125). The discovery of stucco sculptures is not only confined to Taxila and Gandhara alone. A good number of stucco images have been reported from the surrounding countries like Uzbekistan and Turkmenistan in central Asia and Chinese Turkestan. In term of time and space stucco sculptures cover much wider space and longer space of time than the stone sculptures. But as far as the origin of the stucco sculptures is concerned, it is generally believes that throughout the sub-continent, it was in Gandhara that stucco was started for making Buddhist sculptures. In Gandhara, it was in Taxila where colossal size images measuring upto 20 meters in height were prepared. Evidences of these huge statues have been reported from Dharmarajika. The discovery of the Buddhist statues of such a huge dimension shows the skills

of the experienced artists. This new trend of making sculptures in stucco and clay reached to its climax in Taxila and other regions of Gandhara during the 2nd half of 3rd -4th century CE. Sir John Marshall who carried out the most extensive archaeological excavations in Taxila, is of the view that stucco as a medium did not replace stone but it was largely clay used for making all classes of sculptures. But actually, stucco and clay both were used side by side in all centres. And the major reasons for the extensive use of stucco for preparing Buddhist sculptures might have been its easy handling and advanced techniques. And with the expansion of the Buddhist Dhrama the demand of the cult objects also increased which could not be fulfilled so, this matter of shortage of the cult objects was controlled with the introduction of stucco as a medium. Another reason for the development of stucco art in Taxila region might have been the availability of lime in the region as the available stones in the region were not suitable for carving sculptures. The earliest stucco images were reported from Sirkap during the excavation conducted by Sir John Marshall (*ASI* 1912-13: 23-24; Saeed T., and A., Ahmad 2010: 147-148). According to Wheeler the use of lime plaster in Taxila as a decorative element came from Roman Alexandria in Egypt through the red sea ports to peninsular India. Similarly there are indications that most probably the technique of stucco sculptures is thought to have been imported from the West and after been flowered into a popular art as a tool for propagation of Buddhism, its finished products along with technique was exported to Afghanistan, China and other Central Asian countries (Dar, S. R., 2010: 127; Kuwayama 1978:204) . And in Gandhara and Taxila the introduction of stucco sculptures is attributed to the Parthians . Marshall also agrees with this view that stucco art as introduced by the Parthians in Taxila before at any site in Gandhara. He also reported the earliest evidences of the use of stucco from two small stupas in Sirkap in the form of 29 fragments including heads. The stucco objects can be dated to the Parthian period on the bases of the associated structural remains made in in diaper masonry which are also dated to the same period (Dar, S. R., 2010: 128; Kuwayama 1978: 206).

In spite of the discovery of stucco sculptures in such a great numbers and varieties, very few moulds have been reported form the region which is also very small for the production of large size images. These moulds are believed not to have been used for the entire head rather only far casting the face masks (Saeed T., and A, Ahmad 2010: 148). Evidences of the stucco sculptures have been reported from many other sites in Taxila but the most beautiful and extensive number

of sculptures was reported from Jaulian. In 1930-31 Marshall reported a good number of stucco sculptures from Bhamala including that of the Death scene now displayed in Taxila Museum. The second excavation carried out at Bhamala revealed very few stucco fragments including the lotus flowers. However the 3rd excavation carried out at the site unearthed a total of 111 stucco objects. Of these, 20 (sculptures) were unearthed from the chapels attached to the walls in insitue position while the remaining 91 were reported around the chapels and the newly exposed cruciform stupa. While five fragments of stucco sculptures i.e. (BML-0101 &0102: stucco heads of Buddha, BML-0114: stucco hands of Buddha in meditation pose, BML-0115: stucco bust of Buddha and BML-0116: Stucco head not determinable) were unearthed out of context outside the southern wall of the parinirvana chamber. Detail of the stucco objects is given below:

## Stucco Hands

| Reg. No. | Lot No. | Feature No. | Trench No. | 3DM (cm) | Size in (cm) | Size Description | Condition |
|---|---|---|---|---|---|---|---|
| BML-0114 | L. 37803-3 | F.3 | U/27 | W-220 cm<br>S-130 cm<br>Depth- 641.14 | L: 9<br>W: 3.3 | Stucco hands fragment, probably of Buddha in Dhayana mudra; thumb and two fingers of left hand are clearly visible | Good |
| BML-0117 | L. 37753-1 | F.3 | U/26 | W-110 cm<br>N-220 cm<br>Depth- 641.48 m | L: 11.5<br>W: 6.8 | Stucco hand fragment; left hand with portion of thumb, index finger and thumb damaged, little finger missing | Good |
| BML-0179 | L. 40301-1 | F.3 | V/30 | --- | L: 6.7<br>W: 5.5 | Stucco hand fragment; thumb all fingers cut off and missing | Fragile |
| BML-0201-13 | L. 37757-13 | F.8 | U/26 | W-255 cm<br>N-60 cm<br>Depth-640.43m | L: 9.8<br>W: 4.4<br>Thick: 3.2 | Stucco hand fragment; right hand with index and two middle fingers; thumb and little finger missing | Good |
| BML-0179 | L. 40301-1 | F.3 | V/30 | --- | L: 6.7<br>W: 5.5 | Stucco hand fragment; thumb all fingers cut off and missing | Fragile |
| BML-0246 | L. 35055-2 | F.5 | T/26 | Chapel No.5 | L: 18.6<br>W: 11.7<br>Thick: 12 | Stucco fragment of sculpture comprising of left shoulder covered with drapery and hand | Good |

## Stucco Bust

| Reg. No. | Lot No. | Feature No. | Trench No. | 3DM (cm) | Size in (cm) | Size Description | Condition |
|---|---|---|---|---|---|---|---|
| BML-0115 | L. 37803-4 | F.3 | U/27 | W-220 cm<br>S-130 cm<br>Depth- 641.14 m | L: 8.5<br>W: 8 | Stucco bust fragment, probably of Buddha; folds of drapery are clearly visible | Good |
| BML-0173 | L. 25403-1 | F.3 | P/26 | S-120 cm<br>W-190 cm | L: 15<br>W: 18.9 | Stucco bust fragment with right hand holding drapery, folds of drapery are clear on chest | Fragile |

## Stucco Hair

| Reg. No. | Lot No. | Feature No. | Trench No. | 3DM(cm) | Size in (cm) | Size Description | Condition |
|---|---|---|---|---|---|---|---|
| BML-0130-2 | L. 28603-2 | F.6 | Q/26 | N-30 cm<br>E-340 cm<br>Depth-641.65m | L: 6<br>W: 5.5 | Stucco hair fragment, curly hair | Fragile |
| BML-0195 | L. 37753-2 | F.3 | U/26 | --- | L: 11.8<br>W: 10.2<br>Thick: 6.7 | Stucco hair fragment | Good |

## Stucco Arm

| Reg. No. | Lot No. | Feature No. | Trench No. | 3DM (cm) | Size (cm) | Size Description | Condition |
|---|---|---|---|---|---|---|---|
| BML-0131 | L. 35054-1 | F.5 | T/26 | Chapel No. 5 | L: 13<br>W: 13.8 | Stucco fragment of sculpture with right hand and shoulder covered with drapery, broken into two pieces | Fragile |
| BML-0217-3 | L. 32352-15 | F.2 | U/25 | E-13 cm<br>W-370 cm<br>Depth- 641.12 m | L: 16.5<br>W: 13<br>Thick: 3.4 | Stucco fragment of sculpture probably portion of right arm covered with drapery | Good |
| BML-0217-5 | L. 32352-17 | F.2 | U/25 | E-130 cm<br>W-370 cm<br>Depth- 641.12 m | L: 11<br>W: 10.2<br>Thick: 8 | Stucco arm fragment covered with drapery | Good |

## Stucco Foot

| Reg. No. | Lot No. | Feature No. | Trench No. | 3DM In cm | Size (cm) | Size Description | Condition |
|---|---|---|---|---|---|---|---|
| BML-0157 | L. 40752-1 | F.4 | V/31 | Depth- 640.62m | L: 4.8<br>W: 1.8<br>Thick: 1.9 | Stucco Foot Fragment, Five Toes of right foot | Good |
| BML-0196-1 | L. 29904-1 | F.6 | R/25 | W-80 cm<br>S-60 cm<br>Depth-91 cm | L: 6.5<br>W: 4.2<br>Thick: 2.2 | Stucco Foot fragment; right foot with toes and portion of pedestal | Satisfactory |

## Stucco Shoulder

| Reg. No. | Lot No. | Feature No. | Trench No. | 3DM (cm) | Size in (cm) | Size Description | Condition |
|---|---|---|---|---|---|---|---|
| BML-0158-1 | L. 32403-1 | F.5 | S/25 | Depth-642.90m | L: 15.3<br>W: 10.5<br>Thick: 7.5 | Stucco shoulder fragment, left shoulder with portion of arm and chest, folds of drapery are visible | Fragile |
| BML-0201-12 | L. 37757-12 | F.8 | U/26 | W-255 cm<br>N-60 cm<br>Depth-640.43m | L: 25.5<br>W: 8.3<br>Thick: 5.2 | Stucco shoulder fragment; left shoulder covered with drapery; broken and rejoined | Fragile |
| BML-0217-4 | L. 32352-16 | F.2 | U/25 | E-130 cm<br>W-370 cm<br>Depth- 641.12 m | L: 13<br>W: 7.3<br>Thick: 5 | Stucco shoulder fragment; folds of drapery are clearly visible | Fragile |

## Stucco Drappery

| Reg. No. | Lot No. | Feature No. | Trench No. | 3DM In cm | Size in (cm) | Size Description | Condition |
|---|---|---|---|---|---|---|---|
| BML-0158-2 | L. 32403-2 | F.5 | S/25 | Depth- 642.90 m | L: 10.9 W: 6.2 Thick: 4 | Stucco drapery fragment, Folds and traces of red paint clearly visible | Fragile |
| BML-0158-3 | L. 32403-3 | F.5 | S/25 | Depth- 642.90 m | L: 9.8 W: 4.3 Thick: 2 | Stucco Fragment of Drapery | Fragile |
| BML-0158-4 | L. 32403-4 | F.5 | S/25 | Depth- 642.90 m | L: 8.4 W: 7.3 Thick: 2.5 | Stucco Fragment of drapery with portion of bust | Fragile |
| BML-0201-1 | L. 37757-1 | F.8 | U/26 | W-255 cm N-60 cm Depth-640.43m | L: 9.7 W: 7.4 Thick: 2.8 | Stucco fragment; probably part of drapery | Fragile |
| BML-0201-14 | L. 37757-14 | F.8 | U/26 | W-255 cm N-60 cm Depth-640.43m | L: 8.8 W: 6.8 Thick: 3 | Stucco drapery fragment with vertical fold; traces of red pigments are clearly visible | Good |
| BML-0201-16 | L. 37757-16 | F.8 | U/26 | W-255 cm N-60 cm Depth-640.43m | L: 11.9 W: 4 Thick: 3.1 | Stucco drapery fragment | Fragile |
| BML-0217-1 | L. 32352-13 | F.2 | U/25 | E-130 cm W-370 cm Depth- 641.12 cm | L: 16.5 W: 13 Thick: 3.4 | Stucco fragment of Drapery; folds are clearly visible | Fragile |

## Stucco Ushnisha

| S # | Registration No. | Lot No. | Feature No. | Trench No. | 3DM In cm | Size in (cm) | Size Description | Condition |
|---|---|---|---|---|---|---|---|---|
| 1 | BML-0189-2 | L. 40753-3 | F.4 | V/31 | --- | Dia: 4.3 | Stucco fragment of Ushnisha | Fragile |
| 2 | BML-0199-2 | L. 32403-13 | F.5 | S/25 | N-212 cm E-130 cm Depth-64.09 m | Dia: 4 | Stucco Ushnisha fragment | Good |
| 3 | BML-0199-3 | L. 32403-14 | F.5 | S/25 | N-212 cm E-130 cm Depth-64.09 m | L: 7 W:4.5 Thick: 2.8 | Stucco hair fragment; defaces | Fragile |

## Stucco Plaster

| Reg. No. | Lot No. | Feature No. | Trench No. | 3DM In cm | Size in (cm) | Size Description | Condition |
|---|---|---|---|---|---|---|---|
| BML-0172-2 | L. 32352-2 | F.2 | S/24 | N-16 cm E-35 cm Depth-641.29 m | L: 12.2 W: 7.9 | Stucco fragment of pilaster, probably part of capital | Fragile |

## Stucco Ushnisha

| Reg. No. | Lot No. | Feature No. | Trench No. | 3DM In cm | Size in (cm) | Size Description | Condition |
|---|---|---|---|---|---|---|---|
| BML-0189-2 | L. 40753-3 | F.4 | V/31 | --- | Dia: 4.3 | Stucco fragment of Ushnisha | Fragile |
| BML-0199-2 | L. 32403-13 | F.5 | S/25 | N-212 cm E-130 cm Depth-64.09 m | Dia: 4 | Stucco Ushnisha fragment | Good |
| BML-0199-3 | L. 32403-14 | F.5 | S/25 | N-212 cm E-130 cm Depth-64.09 m | L: 7 W:4.5 Thick: 2.8 | Stucco hair fragment; defaces | Fragile |

## Stucco Architectural Elements

| Reg. No. | Lot No. | Feature No. | Trench No. | 3DM In cm | Size in (cm) | Size Description | Condition |
|---|---|---|---|---|---|---|---|
| BML-0190-3 | L. 32403-7 | F.5 | S/25 | S-130 W-85 Depth-642.87 m | L: 6 W: 3.8 Thick: 3 | Stucco fragment of pedestal supported by lotus flower | Good |
| BML-0190-7 | L. 32403-11 | F.5 | S/25 | S-130 W-85 Depth-642.87 m | L: 8.5 W: 6 Thick: 2.8 | Stucco fragment not determinable; probably architectural element | Good |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| BML-0198-1 | L. 32352-10 | F.2 | S/24 | S-120 cm<br>E-50 cm<br>Depth-641.67 m | L: 13.8<br>W: 13.5<br>Thick: 5.5 | Stucco fragment of pilaster | Good |
| | L. 32352-11 | F.2 | S/24 | S-120 cm<br>E-50 cm<br>Depth-641.67 m | L: 9.5<br>W: 7.4<br>Thick: 5.1 | Stucco fragment of pilaster | Satisfactory |
| | L. 32352-12 | F.2 | S/24 | S-120 cm<br>E-50 cm<br>Depth-641.67 m | L: 7.6<br>W: 5.5<br>Thick: 4.1 | Stucco fragment of pilaster | Satisfactory |
| | L. 32352-14 | F.2 | U/25 | E-130 cm<br>W-370 cm<br>Depth- 641.12 m | L: 16<br>W: 8.4<br>Thick: 7.5 | Stucco fragment of architectural element; probably part of capital or corns moulding? | Fragile |

## Stucco Toe

| Reg. No. | Lot No. | Feature No. | Trench No. | 3DM In cm | Size in (cm) | Size Description | Condition |
|---|---|---|---|---|---|---|---|
| BML-0190-5 | L. 32403-9 | F.5 | S/25 | S-130<br>W-85<br>Depth-642.87 m | L: 5.4<br>W: 3.5<br>Thick: 3.5 | Stucco toe fragment probably of right foot | Good |

## Stucco Ear

| Reg. No. | Lot No. | Feature No. | Trench No. | 3DM In cm | Size in (cm) | Size Description | Condition |
|---|---|---|---|---|---|---|---|
| BML-0199-1 | L. 32403-12 | F.5 | S/25 | N-212 cm<br>E-130 cm<br>Depth-64.09 m | L: 8.8<br>W:5.2<br>Thick: 2.5 | Stucco ear fragment; left ear elongated in shape | Good |

**Stucco Pedestal**

| Reg. No. | Lot No. | Feature No. | Trench No. | 3DM In cm | Size in (cm) | Size Description | Condition |
|---|---|---|---|---|---|---|---|
| BML-0201-5 | L. 37757 -5 | F.8 | U/26 | W-255 cm N-60 cm Depth- 640.43m | L: 10.4 W: 6.4 | Stucco pedestal fragment; front decorated with straight and zeg zag lines | Good |

## Stucco Miscellaneous

| Reg. No. | Lot No. | Feature No. | Trench No. | 3DM In cm | Size (cm) | Size Description | Condition |
|---|---|---|---|---|---|---|---|
| BML-0172-3 | L. 32352 -3 | F.2 | S/24 | N-16 cm E-35 cm Depth- 641.29 m | L: 6.8 W: 5 | Stucco fragment not determinable, probably part of architectural element | Fragile |
| BML-0172-4 | L. 32352 -4 | F.2 | S/24 | N-16 cm E-35 cm Depth- 641.29 m | L: 7 W: 6.5 | Stucco fragment not determinable, probably part of drapery | Fragile |
| BML-0172-5 | L. 32352 -5 | F.2 | S/24 | N-16 cm E-35 cm Depth- 641.29 m | L: 9.2 W: 6 | Stucco fragment not determinable, probably part of Pedestal | Fragile |
| BML-0172-6 | L. 32352 -6 | F.2 | S/24 | N-16 cm E-35 cm Depth- 641.29 m | L: 9 W: 6.1 | Stucco fragment not determinable | Fragile |
| BML-0172-7 | L. 32352 -7 | F.2 | S/24 | N-16 cm E-35 cm Depth- 641.29 m | L: 8.5 W: 6 | Stucco fragment not determinable | Fragile |
| BML-0172-8 | L. 32352 -8 | F.2 | S/24 | N-16 cm E-35 cm Depth- 641.29 m | L: 5 W: 4.5 | Stucco fragment not determinable | Fragile |
| BML-0172-9 | L. 32352 -9 | F.2 | S/24 | N-16 cm E-35 cm Depth- 641.29 m | L: 7 W: 6 | Stucco fragment not determinable | Fragile |
| BML-0190-2 | L. 32403 -6 | F.5 | S/25 | S-130 W-85 Depth-642.87 m | L: 8.1 W: 5.7 Thick: 3.3 | Stucco fragment of sculpture not determinable; probably portion of ear | Good |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| BML-0190-4 | L. 32403-8 | F.5 | S/25 | S-130<br>W-85<br>Depth-642.87 m | L: 9.5<br>W: 8.5<br>Thick: 5.5 | Stucco fragment not determinable probably portion of drapery | Good |
| BML-0190-6 | L. 32403-10 | F.5 | S/25 | S-130<br>W-85<br>Depth-642.87 m | L: 5.6<br>W: 4<br>Thick: 3.1 | Stucco fragment not determinable; probably fragment of hair | Good |
| BML-0196-2 | L. 29904-2 | F.6 | R/25 | W-80 cm<br>S-60 cm<br>Depth-91 cm | L: 5.6<br>W: 3.8<br>Thick: 2.5 | Stucco fragment not determinable | Satisfactory |
| BML-0199-4 | L. 32403-15 | F.5 | S/25 | N-212 cm<br>E-130 cm<br>Depth-64.09 m | L: 9.2<br>W:8.3<br>Thick: 6.5 | Stucco fragment of sculpture; not determinable | Fragile |
| BML-0199-5 | L. 32403-16 | F.5 | S/25 | N-212 cm<br>E-130 cm<br>Depth-64.09 m | L: 7<br>W: 4.9 | Stucco fragment of sculpture; not determinable | Fragile |
| BML-0199-6 | L. 32403-17 | F.5 | S/25 | N-212 cm<br>E-130 cm<br>Depth-64.09 m | L: 7.5<br>W: 6<br>Thick: 3.8 | Stucco fragment of sculpture; not determinable | Fragile |
| BML-0199-7 | L. 32403-18 | F.5 | S/25 | N-212 cm<br>E-130 cm<br>Depth-64.09 m | L: 4.5<br>W: 4.3<br>Thick: 2.8 | Stucco fragment of sculpture; not determinable; probably part of drapery | Fragile |
| BML-0199-8 | L. 32403-19 | F.5 | S/25 | N-212 cm<br>E-130 cm<br>Depth-64.09 m | L: 10.3<br>W: 7.8<br>Thick: 4.5 | Stucco fragment of sculpture; not determinable, probably part of pedestal | Fragile |
| BML-0199-9 | L. 32403-20 | F.5 | S/25 | N-212 cm<br>E-130 cm<br>Depth-64.09 m | L: 5<br>W:4.3<br>Thick: 3 | Stucco fragment of sculpture; not determinable, probably toes | Fragile |
| BML-0199-10 | L. 32403-21 | F.5 | S/25 | N-212 cm<br>E-130 cm<br>Depth-64.09 m | L: 12<br>W: 9<br>Thick: 5.6 | Stucco fragment of sculpture; not determinable | Fragile |
| BML-0199-11 | L. 32403-22 | F.5 | S/25 | N-212 cm<br>E-130 cm<br>Depth-64.09 m | L: 9.3<br>W: 5.7<br>Thick: 2.8 | Stucco fragment of sculpture; not determinable; probably part of drapery | Fragile |
| BML-0199-12 | L. 32403-23 | F.5 | S/25 | N-212 cm<br>E-130 cm<br>Depth-64.09 m | L: 9.3<br>W: 5.2<br>Thick: 3.3 | Stucco fragment of sculpture; not determinable; probably part of drapery | Fragile |
| BML-0199-13 | L. 32403 | F.5 | S/25 | N-212 cm<br>E-130 cm | L: 6.4<br>W:3.5 | Stucco fragment of sculpture; not | Fragile |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | -24 | | | Depth-64.09 m | Thick: 3.5 | determinable | |
| BML-0199-14 | L. 32403 -25 | F.5 | S/25 | N-212 cm E-130 cm Depth-64.09 m | L: 6.6 W: 5 Thick: 3.5 | Stucco fragment of sculpture; not determinable; probably part of drapery | Fragile |
| BML-0199-15 | L. 32403 -26 | F.5 | S/25 | N-212 cm E-130 cm Depth-64.09 m | L: 5 W: 3.6 Thick: 2.5 | Stucco fragment of sculpture; not determinable | Fragile |
| BML-0199-16 | L. 32403 -27 | F.5 | S/25 | N-212 cm E-130 cm Depth-64.09 m | L: 8.8 W: 6 Thick: 2.4 | Stucco fragment of sculpture; not determinable | Fragile |
| BML-0199-17 | L. 32403 -28 | F.5 | S/25 | N-212 cm E-130 cm Depth-64.09 m | L: 9.5 W: 5.6 Thick: 2.9 | Stucco fragment of sculpture; not determinable | Fragile |
| BML-0199-18 | L. 32403 -29 | F.5 | S/25 | N-212 cm E-130 cm Depth-64.09 m | L: 5 W: 2.9 Thick: 2 | Stucco fragment of sculpture; not determinable | Fragile |
| BML-0201-2 | L. 37757 -2 | F.8 | U/26 | W-255 cm N-60 cm Depth-640.43m | L: 9.8 W: 6.5 Thick: 2.6 | Stucco fragment of sculpture not determinable; probably part of shoulder | Fragile |
| BML-0201-3 | L. 37757 -3 | F.8 | U/26 | W-255 cm N-60 cm Depth-640.43m | L: 7.8 W: 5.4 Thick: 4.5 | Stucco fragment; probably part of drapery | Fragile |
| BML-0201-4 | L. 37757 -4 | F.8 | U/26 | W-255 cm N-60 cm Depth-640.43m | L: 6 W: 7.5 Thick: 2.5 | Stucco fragment; not determinable | Fragile |
| BML-0201-10 | L. 37757 -10 | F.8 | U/26 | W-255 cm N-60 cm Depth-640.43m | L: 5.4 W: 3.4 Thick: 2 | Stucco fragment not determinable | Fragile |
| BML-0201-11 | L. 37757 -11 | F.8 | U/26 | W-255 cm N-60 cm Depth-640.43m | L: 5.5 W: 5.3 Thick: 3.3 | Stucco fragment not determinable; traces of red colour clearly visible | Fragile |
| BML-0201-18 | L. 37757 -18 | F.8 | U/26 | W-255 cm N-60 cm Depth-640.43m | L: 3.5 W: 3 Thick: 1.3 | Stucco fragment not determinable | Fragile |

**Some rare Stucco image from Bhamala**

The stucco fragments of sculptures and architectural items were reported outside the parinirvana chamber mostly on the western side between the second cruciform stupa and the chapels. These fragments include heads, busts, feet and hands of Buddha and other male and female figures as well as the capital of pilasters and. But the most interesting and rare stucco statues were reported from the chapels i.e. chapel no 3, 4 & 5. In chapel no. 3, The Stucco headless seated Buddha (Fig.1) flanked by standing figures one on either side holding *cornucopia* in their right hands. Both the figures are wearing typical Indian dress *(Dhoti)* holding *vijra* in their left hands. The left side figure was found defaced and damaged, while the figure on the right was found in a better state of preservation with traces of red colour clearly visible on the face and forehead (Fig. 2) quite similar to those reported from jaulian (Marshall 1921: 12, PL. XIIIa). In the centre of the chapel, Buddha is seated in *dhiyanamudra* with drapery covering both shoulders; halos behind head and back are clearly visible. The image is not in the best state of preservation as the head was found broken and missing and crakes are clearly on the shoulders. Apart from these there are other headless standing stucco figures placed on the southern and northern wall two on either side. The next two figures, one on either side are headless, standing on a round projected base facing each other, the left hands of both the figures are resting on chest upwards, while the right hands resting downwards. The last two figures are also placed in the same fashion. These are slightly larger than the previous figures. Right hands of both figures resting on chest while the left hands holding the drapery.



**Figure 1. Stucco Buddha seated in meditation pose** **Figgure 2. Stucco standing figure with traces**

Chapel no. 4 exhibits a total of 06 stucco figures. Of these, the central image of seated Buddha is completely missing while the double haloes (Fig.3) provided to the central figure is still visible. The central (missing) figure is also flanked by two headless standing figures holding drapery in both hands; both the figures are provided with slightly projected base. The rest of the four figures two on either wall are also placed in the same fashion two on either side (southern and northern) wall. But these figures are not badly damaged.



**Figure 3. Stucco traces of Buddha provided with double haloes**

Similarly, chapel no. 5 also revealed a total of seven sculptures. On eastern wall of the chapel, stucco Buddha is seated in *Dharmachakra* pose(Fig. 4) flanked by two standing figures, one on either side. The left side figure is holding *vajra* (thunderbolt) in his left hand; while in his left hand holding probably cornucopia; with perhaps folded wreath around his neck. The figure is wearing typical Indian dress (Dhoti). Below this figure there is a square box probably containing lotus flowers. The headless right side flanked figure is holding drapery in his hands. He is wearing typical Gandharan costume. The other two standing figures are smaller in size, provided with slightly projected round base. Both the figures are holding drapery in their left hands; while the right hands are resting downwards. The last two figures are larger in size. They are slightly different than the rest of the figures with bulky bodies, fully covered with drapery, the left hand is resting downward; while the right hand resting on chest. The right side figure is damaged and missing except the feet resting on a podium.

**Unique Features of the Stucco images**

The stucco images reported from the Bhamala bears some unique or at least exceptional features.

- The central images of Buddha in chapel nos. 3 & 4 are provided with double haloes
- The Dresses/draperies are not uniform
- Some of the images are provided with more elaborately decorated drapery

A halo is a ring of light that surrounds a person in art. They have been used in the iconography of many religions including Hinduism, Buddhism, Islam and Christianity to indicate holy or sacred figures. In some cases they have also been used in the images of rulers and heroes.

In the Buddhist Art of Gandhara, the images of Buddha are mostly accompanied by halo around the head. The halo is a mystical and powerful. It is an emblematic of awesome wisdom that is universal. The discovery of stucco images of Buddha surrounded by double halos is exceptional in Taxila as well as in the entire Gandhara region. In Chapel no. 3, the seated Buddha is surrounded by two halos the upper one is around the neck simple and smaller than the lower halo which lager in diameter and the boarders are elegantly decorated with beaded design. While in Chapel no. 4, the halos provided to the seated Buddha (found missing) were found in a very poor state of preservation. The upper halo is badly defaces while only the boarders of the lower halo are present which are also decorated with beaded design. Further investigation is needed to understand the concept of double halos.

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# Terracotta Objects Reported during the Excavation at Bhamala in 2014-15

Abdul Samad, Abdul Hameed and Ehsan Javed

Terracotta is one of the most ancient materials being used for making sculptures and pottery since the Neolithic time. In the beginning, the clay sculptures were baked in sun. Later on, they were placed in the open hearth to harden, and finally, kilns were introduced for firing purpose. As compare to other materials, terracotta uses a far simple process for making sculptures with much lower cost. So being made of the cheapest materials, the terracotta objects are also called as the poor man's art (Gordon 1944:5). The history of terracotta art in Pakistan is the oldest in the whole of South Asia (Jarriage et al 1992). Throughout the prehistoric period the technique and style of terracotta art generally remained unchanged in the length and breadth of the country and it was during the historic era that different regional techniques and styles were developed. Terracotta of latter periods i.e. Gndhara terracotta reflects cultural links with other societies and regions (Dar, S. R., 2013: 1). The origin of Terracotta art in Gandhara goes back to the Neolithic period but the earliest terracottas in their iconographic form were introduced in 4th /3rd century BCE under the influence of central and eastern India. But latter on this art was dominated by the Hellenistic traditions that prevailed in the region till 11th century CE (Dar, S. R., 2013: 2).

The major purpose of Gandhara Art was to propagate Buddhism but the number of terracotta sculptures is not greater as compare to stone and stucco sculptures. Most of the terracotta objects found from the settlement sites. It seems that the terracotta sculptures were made locally and not for long distance trade of export. The earliest terracotta figures have the following characteristic features:

- The whole figure is handmade
- Pinched nose
- With applied mouth, eyes, breasts and ornaments
- With small and punctured breasts
- Hand, waist band and anklets are shown with incised lines

Terracotta figures having the above mentioned characteristic features have been reported from different sites in Gandhara region including Bala Hisar (Charsadda) and Bhir Mound (Taxila).

In addition, very few examples of flat female figures were also reported from the Timargarha Graves (Dani 1965-66:47; Dar, S. R., 2013:4). The Gandharann terracottas have been classified into seven major types by Riffat Saif Dar. These include the human figurines, Plaque designs stamped as emblemata, terracotta masks, stamped pottery, moulds, large clay heads, votive tanks and models (Dar, R., 2013: 3).

The earliest terracottas in Gandhara are known as Baroque lady produced under the influence of the Mauryans and Greeks with single casted with double as well as single mould (Wheeler 1962:104-06). The Hellenistic types are known throughout the Scythian, Parthians as well as Kushan period (2nd-3rd century CE). However the real Gandharan terracotta type of heads both figurines and sculptures started appearing during the Kushan period. The crowned Bodhisattva head and a half burnt clay head of a monk with clean shaven face from Kalawan, are dated to the same period i.e. (3rd -5th century CE. It was during this period that slip casting –that is the use of crushed stone and clay to make terracotta was also introduced in Taxila. The Kushan terracottas show greater variety than their predecessors as it was during their reign that what previously was called as the art of terracotta figurines now became the sculptural art in malleable materials such as stucco, clay and terracotta. The continuity of these traditions can be seen upto the time of Gupta in India and more so in Kashmir at sites like Akhnur, Ushkar and Avantipura till 10th/11th century CE (Dar, S. R., 2013: 6-11). This continuation has recently been noticed at Bhamala (Taxila) with the discovery of Terracotta/Clay objects reported during the current excavation. A total of 331 clay/terracotta registered objects were reported during the course of the current excavation which include 06 hand fragments, 30 head fragments , 06 headdress fragments, 14 arm fragments, 02 foot fragments, 03 toes, 53 fingers (with three traces of gold), 15 thumbs, 05 bangle fragments, one eyebrow fragment, 01 forehead fragment, 11 hair fragments, 06 hair bun fragments, one shoulder fragment, 50 miscellaneous fragments, 56 beads, 01 earring fragment, 14 bust fragments, 30 leaves, 01 bust fragments, 01 face fragment, 02 vijras fragments, 01 water flask fragment, one pot, 05 pedestal fragments with feet, 03 ushnisha fragments, 04 drapery fragments, 06 leg fragments, 01 neck fragment, 01 potsherd with design and one branch of tree. Catalogue of the Terracotta objects is given below:

## Terracotta Head

| Reg. No. | Lot No. | Feature No. | Trench No. | 3DM (cm) | Size in (cm) | Description | Condition |
|---|---|---|---|---|---|---|---|
| BML-0075 | L. 394-1 | F. 4 | A/IV (Old) | N-80 cm E-170 cm Depth-105 cm | L: 12.4 W: 10.5 Thick: 3.7 | Terracotta head fragment, left face; cheek, eye, ear are present while right side (from chin to hear totally missing. Left side forehead is slightly damaged and chipped off. | Satisfactory |
| BML-0076 | L. 343-1 | F. 16 | A/II (Old) | N-170 cm E-183 cm | L: 18.5 W: 15.2 | Terracotta head fragment, headdress, right ear and lower portion of chin cut off and missing; lips nose, cheeks and eyes damaged | Fragile |
| BML-0082-1 | L. 342-1 | F. 14 | A/II (Old) | N-191 cm W-374 cm | L: 8 .5 W: 5.2 Thick: 1.9 | Terracotta head fragment, right side eye and portion of forehead with traces of gold | Satisfactory |
| BML-0083-1 | L. 373-13 | F. 16 | A/III (Old) | S-30 cm W-390 cm | L: 3.9 W: 8 Thick: 1.2 | Terracotta head fragment; only left side half lips, eye ear and hair are present; while right side missing. | Satisfactory |
| BML-0086 | L. 350-1 | F. 27 | Balk between A/II & A/III (Old | S-12 cm E-160 cm | L: 9.7 Dia: 8 | Terracotta head fragment; with honey comb hair style; nose mouth left eye, cheeks and forehead present, chin partially cut off, right eye chipped off | Satisfactory |
| BML-0087 | L. 350-2 | F. 27 | Balk between A/II & A/III (Old | E-15 cm N-26 cm Depth-642.50m | L: 14.7 W: 13.5 | Terracotta female head fragment; with half open eyes, with comb hair style; headdress slightly damaged | Good |
| BML-0090 | L. 373-16 | F. 27 | A/III (Old) | W-310 cm N-120 cm Depth: 185 cm | L: 14 W: 11 | Terracotta head fragment with headdress decorated with wavy lines topped by crown; only nose, left eye and upper lips are present (broken and rejoined) | Fragile |
| BML-0092-3 | L. 342-8 | F. 14 | A/II (Old) | W-390 cm N-230cm Depth- 642.70 m | L: 8.3 W: 7.5 | Terracotta head fragment with left cheek, eye and upper lip. | Fragile |
| BML-0093 | L. 395-1 | F. 6 | A/IV (Old) | W-62 cm N-150 cm Depth- 641.73 m | L: 10.3 Dia: 11.7 | Terracotta head fragment, both ears, forehead and hair missing, nose chipped off | Satisfactory |
| BML-0098 | L. 373-17 | F.16 | A/III (Old) | N-245 cm W- 390 cm Depth- 220 | L: 10.4 Dia: 11 | Terracotta head fragment with projected eyebrow and decorated headdress, folds | Fragile |

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| | | | | cm | | on the forehead are clearly visible | |
| BML-0099 | L. 395-3 | F.6 | A/IV (Old) | South-western corner of Pari nirvana Chamber | L: 11.3 Dia: 11.8 | Terracotta head fragment, female head with decorated hair bun, right side face including eye, forehead and chin missing, both ears slightly damaged (broken and rejoined) | Fragile |
| BML-0100 | L. 308-1 | F.8 | A/I(Old | W-10 cm S- 160 cm Depth- 643.85 m | L: 20 Dia: 18 | Terracotta head fragment with folds on forehead, completely defaced except left eye | Fragile |
| BML-0104 | L. 351-2 | F.28 | A/II (Old) | E-80 cm N- 100 cm | L: 11.2 W: 6.5 | Terracotta head fragment, female head, hair decorated with robe design, running along the forehead, topped by another band and braid on back side, face severely damaged. | Fragile |
| BML-0105 | L. 37902-1 | F.2 | U/29 | N-83 cm E- 254 cm Depth- 639.49 m | L: 8.3 W: 6.5 | Terracotta head fragment ; lips, nose and chin, eyes partially damaged; both ears and forehead missing. | Satisfactory |
| BML-0106 | L. 342-14 | F.14 | A/II (Old) | E-80 cm S- 92cm Depth-174 m | L: 5.6 W: 5.9 | Terracotta head fragment; lips, nose and chin, cheeks and eyes partially damaged, both ears cut off and missing. | Satisfactory |
| BML-0107 | L. 342-15 | F.14 | A/II (Old) | E-86 cm S- 90 cm Depth-179 m | L: 17.7 Dia: 8 | Terracotta head of Bodhisattva Maitriya with decorated hair style, both ears cut off, right side forehead badly damaged, eyes cheek and right side forehead partially chipped off. | Satisfactory |
| BML-0108 | L. 342-16 | F.14 | A/II (Old) | E-150 cm N- 230 cm | L: 17.5 Dia: 12 | Terracotta head fragment, female head, with decorated headdress and hair bun on the back side; lips,, nose, left eye, ears and chin, damaged, hair band slightly chipped off. | Satisfactory |
| BML-0113 | L. 351-3 | F.28 | A/II (Old) | W-66 cm S-340 cm Depth- 643.04 m | H: 15 Dia: 10 | Terracotta female head with combed hair and hair bun on the back; ears nose and lips are damaged | Good |
| BML-0126 | L. 308—4 | F.8 | A/I (Old) | W-20 cm S-210 cm Depth- 642.67m | L: 4.9 W: 4.5 Thick: 3.7 | Terracotta head fragment of elephant with open mouth and trunk turning upward | Good |
| BML-0133 | L. 392-1 | F.2 | A/IV | W-90 cm S-26 cm Depth-102cm | H: 7.5 W: 6.2 Thick: 2.7 | Terracotta head fragment; right side face including cheek, nose, lips and | Fragile |

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| | | | | | | forehead are present | |
| BML-0136 | L. 343-5 | F.16 | A/II (Old) | N-269cm E-10 cm Depth- 80 cm | L: 10.5 Dia: 6.3 | Terracotta head fragment, female head with combed hair, forehead, chin and hair bun damaged | Good |
| BML-0176-1 | L. 394-3 | F.4 | A/III & A/IV (Old) Balk | N -166 cm E-152 cm | L: 7.7 W: 5.9 | Terracotta head fragment, only portion of right ear present | Fragile |
| BML-0200-2 | L. 242-36 | F.14 | A/II (Old) | | L: 9.9 W: 15.2 | Terracotta head fragment only portion of headdress and forehead are present; broken and rejoined | Fragile |
| BML-0215-1 | L. 343-22 | F.16 | A/II | | L: 6.8 Dia: 4.7 | Terracotta head fragment; probably of Buddha; Ushnisha, both ears, right eye and portion of forehead present | Fragile |
| BML-0215-3 | L. 343-24 | F.16 | A/II | | L: 7.2 W: 5.9 Thick: 3.4 | Terracotta head fragment; only skull is present | Fragile |
| BML-0232-3 | L. 312-32 | F.17 | A/I (Old) | | L: 9 W: 6.9 Thick: 2.4 | Terracotta fragment with applied head of elephant | Good |
| BML-0238 | L. 40703-2 | F.7 | V/30 | | H: 9.2 Dia: 9 cm | Terracotta head fragment | Fragile |
| BML-0245-1 | L. 343-39 | F.16 | A/II (Old) | | L: 11 W: 10.7 | Terracotta head fragment; portions of right side face with eye, forehead, nose and hair | Fragile |
| BML-0245-2 | L. 343-40 | F.16 | A/II (Old) | | L: 14.7 Dia: 10.5 | Terracotta head fragment; only rare portion and hair present | Fragile |
| BML-0248-6 | L. 342-52 | F.14 | A/II (Old) | | L: 12 W: 9.8 | Terracotta head fragment; only hair, portion of left ear and traces of hair bun are present | Fragile |
| BML-0248-22 | L. 342-68 | F.14 | A/II (Old) | | L: 25 W: 19 | Terracotta head fragment; both eyes, forehead, nose, lips, chin and right ear are defaced; left side face partially missing | Fragile |
| BML-0081-6 | L. 373-6 | F. 16 | A/III (Old) | E-80 cm S-10 cm | L: 4.5 W: 2.5 | Terracotta Eye brow fragment, badly damaged | Fragile |
| BML-0081-7 | L. 373-7 | F. 16 | A/III (Old) | E-80 cm S-10 cm | L: 8 W: 5.9 Thick: 0.9 | Terracotta forehead and hair fragment damaged | Fragile |
| BML-0081-9 | L. 373-9 | F. 16 | A/III (Old) | E-80 cm S-10 cm | L: 7.5 W: 8.5 Thick: 0.6 | Terracotta hair fragment of bun of the back of female head | Good |
| BML-0095 | L. 395-2 | F.6 | A/IV (Old) | W-403 cm S- 330 cm Depth- 642.40 | L: 12.5 W: 0.2 | Terracotta hair fragment, bun of female hair, partially damaged and missing | Satisfactory |

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|---|---|---|---|---|---|---|---|
| BML-0183-1 | L. 343-7 | F.16 | A/II (Old) | --- | L: 8<br>Dia: 7<br>Thick: 2.1 | Terracotta fragment; probably hair bun | Fragile |
| BML-0184-3 | L. 312-13 | F.17 | A/I (Old) | Depth-216 cm | L: 4.5<br>W: 3.4<br>Thick: 1.3 | Terracotta fragment of hair bun; partially damaged and missing | Good |
| BML-0192-9 | L. 397-9 | F.20 | A/IV | --- | L: 3.3<br>W: 5.4<br>Thick: 4.4 | Terracotta fragment, probably hair bun round in shape | Good |
| BML-0203-1 | L. 342-35 | F.16 | A/II (Old) | ---- | Dia:5.5<br>Thick: 3.2 | Terracotta fragment; probably bun of female hair or a decorative element | Fragile |
| BML-0081-8 | L. 373-8 | F. 16 | A/III (Old) | E-80 cm<br>S-10 cm | L: 8<br>W: 6.5<br>Thick: 2.4 | Terracotta hair fragment in honey comb style. | Satisfactory |
| BML-0176-4 | L. 394-6 | F.4 | A/III & A/IV (Old) Balk | N -166 cm<br>E-152 cm | L: 5.8<br>W: 5.5 | Terracotta hair fragment, snail shell hair style | Fragile |
| BML-0176-7 | L. 394-9 | F.4 | A/III & A/IV (Old) Balk | N -166 cm<br>E-152 cm | L: 7.7<br>W: 5.9 | Terracotta hair fragment, applied design round in shape | Fragile |
| BML-0181 | L. 353-2 | F.30 | A/II | --- | L: 11.5<br>W: 8.1<br>Thick: 4.5 | Terracotta hair fragment | Fragile |
| BML-0182 | L. 380-7 | F.23 | A/III & A/IV (Old) Balk | --- | L: 6.1<br>W: 5.8 | Terracotta head fragment with three knots | Fragile |
| BML-0184-1 | L. 312-11 | F.17 | A/I (Old) | Depth-216 cm | L: 5.2<br>W: 3.9<br>Thick: 2.7 | Terracotta hair fragment | Satisfactory |
| BML-0192-8 | L. 397-8 | F.20 | A/IV | --- | L: 4.7<br>W: 3 | Terracotta hair fragment | Good |
| BML-0202-2 | L. 312-16 | F.17 | A/I (Old) | ---- | L: 14<br>W: 12.3<br>Thick: 5.8 | Terracotta fragment not determinable | Fragile |
| BML-0202-3 | L. 312-17 | F.17 | A/I (Old) | ---- | Dia:21 | Terracotta hair fragment decorated with honey combed design (Broken and rejoined) | Fragile |
| BML-0215-9 | L. 343-30 | F.16 | A/II | --- | L: 2.6<br>W: 2.6<br>Thick: 1.1 | Terracotta hair fragment | Good |
| BML-0236-3 | L. 343-34 | F.16 | A/II (Old) | --- | L: 5<br>W: 4.5<br>Thick: 2.3 | Terracotta hair fragment | Fragile |
| BML-0178-2 | L. 347-3 | F.20 | A/II & A/III (Old) Balk | --- | Dia: 3<br>H: 3.2 | Terracotta Ushnisha fragment | Fragile |

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|---|---|---|---|---|---|---|---|
| BML-0250-8 | L. 312-52 | F.17 | A/I (Old) | --- | L: 4<br>Dia: 2.9 | Terracotta Ushnisha fragment | Good |
| BML-0234 | L. 317-26 | F.22 | A/I (Old) | --- | L: 6<br>W: 5.6<br>Thick:3 | Terracotta fragment of sculpture probably portion of neck | Good |
| BML-0183-2 | L. 343-8 | F.16 | A/II (Old) | --- | L: 4.3<br>W: 3.5<br>Thick: 0.8 | Terracotta fragment; not determinable; probably head of elephant | Fragile |

## Terracotta Hands, Thumbs & Fingers

| Reg. No. | Lot No. | Feature No. | Trench No. | 3DM In cm | Size in (cm) | Description | Condition |
|---|---|---|---|---|---|---|---|
| BML- 0097 | L. 314-1 | F.19 | A/I (Old) | E-02 cm<br>S- 125 cm | L: 7.2<br>W: 4.6 | Terracotta water flask fragment decorated with robe design, broken into three pieces and rejoined | Fragile |
| BML- 0074 | L. 380-1 | F. 23 | A/IV (Old) | N-40 cm<br>E-200 cm<br>Depth-110 cm | L: 18.9<br>W: 18.6<br>Thick: 8.7 | Terracotta hand fragment, left hand holding something, probably drapery | Satisfactory |
| BML- 0092-6 | L. 342-11 | F. 14 | A/II (Old) | W-390 cm<br>N-230cm<br>Depth- 642.70 m | L: 8.2<br>W: 3.5 | Terracotta hand fragment, probably left hand, thumb and index finger missing | Satisfactory |
| BML- 0094-1 | L. 343-2 | F.16 | A/II (Old) | W-403 cm<br>S- 330 cm<br>Depth- 642.40 m | L: 16.5<br>W: 6.1<br>Thick: 2 | Terracotta hand fragment, right hand, thumb and little finger cut off and missing | Satisfactory |
| BML- 0141-1 | L. 317-11 | F.22 | A/I | | L: 9<br>W: 5.4 | Terracotta hand fragment, only two fingers are present; while thumb and two other fingers are damaged and missing | Fragile |
| BML- 0142-1 | L. 317-13 | F.22 | A/I | ------ | L: 7.1 | Terracotta hand fragment, left hand with three fingers; palm thumb and side finger missing | Satisfactory |
| BML-0081-3 | L. 373-3 | F. 16 | A/III (Old) | E-80 cm<br>S-10 cm | L: 5.7<br>W: 0.9 | Terracotta finger fragment, probably second finger of left hand | Satisfactory |
| BML-0082-2 | L. 342-2 | F. 14 | A/II (Old) | N-191 cm<br>W-374 cm | L: 2.9<br>W: 0.8 | Terracotta finger fragment with traces of gold (Samples taken by Dr. Mark Kenoyer for analysis) | Satisfactory |

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|---|---|---|---|---|---|---|---|
| BML-0082-3 | L. 342-3 | F. 14 | A/II (Old) | N-191 cm W-374 cm | L: 3 W: 0.9 | Terracotta finger fragment with traces of gold | Satisfactory |
| BML-0082-4 | L. 342-4 | F. 14 | A/II (Old) | N-191 cm W-374 cm | L: 3.4 W: 1 | Terracotta finger fragment having traces of gold (Nail cut off and missing) | Satisfactory |
| BML-0083-3 | L. 373-15 | F. 16 | A/III (Old) | S-30 cm W-390 cm | L: 3.5 W: 0.5 | Terracotta finger fragment; probably little finger of left hand | Good |
| BML-0094-2 | L. 343-3 | F.16 | A/II (Old) | W-403 cm S- 330 cm Depth- 642.40 m | L: 5.2 W: 0.7 | Terracotta finger fragment, little finger slightly damaged | Satisfactory |
| BML-0139-2 | L. 342-18 | F.14 | A/II | ------ | L: 5.7 W: 1.5 | Terracotta finger fragment, probably of right hand, slightly chipped off | Satisfactory |
| BML-0139-3 | L. 342-19 | F.14 | A/II | ------ | L: 4.3 W: 1.4 | Terracotta finger fragment not determinable, slightly broken and damaged | Satisfactory |
| BML-0139-4 | L. 342-20 | F.14 | A/II | | L: 3.7 W: 0.9 | Terracotta finger fragment, probably of left hand covered with stains of calcium carbonate | Satisfactory |
| BML-0139-5 | L. 342-21 | F.14 | A/II | ------ | L: 3.7 W: 1.1 | Terracotta finger fragment, probably little finger of left hand | Satisfactory |
| BML-0141-2 | L. 317-12 | F.22 | A/I | ------ | L: 5.2 W: 3.8 | Terracotta fingers fragment , two middle fingers | Fragile |
| BML-0142-2 | L. 317-14 | F.22 | A/I | ------ | | Terracotta long finger of right hand; over fired; black in color | Satisfactory |
| BML-0142-4 | L. 317-16 | F.22 | A/I2 | ------ | L: 2.1 | Terracotta finger fragment covered with stain of calcium carbonate, nail cut off and missing | Satisfactory |
| BML-0162 | L. 396-1 | F.4 | A/IV (Old) | N-130 E-118 | L: 7.1 Thick: 1.3 | Terracotta Finger fragment not determinable, slightly curved from the middle, nail missing | Fragile |
| BML-0176-5 | L. 394-7 | F.4 | A/III & A/IV (Old) Balk | N -166 cm E-152 cm | L: 3.8 W: 2.5 | Terracotta Finger fragment, nail missing | Fragile |
| BML-0178-3 | L. 347-4 | F.20 | A/II & A/III (Old) Balk | --- | L: 3.1 H: 1.1 | Terracotta Finger fragment; little finger probably of left hand | Good |
| BML-0184-2 | L. 312-12 | F.17 | A/I (Old) | Depth-216 cm | L: 3.2 W: 1 Thick: 1 | Terracotta hair fragment; not determinable; nail missing | Good |
| BML-0185-7 | L. 343-15 | F.16 | A/II (Old) | --- | L: 4 W: 1.3 Thick: 1.1 | Terracotta Finger fragment not determinable; nail missing | Fragile |
| BML-0185-8 | L. 343-16 | F.16 | A/II (Old) | --- | L: 5.7 W: 1.6 | Terracotta finger fragment with unusual nail | Satisfactory |

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| | | | | | Thick: 1.3 | | |
| BML-0185-11 | L. 343-19 | F.16 | A/II (Old) | --- | L: 3 W: 1.1 Thick: 0.8 | Terracotta finger fragment; little finger probably of right hand | Satisfactory |
| BML-0185-12 | L. 343-20 | F.16 | A/II (Old) | --- | L: 3.2 W: 1.6 Thick: 1.3 | Terracotta finger fragment not determinable; nail missing | Fragile |
| BML-0192-1 | L. 397-1 | F.20 | A/IV | --- | L: 12.8 W: 4.4 Thick: 2.2 | Terracotta finger fragment; little and second finger of right hand | Good |
| BML-0192-2 | L. 397-2 | F.20 | A/IV | --- | L: 8.6 W: 2.3 Thick: 2.2 | Terracotta finger fragment; middle finger | Good |
| BML-0192-3 | L. 397-3 | F.20 | A/IV | --- | L: 7.8 W: 2.1 Thick: 2 | Terracotta finger fragment; middle finger probably of right hand | Good |
| BML-0192-4 | L. 397-4 | F.20 | A/IV | --- | L: 6 W: 1.5 Thick: 0.8 | Terracotta finger fragment; little finger of right hand | Good |
| BML-0192-10 | L. 397-10 | F.20 | A/IV | --- | L: 5.6 W: 2.5 Thick: 1.7 | Terracotta finger fragment; not determinable; nail missing | Fragile |
| BML-0192-13 | L. 397-13 | F.20 | A/IV | --- | L: 2.2 W: 1.5 Thick: 1 | Terracotta finger fragment; only nail is present | Good |
| BML-0197-1 | L. 351-5 | F.28 | A/II (Old) | --- | L: 4.1 W: 1.3 Thick: 1.3 | Terracotta finger fragment; little finger; probably of left hand | Good |
| BML-0197-2 | L. 351-6 | F.28 | A/II (Old) | --- | L: 4.2 W: 2.5 Thick: 1.9 | Terracotta finger fragment; little finger; probably of left hand | Good |
| BML-0197-3 | L. 351-7 | F.28 | A/II (Old) | --- | L: 4.3 W: 1.5 Thick: 1 | Terracotta finger fragment; Index finger, probably of right hand | Good |
| BML-0197-4 | L. 351-8 | F.28 | A/II (Old) | --- | L: 3.2 W: 1.4 Thick: 0.8 | Terracotta finger fragment; little finger | Good |
| BML-0197-5 | L. 351-9 | F.28 | A/II (Old) | --- | L: 2.6 W: 0.8 Thick: 0.6 | Terracotta finger fragment; little finger; probably of left hand | Good |
| BML-0197-6 | L. 351-10 | F.28 | A/II (Old) | --- | L: 2 W: 1 Thick: 1 | Terracotta finger fragment; badly damaged; nail missing | Fragile |
| BML-0197- | L. 351-11 | F.28 | A/II (Old) | --- | L: 1.8 | Terracotta finger fragment; | Fragile |

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| 7 | | | | | W: 1.2 | only portion of nail is present | |
| BML-0203-2 | L. 342-36 | F.16 | A/II (Old) | ---- | L: 7.5 W: 1.4 Thick: 1.2 | Terracotta finger fragment; Index finger probably of right hand | Fragile |
| BML-0203-3 | L. 342-37 | F.16 | A/II (Old) | ---- | L: 5.8 W: 1.4 Thick: 1.3 | Terracotta finger fragment; little finger probably of left hand | Fragile |
| BML-0203-5 | L. 342-39 | F.16 | A/II (Old) | ---- | L: 4.3 W: 1.2 Thick: 1 | Terracotta finger fragment not determinable | Fragile |
| BML-0215-7 | L. 343-28 | F.16 | A/II | --- | L: 5.5 W: 1.3 Thick: 0.8 | Terracotta finger fragment not determinable | Good |
| BML-0215-8 | L. 343-29 | F.16 | A/II | --- | L: 3 W: 1.5 Thick: 0.8 | Terracotta finger fragment not determinable | Good |
| BML-0223-4 | L. 373-26 | F.16 | A/III (Old) | W-398 cm N-181 cm Depth- 642.32 cm | ---- | Terracotta finger fragment; little finger | Good |
| BML-0240-1 | L. 373-27 | F.16 | A/III (Old) | --- | L: 7.1 W: 1.8 Thick: 1 | Terracotta finger fragment; probably index finger | Good |
| BML-0240-5 | L. 373-31 | F.16 | A/III (Old) | --- | L: 3.3 W: 1.2 Thick: 1 | Terracotta finger fragment; probably middle finger | Good |
| BML-0240-6 | L. 373-32 | F.16 | A/III (Old) | --- | L: 4.5 W: 2 Thick: 1.2 | Terracotta finger fragment; nail missing | Fragile |
| BML-0240-7 | L. 373-33 | F.16 | A/III (Old) | --- | L: 3.2 W: 1.2 Thick: 1 | Terracotta finger fragment; not determinable | Fragile |
| BML-0240-8 | L. 373-34 | F.16 | A/III (Old) | --- | L: 3.4 W: 1.2 Thick: 1 | Terracotta finger fragment; nail missing | Good |
| BML-0240-9 | L. 373-35 | F.16 | A/III (Old) | --- | L: 3 W: 1.3 Thick: 1 | Terracotta finger fragment; nail missing | Fragile |
| BML-0240-10 | L. 373-36 | F.16 | A/III (Old) | --- | L: 1.9 W: 1.2 Thick: 1 | Terracotta finger fragment with fingering; nail cut off and missing | Good |
| BML-0240-11 | L. 373-37 | F.16 | A/III (Old) | --- | L: 3 W: 1.4 Thick: 1.3 | Terracotta finger fragment; nail missing | Fragile |
| BML-0240-12 | L. 373-38 | F.16 | A/III (Old) | --- | L: 3.5 W: 1.5 Thick: 1 | Terracotta finger fragment; nail missing | Fragile |

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| BML-0240-13 | L. 373-39 | F.16 | A/III (Old) | --- | L: 2<br>W: 1.2<br>Thick: 1 | Terracotta finger fragment; not determinable | Fragile |
| BML-0240-14 | L. 373-40 | F.16 | A/III (Old) | --- | L: 2.8<br>W: 1.7<br>Thick: 1.1 | Terracotta finger fragment; nail missing | Fragile |
| BML-0240-15 | L. 373-41 | F.16 | A/III (Old) | --- | L: 3.5<br>W: 1.2<br>Thick: 1 | Terracotta finger fragment; middle finger | Good |
| BML-0240-16 | L. 373-42 | F.16 | A/III (Old) | --- | L: 3.5<br>W: 1.7<br>Thick: 1.6 | Terracotta finger fragment; nail missing | Fragile |
| BML-0244-1 | L. 342-45 | F.14 | A/II (Old) | --- | L: 7.3<br>W: 1.5 | Terracotta finger fragment not determinable; probably middle finger | Good |
| BML-0244-2 | L. 342-46 | F.14 | A/II (Old) | --- | L: 3.8<br>W: 1.3<br>Thick: 0.8 | Terracotta finger fragment little finger probably of left hand | Good |
| BML-0247-13 | L. 309-13 | F.9 | A/I (Old) | N-30 cm<br>W-90 cm<br>Depth-170 cm | L: 7.3<br>W: 4<br>Thick: 2.5 | Terracotta finger fragment not determinable | Fragile |

## Thumbs

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|---|---|---|---|---|---|---|---|
| BML-0081-4 | L. 373-4 | F. 16 | A/III (Old) | E-80 cm<br>S-10 cm | L: 4.4<br>W: 1 | Terracotta thumb fragment, probably of left hand | Satisfactory |
| BML-0092-5 | L. 342-10 | F. 14 | A/II (Old) | W-390 cm<br>N-230cm<br>Depth-642.70 m | L: 6<br>W: 1.2 | Terracotta Thumb fragment; probably thumb of right hand | Satisfactory |
| BML-0092-7 | L. 342-12 | F. 14 | A/II (Old) | W-390 cm<br>N-230cm<br>Depth- 642.70 m | L: 4.5<br>W: 1.8 | Terracotta thumb fragment | Good |
| BML-0139-6 | L. 342-22 | F.14 | A/II | ------ | L: 2.9<br>W: 1.9 | Terracotta thumb fragment probably of left hand | Satisfactory |
| BML-0142-3 | L. 317-15 | F.22 | A/I | ------ | L: 4.2<br>W: 1.3 | Terracotta thumb fragment, probably of right hand | Satisfactory |
| BML-0176-2 | L. 394-4 | F.4 | A/III & A/IV (Old) Balk | N -166 cm<br>E-152 cm | L: 6.6<br>W: 2.5 | Terracotta Thumb fragment, probably thumb of left hand, nail slightly damaged | Good |
| BML-0176-8 | L. 394-10 | F.4 | A/III & A/IV (Old) Balk | N -166 cm<br>E-152 cm | L: 3.3<br>W: 1.6 | Terracotta thumb fragment | Fragile |
| BML-0192-11 | L. 397-11 | F.20 | A/IV | --- | L: 4.4<br>W: 1.5<br>Thick: 1 | Terracotta thumb fragment; not determinable | Good |

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| BML-0203-8 | L. 342-42 | F.16 | A/II (Old) | ---- | L: 2.8 W: 1.2 Thick: 0.9 | Terracotta thumb fragment probably of left hand | Good |
| BML-0215-4 | L. 343-25 | F.16 | A/II | --- | L: 3.1 W: 1.1 Thick: 0.8 | Terracotta thumb fragment; probably of right hand | Fragile |
| BML-0215-6 | L. 343-27 | F.16 | A/II | --- | L: 3.4 W: 1.4 Thick: 1.1 | Terracotta thumb fragment not determinable | Good |
| BML-0236-1 | L. 343-32 | F.16 | A/II (Old) | --- | L: 2.1 W: 1 Thick:0.8 | Terracotta thumb fragment not determinable | Good |
| BML-0240-2 | L. 373-28 | F.16 | A/III (Old) | --- | L: 4 W: 1.5 Thick: 1 | Terracotta thumb fragment | Good |
| BML-0240-3 | L. 373-29 | F.16 | A/III (Old) | --- | L: 3.7 W: 1.6 Thick: 1 | Terracotta thumb fragment not determinable | Good |
| BML-0240-4 | L. 373-30 | F.16 | A/III (Old) | --- | L: 3.5 W: 1.3 Thick: 1 | Terracotta thumb fragment not determinable | Good |
| BML-0248-5 | L. 342-51 | F.14 | A/II (Old) | --- | L: 6 W: 2.5 Thick: 2 | Terracotta thumb fragment; badly damaged | Fragile |
| BML-0079 | L. 394-2 | F. 2 | A/III & A/IV Balk (Old) | N-10 cm W-350 cm Depth: 125 cm | L: 10.3 W: 9 Thick: 3.7 | Terracotta arm fragment including elbow and wrist wearing bangle. Broken and damaged | Fragile |
| BML-0175-1 | L. 380-3 | F.23 | A/III & A/IV (Old) Balk | S-120 cm W-190 cm | L: 10 W: 7 | Terracotta Arm fragment with hole in the center | Fragile |
| BML-0185-1 | L. 343-9 | F.16 | A/II (Old) | --- | L: 16 W: 7.8 Thick: 1.3 | Terracotta arm fragment; probably right arm with shoulder and portion of bangle in the wrist | Good |
| BML-0229-1 | L. 308-8 | F.8 | A/I (Old) | --- | L: 9 W: 8.4 Thick: 4 | Terracotta arm fragment with bangle | Good |
| BML-0230-1 | L. 351-12 | F.28 | A/II (Old) | --- | L: 14 Dia: 9 | Terracotta arm fragment; portion of wrist with bangle | Fragile |
| BML-0230-2 | L. 351-13 | F.28 | A/II (Old) | --- | L: 12 Dia: 8.4 | Terracotta arm fragment | Fragile |
| BML-0231-1 | L. 308-10 | F.28 | A/I (Old) | --- | L: 8 Dia: 6.5 | Terracotta arm fragment | Fragile |
| BML-0231-2 | L. 308-11 | F.28 | A/I (Old) | --- | L: 6.8 Dia: 4 | Terracotta arm fragment | Fragile |
| BML-0231-3 | L. 308-12 | F.28 | A/I (Old) | --- | L: 11.8 Dia: 6 | Terracotta arm fragment | Fragile |
| BML-0231-4 | L. 308-13 | F.28 | A/I (Old) | --- | L: 6.2 Dia: 5.4 | Terracotta arm fragment | Fragile |
| BML-0242 | L. 394-11 | F.4 | A/IV (Old) | --- | L: 10.5 W: 5.2 | Terracotta arm fragment with hole in the center | Fragile |

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| BML-0245-4 | L. 343-42 | F.16 | A/II (Old) | --- | L: 12.3<br>W: 6.8<br>Thick: 6.8 | Terracotta arm fragment with bangle in wrist | Fragile |
| BML-0245-5 | L. 343-43 | F.16 | A/II (Old) | --- | L: 9.5<br>W: 4.8 | Terracotta arm fragment | Fragile |
| BML-0250-1 | L. 312-45 | F.17 | A/I (Old) | --- | L: 6.5<br>W: 4.5 | Terracotta arm fragment wrist with bangle | Fragile |

## Terracotta Fragments

| Reg. No. | Lot No. | Feature No. | Trench No. | 3DM In cm | Size in (cm) | Description | Condition |
|---|---|---|---|---|---|---|---|
| BML-0081-11 | L. 373-11 | F. 16 | A/III (Old) | E-80 cm<br>S-10 cm | L: 3.9<br>W: 3 | Terracotta fragment, undeterminable | Fragile |
| BML-0081-12 | L. 373-12 | F. 16 | A/III (Old) | Same as above | L: 2.7<br>W: 1.6 | Terracotta fragment, undeterminable | Fragile |
| BML-0111-2 | L. 308-3 | F.8 | A/I (Old) | W-20 cm<br>S-107 cm | H: 1.4<br>W: 1.5 | Terracotta object pyramidal in shape with engraving inside a triangle on one side. Undeterminable | Good |
| BML-0120-1 | L. 312-3 | F.17 | A/I (Old) | W-288 cm<br>S-225 cm<br>Depth-641.99 m | L: 5.1<br>W: 2.5 | Terracotta fragment (un-determinable); probably foot of deer | Good |
| BML-0120-2 | L. 312-4 | F.17 | A/I (Old) | W-288 cm<br>S-225 cm<br>Depth-641.99 m | Dia: 2.5 | Terracotta fragment (un-determinable); probably sling ball; slightly chipped off | Good |
| BML-0175-2 | L. 380-4 | F.23 | A/III & A/IV (Old) Balk | S-120 cm<br>W-190 cm | L: 4.5<br>W: 2.2 | Terracotta fragment not determinable | Fragile |
| BML-0175-3 | L. 380-5 | F.23 | A/III & A/IV (Old) Balk | S-120 cm<br>W-190 cm | L: 9.4<br>W: 6.7 | Terracotta fragment not determinable | Satisfactory |
| BML-0176-6 | L. 394-8 | F.4 | A/III & A/IV (Old) Balk | N -166 cm<br>E-152 cm | L: 3.9<br>W: 2.4 | Terracotta fragment, not determinable | Fragile |
| BML-0185-2 | L. 343-10 | F.16 | A/II (Old) | --- | L: 2.6<br>W: 2.4 | Terracotta fragment not determinable earing | Fragile |
| BML-0185-3 | L. 343-11 | F.16 | A/II (Old) | --- | L: 16<br>W: 7.8<br>Thick: 1.3 | Terracotta arm fragment with applied design; not determinable; | Satisfactory |
| BML-0185-4 | L. 343-12 | F.16 | A/II (Old) | --- | L: 8.6<br>W: 5.2<br>Thick: 2.7 | Terracotta arm fragment; not determinable; | Fragile |
| BML-0185-6 | L. 343-14 | F.16 | A/II (Old) | --- | L: 5.7<br>W: 4.9 | Terracotta fragment; determinable; probably part of drapery | Fragile |

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| | | | | | Thick: 3.6 | | |
| BML-0185-9 | L. 343-17 | F.16 | A/II (Old) | --- | L: 4.1<br>W: 0.9<br>Thick: 0.5 | Terracotta finger fragment; little finger probably of left hand | Satisfactory |
| BML-0186 | L. 312-14 | F.16 | A/I (Old) | --- | L: 7.7<br>W: 4<br>Thick: 3.1 | Terracotta fragment not determinable | Fragile |
| BML-0192-6 | L. 397-6 | F.20 | A/IV | --- | L: 7.1<br>W: 4<br>Thick: 3.8 | Terracotta fragment not determinable | Good |
| BML-0192-7 | L. 397-7 | F.20 | A/IV | --- | L: 3.5<br>W: 2 | Terracotta fragment of sculpture with hole in the center; not determinable | Good |
| BML-0194-2 | L. 308-7 | F.8 | A/I | Depth-175 cm | L: 8.1<br>W: 8.1<br>Thick: 4.7 | Terracotta fragment of sculpture; not determinable | Fragile |
| BML-0203-4 | L. 342-38 | F.16 | A/II (Old) | ---- | L: 3.3<br>Thick: 0.8 | Terracotta fragment not determinable; probable finger | Fragile |
| BML-0211-3 | L. 373-21 | F.16 | A/III | W-210 cm<br>N-100 cm | L: 3.8<br>W: 1.8<br>Thick: 0.5 | Terracotta fragment; not determinable | Good |
| BML-0213 | L. 380-10 | F.23 | A/III & A/IV (Old) Balk | E-337 cm<br>S-10cm<br>Depth- 137 cm | L: 4.7<br>W: 4.5<br>Thick: 2.9 | Terracotta fragment of sculpture not determinable; probably portion of head | Fragile |
| BML-0216-2 | L. 349-3 | F.26 | A/II | --- | L: 13.2<br>W: 7.5<br>Thick: 7.5 | Terracotta fragment not determinable; probably portion of arm | Fragile |
| BML-0223-2 | L. 373-24 | F.16 | A/III (Old) | W-398 cm<br>N-181 cm<br>Depth-642.32 cm | L: 3.4<br>Dia: 1.1 | Terracotta fragment not determinable | Fragile |
| BML-0229-2 | L. 308-9 | F.8 | A/I (Old) | --- | L: 8<br>W: 5.2<br>Thick: 4 | Terracotta fragment not determinable; probably portion of knee? | Good |
| BML-0235 | L. 353-2 | F.30 | A/II (Old) | --- | L: 4.6<br>W: 4.8<br>Thick: 2.8 | Terracotta fragment with applied design not determinable | Good |
| BML-0236-2 | L. 343-33 | F.16 | A/II (Old) | --- | L: 5.6<br>W: 1.4<br>Thick: 2 | Terracotta fragment not determinable probably branch of tree | Good |
| BML-0237 | L. 27602-1 | F.2 | Q/26 | --- | L: 11.5<br>W: 11.5<br>Thick: 6.3 | Terracotta fragment of sculpture not determinable | Good |
| BML-0239-4 | L. 343-38 | F.16 | A/II (Old) | W-425 cm<br>N-168 cm<br>Depth-642.26 m | L: 15.6<br>W: 15.2<br>Thick: 8.5 | Terracotta fragment; not determinable | Fragile |
| BML-0241 | L. 392-2 | F.2 | A/IV (Old) | --- | Dia: 4.2<br>Thick:1 | Terracotta fragment of a round object; probably used as applied design | Fragile |
| BML-0243 | L. 380-11 | F.23 | A/III & A/IV (Old) Balk | --- | L: 4.7W: 2.5 | Terracotta fragment with two applied design (Flowers) not determinable | Fragile |

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| BML-0245-3 | L. 343-41 | F.16 | A/II (Old) | --- | L: 10.6<br>W: 8.7 | Terracotta head fragment; not determinable | Fragile |
| BML-0245-6 | L. 343-44 | F.16 | A/II (Old) | --- | L: 9.4<br>W: 6.7 | Terracotta fragment; not determinable; probably portion if arm | Fragile |
| BML-0247-2 | L. 309-2 | F.9 | A/I (Old) | N-30 cm<br>W-90 cm<br>Depth-170 cm | L: 21.5<br>W: 11.4 | Terracotta fragment of sculpture not determinable | Fragile |
| BML-0247-5 | L. 309-5 | F.9 | A/I (Old) | N-30 cm<br>W-90 cm<br>Depth-170 cm | L: 19.3<br>W: 10<br>Thick: 7.5 | Terracotta fragment of sculpture; not determinable; probably portion of bust | Fragile |
| BML-0247-6 | L. 309-6 | F.9 | A/I (Old) | N-30 cm<br>W-90 cm<br>Depth-170 cm | L: 11.5<br>W: 9.2<br>Thick: 10 | Terracotta fragment of sculpture; not determinable; probably portion of drapery | Fragile |
| BML-0247-7 | L. 309-7 | F.9 | A/I (Old) | N-30 cm<br>W-90 cm<br>Depth-170 cm | L: 6<br>W: 5.5<br>Thick: 3.5 | Terracotta fragment of sculpture; not determinable; probably portion of head | Fragile |
| BML-0247-9 | L. 309-9 | F.9 | A/I (Old) | N-30 cm<br>W-90 cm<br>Depth-170 cm | L: 16<br>W: 5.8<br>Thick: 4.8 | Terracotta fragment of sculpture; not determinable; probably portion of drapery | Fragile |
| BML-0247-10 | L. 309-10 | F.9 | A/I (Old) | N-30 cm<br>W-90 cm<br>Depth-170 cm | L: 14.4<br>W: 6.7 | Terracotta fragment of sculpture; arm portion decorated with applied design | Fragile |
| BML-0247-11 | L. 309-11 | F.9 | A/I (Old) | N-30 cm<br>W-90 cm<br>Depth-170 cm | L: 29<br>W: 17.5<br>Thick: 5.5 | Terracotta fragment of sculpture; not determinable; probably portion of drapery | Fragile |
| BML-0247-14 | L. 309-14 | F.9 | A/I (Old) | N-30 cm<br>W-90 cm<br>Depth-170 cm | L: 27<br>W: 11.5<br>Thick: 11.5 | Terracotta fragment of sculpture; not determinable; probably portion of leg | Fragile |
| BML-0248-1 | L. 342-47 | F.14 | A/II (Old) | --- | L: 10.5<br>W: 5<br>Thick: 4.2 | Terracotta fragment of sculpture; not determinable; probably portion of arm | Fragile |
| BML-0248-3 | L. 342-49 | F.14 | A/II (Old) | --- | L: 10<br>W: 9.5<br>Thick: 5 | Terracotta fragment of sculpture; not determinable; probably portion of bust | Fragile |
| BML-0248-4 | L. 342-50 | F.14 | A/II (Old) | --- | L: 22<br>W: 11.5<br>Thick: 6.5 | Terracotta fragment; probably potion of pedestal | Fragile |
| BML-0248-7 | L. 342-53 | F.14 | A/II (Old) | --- | L: 9<br>W: 5.5<br>Thick: 2 | Terracotta fragment; not determinable; | Fragile |
| BML-0248-8 | L. 342-54 | F.14 | A/II (Old) | --- | L: 15<br>W: 10.2<br>Thick: 0.4 | Terracotta fragment sculpture; not determinable; | Fragile |
| BML-0248-10 | L. 342-56 | F.14 | A/II (Old) | --- | L: 26<br>W: 11 | Terracotta fragment of sculpture; not determinable; probably portion | Fragile |

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|---|---|---|---|---|---|---|---|
| | | | | | | of drapery | |
| BML-0248-11 | L. 342-57 | F.14 | A/II (Old) | --- | L: 24.5<br>W: 13.1 | Terracotta fragment of sculpture; not determinable; defaced | Fragile |
| BML-0248-14 | L. 342-60 | F.14 | A/II (Old) | --- | L: 10.5<br>W: 7.8<br>Thick: 4.5 | Terracotta fragment ; not determinable; probably portion of pedestal | Fragile |
| BML-0248-15 | L. 342-61 | F.14 | A/II (Old) | --- | Dia: 25.5<br>W: 22<br>Thick: 9 | Terracotta fragment; not determinable; conical in shape richly decorated with applied leaves; probably pedestal | Fragile |
| BML-0248-16 | L. 342-62 | F.14 | A/II (Old) | --- | L: 33<br>W: 16<br>Thick: 11 | Terracotta fragment of sculpture; not determinable; probably lower body including legs | Fragile |
| BML-0248-17 | L. 342-63 | F.14 | A/II (Old) | --- | L: 6.8<br>W: 6<br>Thick: 4 | Terracotta fragment; not determinable; probably portion of drapery | Fragile |
| BML-0248-19 | L. 342-65 | F.14 | A/II (Old) | --- | L: 10.5<br>W: 7.6<br>Thick: 3 | Terracotta fragment not determinable | Fragile |
| BML-0250-9 | L. 312-53 | F.17 | A/I (Old) | --- | L: 5.2<br>W: 5.3<br>Thick: 2.5 | Terracotta fragment, not determinable | Good |
| BML-0250-11 | L. 312-55 | F.17 | A/I (Old) | --- | L: 4.2<br>W: 2 | Terracotta fragment; probably finger; broken | Fragile |
| BML-0250-12 | L. 312-56 | F.17 | A/I (Old) | --- | L: 4.8<br>W: 3<br>Thick: 2.1 | Terracotta fragment not determinable | Fragile |
| BML-0193-3 | L. 342-26 | F.14 | A/II | --- | L: 7.7<br>W: 5.7<br>Thick: 0.7 | Terracotta leaf fragment | Good |
| BML-0193-4 | L. 342-27 | F.14 | A/II | --- | L: 6.2<br>W: 3.8<br>Thick: 0.7 | Terracotta leaf fragment | Good |
| BML-0193-5 | L. 342-28 | F.14 | A/II | --- | L: 9.3<br>W: 5.4<br>Thick: 0.7 | Terracotta leaf fragment | Good |
| BML-0193-6 | L. 342-29 | F.14 | A/II | --- | L: 9.4<br>W: 5 | Terracotta leaf fragment | Good |
| BML-0193-7 | L. 342-30 | F.14 | A/II | --- | L: 7.7<br>W: 4.7<br>Thick: 0.7 | Terracotta leaf fragment | Good |
| BML-0193-8 | L. 342-31 | F.14 | A/II | --- | L: 6.4<br>W: 4.4<br>Thick: 0.7 | Terracotta leaf fragment | Good |
| BML-0193-9 | L. 342-32 | F.14 | A/II | --- | L: 8.6<br>W: 4.1<br>Thick: 0.7 | Terracotta leaf fragment | Good |
| BML-0193-10 | L. 342-33 | F.14 | A/II | --- | L: 7.4<br>W: 4.4<br>Thick: 0.7 | Terracotta leaf fragment | Good |
| BML-0193-11 | L. 342-34 | F.14 | A/II | --- | L: 6.5<br>W: 4.1<br>Thick: 0.7 | Terracotta leaf fragment | Good |
| BML- | L. 312- | F.17 | A/I | --- | L: 9 | Terracotta leaf fragment | Fragile |

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|---|---|---|---|---|---|---|---|
| 0214-2 | 19 | | | | W: 4.5<br>Thick: 0. 6 | | |
| BML-0214-3 | L. 312-20 | F.17 | A/I | --- | L: 9<br>W: 4.5<br>Thick: 0.6 | Terracotta leaf fragment; broken | Fragile |
| BML-0214-4 | L. 312-21 | F.17 | A/I | --- | L: 3<br>W: 3.5<br>Thick: 0.6 | Terracotta leaf fragment; broken | Fragile |
| BML-0214-5 | L. 312-22 | F.17 | A/I | --- | L: 5<br>W: 3.6<br>Thick: 0.6 | Terracotta leaf fragment; broken | Fragile |
| BML-0214-6 | L. 312-23 | F.17 | A/I | --- | L: 3.6<br>W: 2.5<br>Thick: 0.6 | Terracotta leaf fragment; broken | Fragile |
| BML-0214-7 | L. 312-24 | F.17 | A/I | --- | L: 3.2<br>W: 3.7<br>Thick: 0.7 | Terracotta leaf fragment; broken & damaged | Fragile |
| BML-0214-8 | L. 312-25 | F.17 | A/I | --- | L: 4<br>W: 2.1<br>Thick: 0.7 | Terracotta leaf fragment; broken | Fragile |
| BML-0214-9 | L. 312-26 | F.17 | A/I | --- | L: 7.2<br>W: 5.1<br>Thick: 2.5 | Terracotta branch with leaf fragment; broken | Fragile |
| BML-0214-10 | L. 312-27 | F.17 | A/I | --- | L: 5.7<br>W: 4.5<br>Thick: 0.6 | Terracotta leaf fragment; broken from one side | Fragile |
| BML-0214-11 | L. 312-28 | F.17 | A/I | --- | L: 5.5<br>W: 3.5<br>Thick: 1.6 | Terracotta leaf fragment; broken | Fragile |
| BML-0214-12 | L. 312-29 | F.17 | A/I | --- | L: 2.4<br>W: 3.4<br>Thick: 0.7 | Terracotta leaf fragment; broken | Fragile |
| BML-0250-2 | L. 312-46 | F.17 | A/I (Old) | --- | L: 7.7<br>W: 4.5<br>Thick: 0.8 | Terracotta leaf fragment | Good |
| BML-0250-3 | L. 312-47 | F.17 | A/I (Old) | --- | L: 8<br>W: 4.5<br>Thick: 1 | Terracotta leaf fragment | Good |
| BML-0250-4 | L. 312-48 | F.17 | A/I (Old) | --- | L: 6.2<br>W: 4.5<br>Thick: 1.3 | Terracotta leaf fragment | Good |
| BML-250-5 | L. 312-49 | F.17 | A/I (Old) | --- | L: 5.6<br>W: 4.3<br>Thick: 0.7 | Terracotta leaf fragment | Good |
| BML-0250-6 | L. 312-50 | F.17 | A/I (Old) | --- | L: 5<br>W: 3.6<br>Thick: 0.5 | Terracotta leaf fragment | Good |
| BML-0250-7 | L. 312-51 | F.17 | A/I (Old) | --- | L: 2.8<br>W: 4.6<br>Thick: 0.5 | Terracotta leaf fragment | Good |
| BML-0176-3 | L. 394-5 | F.4 | A/III & A/IV (Old) Balk | N -166 cm<br>E-152 cm | L: 4.9<br>W: 2 | Terracotta fragment not determinable | Fragile |

| Reg. No. | Lot No. | Feature No. | Trench No. | 3DM In cm | Size in (cm) | Description | Condition |
|---|---|---|---|---|---|---|---|
| BML-0077 | L. 380-2 | F. 23 | A/III & A/IV Balk (Old) | S-07 cm E-250 cm Depth: 187 cm | Dia: 5.2 Thick: 3.2 | Terracotta round object, undeterminable probable hair bun or applied flower design. | Fragile |
| BML-0132 | L. 312-6 | F.17 | A/I (Old) | --- | Dia: 2.5 | Terracotta flower fragment with six Patels | Fragile |
| BML-0239-3 | L. 343-37 | F.16 | A/II (Old) | W-425 cm N-168 cm Depth-642.26 m | L: 16.5 W: 14 Thick: 7.3 | Terracotta fragment of headdress decorated with lines and beaded design; damaged and broken | Fragile |
| BML-0250-10 | L. 312-54 | F.17 | A/I (Old) | --- | L: 6 W: 1.5 | Terracotta branch fragment | Good |
| BML-0204 | L. 317-17 | F.22 | A/I (Old) | ---- | L: 9.5 W: 4.4 Thick: 0.8 | Terracotta leaf fragment | Good |

## Terracotta Leg, Foot & Pedestal fragments

| Registration No. | Lot No. | Feature No. | Trench No. | 3DM In cm | Size in (cm) | Description | Condition |
|---|---|---|---|---|---|---|---|
| BML-0081-1 | L. 373-1 | F. 16 | A/III (Old) | E-80 cm S-10 cm | L: 10 W: 6.1 Thick: 3.8 | Terracotta foot fragment, left food with big toe | Satisfactory |
| BML-0083-2 | L. 373-14 | F. 16 | A/III (Old) | S-30 cm W-390 cm | L: 6.5 W: 4.3 Thick: 0.8 | Terracotta foot fragment; only little toe present | Fragile |
| BML-0081-2 | L. 373-2 | F. 16 | A/III (Old) | E-80 cm S-10 cm | L: 4.5 W: 1.2 | Terracotta Toe fragment, probably of right hand, partially damaged and chipped off | Fragile |
| BML-0203-7 | L. 342-41 | F.16 | A/II (Old) | ---- | L: 2.8 W: 0.9 Thick: 0.9 | Terracotta toe fragment; little toe | Good |
| BML-0203-9 | L. 342-43 | F.16 | A/II (Old) | ---- | L: 3.4 W: 1.2 | Terracotta toe fragment undeterminable | Good |
| BML-0140 | L. 342-23 | F.14 | A/II | ------ | Pedestal L: 26 W: 13 Right foot, L: 10 W: 6 Left foot L: 10.2, W: 5.5 | Terracotta pedestal with feet, right foot is in better state of preservation; while left foot with portion of pedestal is damaged | Fragile |
| BML-0192-5 | L. 397-5 | F.20 | A/IV | --- | L: 12 W: 9.5 Thick: 6 | Terracotta pedestal fragment; badly damaged | Good |
| BML-0193-1 | L. 342-24 | F.14 | A/II | --- | L: 15.5 W: 6.6 | Terracotta pedestal fragment, base badly damaged; top decorated with band and | Fragile |

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|---|---|---|---|---|---|---|---|
| | | | | | | round applied design | |
| BML-0193-2 | L. 342-25 | F.14 | A/II | --- | L: 15.2<br>W: 6.3<br>Thick: 5.2 | Terracotta pedestal fragment, base badly damaged; top decorated with band and round applied design | Fragile |
| BML-0248-18 | L. 342-64 | F.14 | A/II (Old) | --- | L: 13.4<br>W: 9.4<br>Thick: 5.5 | Terracotta pedestal fragment front decorated with applied flower | Fragile |
| BML-0248-20 | L. 342-66 | F.14 | A/II (Old) | --- | L: 18<br>W: 15.5<br>Thick: 9 | Terracotta pedestal fragment with portion of leg; damaged | Fragile |
| BML-0216-1 | L. 349-2 | F.26 | A/II | --- | L: 20<br>W: 7.1<br>Thick: 7.1 | Terracotta leg fragment; broken | Fragile |
| BML-0239-1 | L. 343-35 | F.16 | A/II (Old) | W-425 cm<br>N-168 cm<br>Depth-642.26 m | L: 25<br>W: 7.5<br>Thick: 7.5 | Terracotta leg fragment | Good |
| BML-0239-2 | L. 343-36 | F.16 | A/II (Old) | W-425 cm<br>N-168 cm<br>Depth-642.26 m | H: 8<br>W:5.7<br>Thick: 7.5 | Terracotta leg fragment | Fragile |
| BML-0248-9 | L. 342-55 | F.14 | A/II (Old) | --- | L: 15<br>W: 10.2<br>Thick: 4 | Terracotta leg fragment with applied decoration i.e. heads of elephant | Fragile |
| BML-0216-1 | L. 349-2 | F.26 | A/II | --- | L: 20<br>W: 7.1<br>Thick: 7.1 | Terracotta leg fragment; broken | Fragile |
| BML-0239-1 | L. 343-35 | F.16 | A/II (Old) | W-425 cm<br>N-168 cm<br>Depth-642.26 m | L: 25<br>W: 7.5<br>Thick: 7.5 | Terracotta leg fragment | Good |
| BML-0239-2 | L. 343-36 | F.16 | A/II (Old) | W-425 cm<br>N-168 cm<br>Depth-642.26 m | H: 8<br>W:5.7<br>Thick: 7.5 | Terracotta leg fragment | Fragile |
| BML-0248-9 | L. 342-55 | F.14 | A/II (Old) | --- | L: 15<br>W: 10.2<br>Thick: 4 | Terracotta leg fragment with applied decoration i.e. heads of elephant | Fragile |
| BML-0247-4 | L. 309-4 | F.9 | A/I (Old) | N-30 cm<br>W-90 cm<br>Depth-170 cm | L: 26.3<br>W: 17.5<br>Thick: 9.3 | Terracotta knee fragment with portion of drapery | Fragile |
| BML-0248-2 | L. 342-48 | F.14 | A/II (Old) | --- | L: 14.7<br>W: 8<br>Thick: 7.2 | Terracotta fragment of sculpture; not determinable; probably knee | Fragile |

## Terracotta Jewellery

| Reg. No. | Lot No. | Feature No. | Trench No. | 3DM In cm | Size in (cm) | Description | Condition |
|---|---|---|---|---|---|---|---|
| BML-0081-5 | L. 373-5 | F. 16 | A/III (Old) | E-80 cm S-10 cm | L: 2.5 W: 0.6 Thick: 0.3 | Terracotta bangle fragment, half cut off and missing | Satisfactory |
| BML-0185-10 | L. 343-18 | F.16 | A/II (Old) | --- | L: 3 W: 0.8 Thick: 0.6 | Terracotta bangle fragment, broken | Fragile |
| BML-0192-12 | L. 397-12 | F.20 | A/IV | --- | L: 3.9 W: 1.1 Thick: 0.7 | Terracotta bangle fragment | Good |
| BML-0203-6 | L. 342-40 | F.16 | A/II (Old) | ---- | L: 6.1 W: 1.3 Thick: 0.8 | Terracotta bangle fragment; half missing | Good |
| BML-0215-5 | L. 343-26 | F.16 | A/II | --- | L: 4.3 W: 1.1 Thick: 0.8 | Terracotta bangle fragment | Fragile |
| BML-0223-3 | L. 373-25 | F.16 | A/III (Old) | W-398 cm N-181 cm Depth-642.32 cm | L: 4.1 W: 1.2 Thick: 0.7 | Terracotta bangle fragment | Good |
| BML-0111-1 | L. 308-2 | F.8 | A/I (Old) | W-20 cm S-107 cm | Largest (Dia): 0.9 Smallest (Dia): 0.6 | Terracotta beads of various size, 02 slight chipped off | Good |
| BML-0112 | L. 312-1 | F.17 | A/I (Old) | E-84 cm S-234 cm Depth- 232 cm | Largest (Dia): 1 Smallest (Dia): 0.6 | Terracotta beads of various size, 02 broken and 12 complete | Good |
| BML-0128-1 | L. 308—5 | F.8 | A/I (Old) | W-50 cm N-65 cm Depth-641.65m | Large (Dia) 1.3 Small (Dia) 0.7 | Terracotta beads of different size 42 in numbers; (03 broken and 39 complete) | Satisfactory |
| BML-0128-2 | L. 308—6 | F.8 | A/I (Old) | W-50 cm N-65 cm Depth-641.65m | Engraved one H: 1.6 Simple one H.1.7 | Terracotta objects pyramidal in shape 02 in numbers; one having engraved H symbol inside a triangle | Satisfactory |
| BML-0085 | L. 342-5 | F. 14 | A/II (Old) | N-230 cm W-390 cm | L: 4 W: 1.7 | Terracotta jewelry fragment; probably earring decorated with beaded design | Satisfactory |
| BML-0092-2 | L. 342-7 | F. 14 | A/II (Old) | W-390 cm N-230cm Depth-642.70 m | L: 21 W: 12 Thick: 2.7 | Terracotta bust fragment with necklace | Fragile |

## Terracotta Pot

| Reg. No. | Lot No. | Feature No. | Trench No. | 3DM In cm | Size in (cm) | Description | Condition |
|---|---|---|---|---|---|---|---|
| BML-0129 | L. 40702-1 | F.4 | V/30 | E-186 cm N-103 cm Depth-641.65m | H: 8.3 Dia (mouth): 4.7 Dia (body): 8.5 cm | Terracotta minor pot/bottle with convex body, flat base and narrow mouth | Good |
| BML-0232-6 | L. 312-35 | F.17 | A/I (Old) | --- | L: 12.3 W: 8.2 Thick:1 | Terracotta potsherd decorated with geometrical lines | Good |

## Terracotta Busts

| Reg. No. | Lot No. | Feature No. | Trench No. | 3DM In cm | Size in (cm) | Description | Condition |
|---|---|---|---|---|---|---|---|
| BML-0088 | L. 350-3 | F. 27 | Balk between A/II & A/III (Old) | W-482 cm N-20 cm Depth: 642.55 m | L: 35 W: 12.5 | Terracotta bust fragment; with portion of drapery wearing necklace | Satisfactory |
| BML-0092-1 | L. 342-6 | F. 14 | A/II (Old) | W-390 cm N-230cm Depth- 642.70 m | L: 4.5 W: 5 | Terracotta bust fragment with portion of drapery | Fragile |
| BML-0092-8 | L. 342-13 | F. 14 | A/II (Old) | W-390 cm N-230cm Depth- 642.70 m | L: 6.4 W: 4.5 | Terracotta eye fragment, left eye with eye brow | Fragile |
| BML-0180 | L. 380-6 | F.23 | A/III & A/IV (Old) Balk | --- | L: 12.8 W: 13.9 | Terracotta bust fragment; broken into two pieces; folds of drapery are clearly visible | Fragile |
| BML-0185-5 | L. 343-13 | F.16 | A/II (Old) | --- | L: 9.5 W: 7.4 Thick: 3.8 | Terracotta bust fragment with folds of drapery | Good |
| BML-0200-1 | L. 242-35 | F.14 | A/II (Old) | --- | L: 24 W: 15.1 | Terracotta bust fragment; traces of necklace and folds of drapery are clearly visible | Fragile |
| BML-0215-2 | L. 343-23 | F.16 | A/II | --- | L: 9.4 W: 8.4 Thick: 3.9 | Terracotta Bust fragment probably of Buddha; folds of drapery are clearly visible | Fragile |
| BML-0232-1 | L. 312-30 | F.17 | A/I (Old) | --- | L: 11.5 W: 8.9 Thick: 3.5 | Terracotta bust fragment; female bust with prominent breasts | Good |
| BML-0232-2 | L. 312-31 | F.17 | A/I (Old) | --- | L: 12.3 W: 9.3 Thick: 3.8 | Terracotta fragment; probably decorative element | Good |

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|---|---|---|---|---|---|---|---|
| BML-0245-8 | L. 343-46 | F.16 | A/II (Old) | --- | L: 19 W: 12.3 Thick: 9.5 | Terracotta bust fragment with portion of right arm; traces of necklace and drapery visible | Fragile |
| BML-0247-1 | L. 309-1 | F.9 | A/I (Old) | N-30 cm W-90 cm Depth-170 cm | L: 15 W: 19.5 | Terracotta bust fragment with right shoulder; badly damaged | Fragile |
| BML-0247-3 | L. 309-3 | F.9 | A/I (Old) | N-30 cm W-90 cm Depth-170 cm | L: 10.4 W: 9.3 | Terracotta bust fragment; female bust with prominent breasts wearing necklace | Fragile |

| Reg. No. | Lot No. | Feature No. | Trench No. | 3DM In cm | Size in (cm) | Description | Condition |
|---|---|---|---|---|---|---|---|
| BML-0096 | L. 351-1 | F.16 | A/II (Old) | E-00 cm S- 130 cm Depth- 641.50 m | L: 6.5 W: 3.5 | Terracotta vajra fragment, partially broken and missing | Satisfactory |
| BML-0233 | L. 342-44 | F.14 | A/II (Old) | N-160 cm W-390 Cm Depth- 190 cm | L: 11.2 W: 4.5 Thick: 4.5 | Terracotta Vajra fragment | Good |
| BML-0097 | L. 314-1 | F.19 | A/I (Old) | E-02 cm S- 125 cm | L: 7.2 W: 4.6 | Terracotta water flask fragment decorated with robe design, broken into three pieces and rejoined | Fragile |

## Terracotta Drapery

| Reg. No. | Lot No. | Feature No. | Trench No. | 3DM In cm | Size in (cm) | Size Description | Condition |
|---|---|---|---|---|---|---|---|
| BML-0119 | L. 312-2 | F.17 | A/I (Old) | W-390 cm S-230 cm Depth-641.99 m | L: 8.5 W: 2.1 | Wooden peg fragment used in preparation of terracotta heads, found inside the sculpture fragment | Good |

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# Pottery from Bhamala Excavations 2014-15

**Abdul Samad, Abdul Hameed and Ashfaq Ahmad**

Pottery being one of the most durable human cultural remains can survive for a longer period as compare to other artifacts is therefore a major source of reconstruction of past human life style. The study of the stratified pottery is of great help to make certain the chronology of the site which through interested light upon the taste of the people who used it and also reflects the normal routine life of the period concerned. Unlike the other Buddhist complexes, very limited pottery reported from Bhamala during the current excavations. The main reason for this was the excavation area.

Although, the pottery reported from Bhamala is not in large quantity and mostly simply made but can be compared with those found from Bala Hisar, Shekhanderi Charsada (Dani 1965: 66) Shahnishah and Barikot swat (Lucca 2011-2013; Swati, M., 1999-2000) as well as comparable to those reported from Bhir Mound at Texila valley (Khan et al 1999-2000) on the bases on their typology, texture and technique. The basic type of pottery reported from Bhamala included storage jars, water pitchers, lids, bowls, dishes, and T/C pipes etc. all wheel made and are mostly ware i.e. red-ware, gray-ware, and black ware.

Most of the potsherds were utilitarian in character which were made of well levitated clay having wheel fired some of the potsherds including storage jar and water vessels contain particles of grids (Lucca 2011-13P: 175), shale, gorge, sands and mica specially while some of them used in thick textured pots and small vessels also in medium texture but in very few cases but as a whole mostly the pure clay has been used for medium and small vessels and pots (Marshall 1914-1932: 399). During the study of these potsherd it was observed that the clay was obtain from the local sources. So the clay was normally selected according to the size of the pot which was to be produced so there are some ware which were applied upon the pottery included, gray ware, red-ware, and decorative ware (Masrshall 1914-1932:399).

## Decorative Elements

Very few decorated potsherd reported from Bhamala during the last two excavations. These can be compared with the decorated pottery from Barikot (Swat) and Bhir Mound (Taxila). The major decorative elements include grooves, and some black painted designs, while the painted decoration is black-on-red ware, filled in triangular, black diamond motives (Marshall 1914-1934: 400).

Some of the potsherds having the foreign elements while most of the vessels having indigenous designs. According to Sir John Marshall, the art of vase-painting at Taxila was revived by the Greeks, but there can be virtually no question that the technique of this red and black painted pottery had been handed down at that region from pre-historic time since the same significant hematite was used for the black or brown design and the red ground was prepared in precisely the same way as it had been prepared 2,000 years before at Mohanjodaro and Harrapah i.e. either by mixing red-ochre with the thinned –out clay of the slip or by applying the ochre alone to the surface dissolved in the water or mixed with gum, (Marshall 1914-1934: 400) while on the other hand the exclusively Hellenistic character of the earliest moulded and stamped ware found at Bhamala site which also in Taxila valley leaves no doubt that the art of impressing designs on to the wet clay with the help of mould or stamps was introduced by Greeks, Mauryans, Sakas and Parthians who ruled over at that region afterwards adopted by the local potters who soon began substituting at Ghandhara region (see Marshall 1914-1934:400). But still there are no sufficient evidences to conclude about the origin. The major types of pottery reported from Bhamala are discussed as under:

## Gray-Ware

Very limited number of gray ware found from Bhamala during the last two excavations. These are made of well levitated clay and are well-fired these were recognized by the coarse fabric, rough surface treatment and section, both the ill-fired and well-fired them were observed but all the potsherds were completely plain.

**Red-Ware**

During the course of excavation most of the potsherds having red-ware also found from the mostly from the monastery area, these potsherds are the 2/3 of the total recovered potsherds from the current excavation these are very fine and mostly plain except a few which a have black bands at the external surface, these are well-fired and are in thin, medium and thick texture while the potters used well levitated clay for moulding. The usual forms including, water pitcher, vessels, bowls etc. but in some cases (pots clay) mixed with grits.

**Black-Ware**

Very limited number of black-ware reported during the current excavation, these are thin and medium in texture and are mostly plain but these are made very fine, mostly having grooves design on smooth surface.

**Reddish- Brown -Ware**

Among the ceramics some potsherds of reddish brown were found at Bhamala site which were simply made fine to medium in texture.

**Type of vessel**

**Storag Jars**

Among the potsherds which were found during excavation included storage jars with a comparatively thick texture which were well fired; its clay contains pottery bids, shale, and sands with elongated shape.

**Liquid Bottle**

During course of excavation t/c liquid bottle also reported with a narrow neck and cylindrical body; its clay mixed with mica and sands with reddish yellow color normally.

**Water Pitcher**

Different type of water pitchers found during the excavation those having round base with hatch design while some of them having denticulate design which were reported from the different levels.

**Medium Pots**

The medium pots reported from Bhamala included possibly vases which were well fired and having medium texture while the clay reveals mica and pebbles with reddish brown in color.

**Spouts**

Spouts reported from Bhamala excavation are mostly of small pots locally called (lota) are well fired with reddish yellow in color.

**Bowls**

Different types of bowls are made of well levitated clay that contains mica and pebbles. These bowls are well fires, with flat or disc bases and incurved rims; the core is in greyish in colour.

**Lids**

The lids are mostly reddish yellow in color and the clay reveals mica and pebbles; in medium and small size.

**Bases**

Different types of bases include (a) disc base (b) flat base were reported from Bhamala. Some of them having string cut base which belongs to tiny pots possibly cups, bowls etc. those were well fired and the clay reveals mica, pebbles while its color was normally reddish brown and reddish yellow.

**Comparative Analysis of the Pottery**

**Bowls**

The bowls are simply made having inverted rim and hemispherical body both large and medium in size shallow bowls can be compared with the those reported from Barikot (swat) (Lucca 2011-2013:p-129-189) as well as in Dir Damkot excavation (Dani 1968-69:194-214) and from with those reported from Charsaddah (Ali-1994: 134-140).

**Storage jars**

The 2nd category of the ceramics from Bhamala includes the storage jars unearthed from the different levels. These are of greater quantity as compare to other pottery.mostly of large and medium size although these were not found complete but still can be compared with those found from Barikot swat (Lucca 2011-2013: 143-211) as well as Damkot Dir (Dani 1968-69: 193-214) also from charsaddah (Ali 1994: 127-140).

**Oil lamps**

The oil lamps reported from Bhamala can be compared with those of Barikot Swat Valley (Lucca: 2011-2013: 214)

**Lids**

The lids found from Bhamala are similar to those of Barikot swat (See Lucca 2011-2013: 204) as well as Shikhanderi Charsaddah (Dani 1965-66: 143).

**Bases**

The bases are mostly simply made among the ceramics and are of two categories (a) disc base (b) flat base quite similar to Barikot Swat Vally (Lucca 2011-2013: 193) as well as Damkot (Dani 1968-69: 197-124; Khan, N., 2008 :118).

**Handles**

The handles were mostly simply made and were in round and flat in shape and are comparable with those of Shahnishah at swat valley (Swati. M 1999-2000:65)

### Water Pitchers

The water pitchers are medium in size of fine fabric similar to Damkot Dir (See Dani 1968-69: 193-204) as well Shekhandehri by M. Naseem Khan (Ghandharan Studies Vol. 2, 2008: 119)

### Liquid Bottle

A liquid bottle reddish yellow color and fin fabric was found from F.4 in V/30 which can be compared with those from reported charsaddah (Ali 1994:137).

### Spouts

Some spouts of goblet were also found from the different areas of lot and features which is compare to Damkot Dir (Dani 1968-69: 194) with reddish yellow color and fin fabric.

### Conclusion

Although the number of ceramics reported from Bhamala is limited but most of them have close resemblance with those found in the surrounding regions. It is also clear from the above analysis that the pottery from Bhamala are quite similar to those reported from Bhir Mound Taxila, Charsadda, Swat and Dir regions. The material used was locally available. The pottery used well levitated clay mostly contains pebbles and mica. The major wares include gray, red, black and reddish brown. The major types of vessels reported from Bhamala include storage jars, water pitchers, liquid bottle, bowls, oil lamps and medium pots.

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# Numismatic Evidences from Bhamala Excavations 2014-15

Abdul Samad, Abdul Hameed and Muhammad Waqar Khan

## Introduction

(Ref, Point 641.61 m, Trench, L. 48)

Apart from other archaeological artefacts, the recent excavations conducted at Bhamala revealed fourteen coins. All these coins were reported from trench L/48 inside the monastery (Fig.). All of them are of copper, round in shape and in poor state of preservation. Most of the coins are illegible even after their chemical treatment. However, on the basis of style, weight and visible figures they can be assigned to late Kushan period.

## Coins Reported from Bhamala by Marshall

The previous archaeological excavations carried out by Sir John Marshall at Bhamala revealed as many as one hundred & nineteen coins at the main stupa and thirty two coins in the monastery area. These coins have been assigned to the Great Kushans, late Kushans and Hephthalites respectively by the excavator. Due to the discovery of twenty two silver coins of the Hepthalites, Marshall is of the view that the site was destroyed by the Huns in the 5$^{th}$ century CE. The attribution of these coins to the Hephthalites has been contradicted by more recent research which attributes them to the Alchon Huns (Vondrovec 2014, I: 159). But it is uncertain to say that the reported Hun coins hardly to be related to any destruction, as the archaeological evidence shows the continuity of many Buddhist sites into the Hun period and later (Errington 2000: 204-5).

As per the report of Sir John Marshall six coins were reported at a depth of 11.5 feet below the surface and of another deposit of one hundred and thirteen coins at a depth of 14.6 feet. Both were no doubt buried in the stupa at the time when it was built. One of the coins from the former collection is in the Sassanian style with an indistinct head of the king on the obverse and appears

to be a fire alter on the reverse. All the rest of the coins, both in the upper and lower deposits, exhibit a crude human figure on the obverse, and square within dots on the reverse. Marshall assigned these coins to the late fourth or fifth century AD (Marshall 2006, I: 392-93).

In addition, thirty two more coins were also reported from the same site during the said excavation. Of these, one is gold, eleven copper and twenty-one silver. The gold coin has been dated to late Kushan king Kipunadha (Khan 2008: 52). The copper coins assigned to the following rulers i.e. one Huvishka (king seated cross-legged and fire-god), five later Kushan (four 'Shiva and bull issues of Vasudeva I or his imitations, one seated goddess issue of Kanishka II or imitation) (Marshall 2006, I: 396). One new type of the later Kushans coin depicts enthroned king on the obverse and seated goddess with cornucopia on the reverse (Marshall 2006, II: 821).

**Coins Reported from the Recent Excavations**

**Late Kushans**

**Kanishka II imitations**

**1. Standing King/ Enthroned Ardochsho**

**Obverse:** King standing frontally with head turned to left, right hand sacrificing over altar and holding a scepter in the left. Legend illegible

**Reverse:** Female figure seated on a throne, facing frontally, holding a diadem in the right hand and a cornucopia in the left.

**Reference:** Khan, 2010: 156-57

| S. No. | Acc. No. | Locus | Context | Size (mm) | Weight (gm) |
|---|---|---|---|---|---|
| 1 | BML-166 | L/48 (F. 2, L.18852) | 72 cm (N), 170 cm (E), 639.51 m (Depth, above sea level) | 20 | 6.2 |
| 2 | BML-151 | L/48 (F. 2, L.18852) | 150 cm (N), 175 cm (E), 639.71 m (D) | 17 | 4.3 |

**Vasudeva II**

**2. Seated King/ Enthroned Ardochsho**

**Obverse:** King seated frontally, wears conical headdress, holds a diadem in the right hand and a sceptre in the left. Legend illegible

**Reverse:** Female figure seated on a throne, facing frontally, holding a diadem in the right hand and a cornucopia in the left.

**Reference:** Khan, 2010: 160-61, K2a.1, K2a.2

| S. No. | Acc. No. | Locus | Context | Size (mm) | Weight (gm) |
|---|---|---|---|---|---|
| 3 | BML-148 | L/48 (F. 2, L.18852) | 95 cm (N), 145 cm (E),639.59 m (D) | 18 | 3.6 |
| 4 | BML-144 | L/48 (F. 2, L.18852) | 50cm (N), 190cm (E), 639.10 m (D) | 17 | 3.5 |

**Vasudeva II**

**3. Standing King/ Enthroned Ardochsho**

**Obverse:** Standing king with head facing to left, right hand sacrificing over altar and holds a staff in raised left hand. Legend illegible

**Reverse:** Female figure seated on a throne, facing frontally, holding a diadem in the right hand and a cornucopia in the left.

**Reference:** Khan, 2010: 160-61, K1a.1, K1a.2, K1a.3, K1a.4

| S. No. | Acc. No. | Locus | Context | Size (mm) | Weight (gm) |
|---|---|---|---|---|---|
| 5 | BML-169 | L/48 (F. 2, L.18852) | 347cm (N), 202cm (E), 639.50 m (D) | 19 | 4.5 |

**Imitations of Vasudeva I**

**4. Standing King/ Oesho& Bull**

**Obverse:** Crude representation of king wearing over coat standing frontally with head turned to left, right hand sacrificing over altar and holding a sceptre in the left. Legend illegible or absent.

**Reverse:** Crude representation of standing god Oesho facing frontally, with bull standing facing to left behind god. Legend illegible or absent

**Reference:** Khan, 2010: 134-52

| S. No. | Acc. No. | Locus | Context | Size (mm) | Weight (gm) |
|---|---|---|---|---|---|
| 6 | BML-170 | L/48 (F. 2, L.18852) | 77 cm (N), 197 cm (E), 639.58 m (D) | 19 | 5.8 |
| 7 | BML-168 | L/48 (F. 2, L.18852) | 185cm (N), 221cm (E), 639.50 m (D) | 13 | 4.4 |
| 8 | BML-147 | L/48 (F. 2, L.18852) | 120 cm (N), 149 cm (E), 639.50 m (D) | 16 | 4.3 |
| 9 | BML-171 | L/48 (F. 2, L.18852) | 79cm (N), 185cm (E), 639.58 m (D) | 14 | 3.7 |
| 10 | BML-153 | L/48 (F. 2, L.18852) | 100 cm (N), 177 cm (E), 639.37 m (D) | 17 | 3.5 |
| 11 | BML-150 | L/48 (F. 2, L.18852) | 212 cm (N), 136 cm (E), 639.62 m (D) | 14 | 2.9 |
| 12 | BML-152 | L/48 (F. 2, L.18852) | 250 cm (N), 195 cm (E), 639.66 m (D) | 13 | 2.9 |
| 13 | BML-149 | L/48 (F. 2, L.18852) | 278 cm (N), 112 cm (E), 639.69 m (D) | 14 | 2.3 |
| 14 | BML-167 | L/48 (F. 2, L.18852) | 302cm (N), 202cm (E), 639.58 m (D) | 13 | 2.3 |

## Conclusion

The present lot of coins suggests that they were deposited during the second half of the third century, most probably during the reign of the Kushan king Vasudeva II (c. 267–300 CE). Two types of Vasudeva II are known, one has seated king and another standing king on the obverse. They show Brahmi letters (usually Vasu) in the right field of obverse (not visible on any of the excavated examples). Both types have enthroned Ardochsho on the reverse. One normal issue and one imitation of Kanishka II (c. 230–247 CE) are also reported. The remaining coins are examples of the common 'Vasudeva imitation' series, which copies the obverse of coins of Kanishka II (king in overcoat) and the reverse of coins of Vasudeva I (c. 190–230 CE) or Vasishka (c. 247–267 CE). These imitations can be placed c. 250 CE, but continued to be made with degenerate designs and reduced weight until the early fourth century.

## Acknowledgment

We are indebted to Prof. Dr. Gul Rahim Khan, Department of Archaeology, University of Peshawar and Joe Cribb, former Keeper of Coins and Medals, British Museum for their support, guidance and suggestions in decipherment of the coins.

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## Figures



166 151

**Fig. 1**



148 144

**Fig. 2**



169 170

**Fig.3**



**Fig. 4** 168 147



**Fig. 5** 171 153



**Fig. 6** 150 152

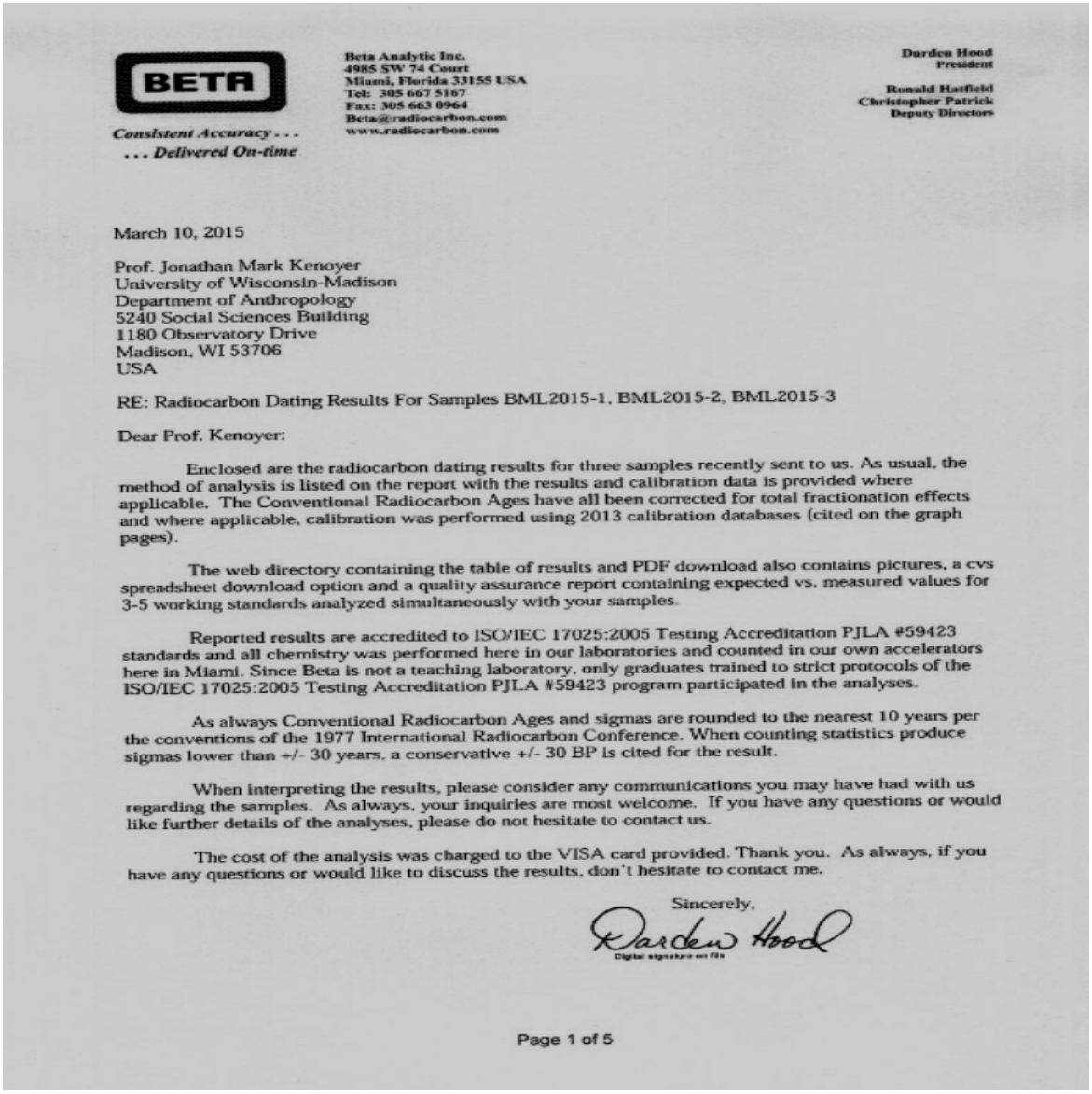


**Fig. 7** 149 167

## Bhamala - New Chronology of the Site Based on Radiocarbon Dating

Abdul Samad, Mark Kenoyer and Abdul Hameed

To reconfirm the dates given by Sir John Marshall was one of the main aims of the present excavation. Sir Johan Marshall on the basis coins reported from the site dated the site to the late fourth or fifth century CE (Marshall 2007: 174). To authenticate these dates, charcoal's samples were collected by Prof. Dr. Mark Kenoyer for Radiocarbon dating. Result of the dating is given as under:



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Ronald Hatfield
Christopher Patrick
Deputy Directors

March 10, 2015

Prof. Jonathan Mark Kenoyer
University of Wisconsin-Madison
Department of Anthropology
5240 Social Sciences Building
1180 Observatory Drive
Madison, WI 53706
USA

RE: Radiocarbon Dating Results For Samples BML2015-1, BML2015-2, BML2015-3

Dear Prof. Kenoyer:

Enclosed are the radiocarbon dating results for three samples recently sent to us. As usual, the method of analysis is listed on the report with the results and calibration data is provided where applicable. The Conventional Radiocarbon Ages have all been corrected for total fractionation effects and where applicable, calibration was performed using 2013 calibration databases (cited on the graph pages).

The web directory containing the table of results and PDF download also contains pictures, a cvs spreadsheet download option and a quality assurance report containing expected vs. measured values for 3-5 working standards analyzed simultaneously with your samples.

Reported results are accredited to ISO/IEC 17025:2005 Testing Accreditation PJLA #59423 standards and all chemistry was performed here in our laboratories and counted in our own accelerators here in Miami. Since Beta is not a teaching laboratory, only graduates trained to strict protocols of the ISO/IEC 17025:2005 Testing Accreditation PJLA #59423 program participated in the analyses.

As always Conventional Radiocarbon Ages and sigmas are rounded to the nearest 10 years per the conventions of the 1977 International Radiocarbon Conference. When counting statistics produce sigmas lower than +/- 30 years, a conservative +/- 30 BP is cited for the result.

When interpreting the results, please consider any communications you may have had with us regarding the samples. As always, your inquiries are most welcome. If you have any questions or would like further details of the analyses, please do not hesitate to contact us.

The cost of the analysis was charged to the VISA card provided. Thank you. As always, if you have any questions or would like to discuss the results, don't hesitate to contact me.

Sincerely,

Darden Hood

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beta@radiocarbon.com

# REPORT OF RADIOCARBON DATING ANALYSES

Prof. Jonathan Mark Kenoyer

University of Wisconsin-Madison

Report Date: 3/10/2015

Material Received: 3/2/2015

| Sample Data | Measured Radiocarbon Age | d13C | Conventional Radiocarbon Age(*) |
|---|---|---|---|
| Beta - 405788 | 1650 +/- 30 BP | -24.5 o/oo | 1660 +/- 30 BP |
| SAMPLE : BML2015-1 | | | |
| ANALYSIS : AMS-Standard delivery | | | |
| MATERIAL/PRETREATMENT : (charred material): acid/alkali/acid | | | |
| 2 SIGMA CALIBRATION : Cal AD 335 to 425 (Cal BP 1615 to 1525) | | | |
| Beta - 405789 | 1710 +/- 30 BP | -24.8 o/oo | 1710 +/- 30 BP |
| SAMPLE : BML2015-2 | | | |
| ANALYSIS : AMS-Standard delivery | | | |
| MATERIAL/PRETREATMENT : (charred material): acid/alkali/acid | | | |
| 2 SIGMA CALIBRATION : Cal AD 250 to 400 (Cal BP 1700 to 1550) | | | |
| Beta - 405790 | 1730 +/- 30 BP | -25.9 o/oo | 1720 +/- 30 BP |
| SAMPLE : BML2015-3 | | | |
| ANALYSIS : AMS-Standard delivery | | | |
| MATERIAL/PRETREATMENT : (charred material): acid/alkali/acid | | | |
| 2 SIGMA CALIBRATION : Cal AD 240 to 395 (Cal BP 1710 to 1555) | | | |

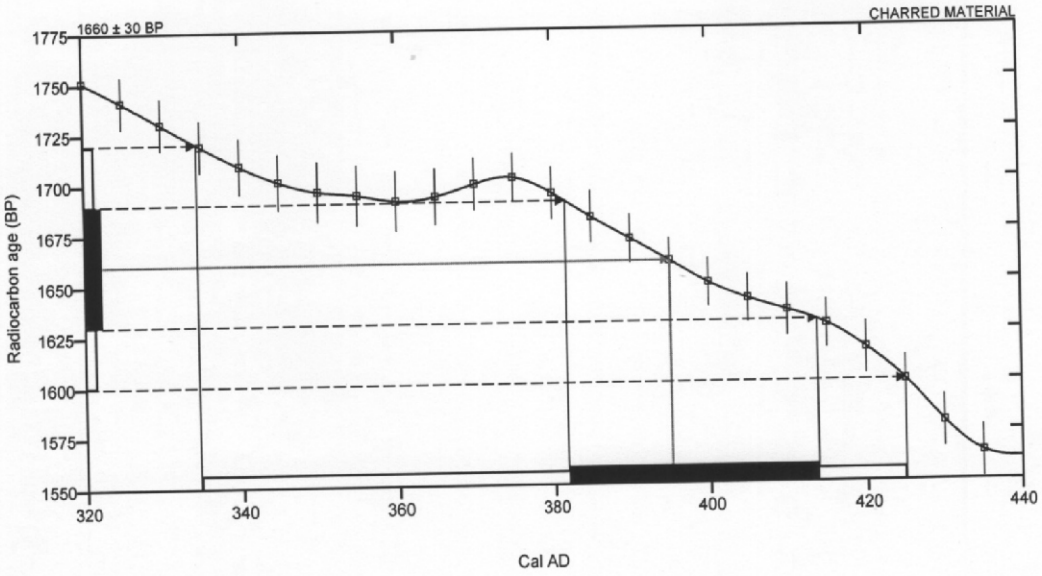
Dates are reported as RCYBP (radiocarbon years before present, "present" = AD 1950). By international convention, the modern reference standard was 95% the 14C activity of the National Institute of Standards and Technology (NIST) Oxalic Acid (SRM 4990C) and calculated using the Libby 14C half-life (5568 years). Quoted errors represent 1 relative standard deviation statistics (68% probability) counting errors based on the combined measurements of the sample, background, and modern reference standards. Measured 13C/12C ratios (delta 13C) were calculated relative to the PDB-1 standard.

The Conventional Radiocarbon Age represents the Measured Radiocarbon Age corrected for isotopic fractionation, calculated using the delta 13C. On rare occasion where the Conventional Radiocarbon Age was calculated using an assumed delta 13C, the ratio and the Conventional Radiocarbon Age will be followed by "*". The Conventional Radiocarbon Age is not calendar calibrated. When available, the Calendar Calibrated result is calculated from the Conventional Radiocarbon Age and is listed as the "Two Sigma Calibrated Result" for each sample.

## CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: C13/C12 = -24.5 o/oo : lab. mult = 1)

| | |
|---|---|
| **Laboratory number** | **Beta-405788** |
| **Conventional radiocarbon age** | **1660 ± 30 BP** |
| **Calibrated Result (95% Probability)** | **Cal AD 335 to 425 (Cal BP 1615 to 1525)** |
| Intercept of radiocarbon age with calibration curve | Cal AD 395 (Cal BP 1555) |
| Calibrated Result (68% Probability) | Cal AD 380 to 415 (Cal BP 1570 to 1535) |




**Database used**
INTCAL13

**References**

**Mathematics used for calibration scenario**
A Simplified Approach to Calibrating C14 Dates, Talma, A. S., Vogel, J. C., 1993, Radiocarbon 35(2):317-322

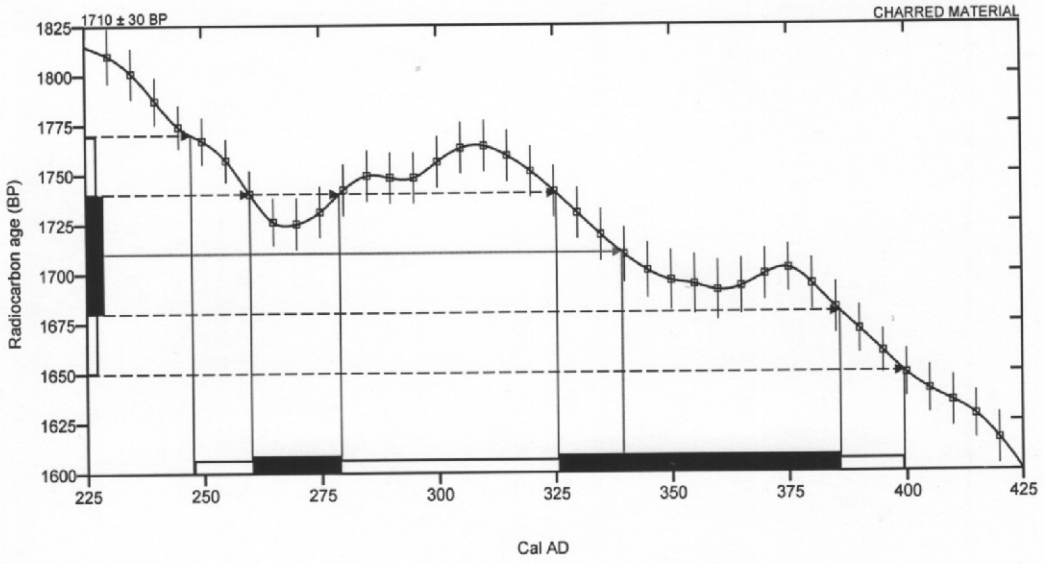
**References to INTCAL13 database**
Reimer PJ et al. IntCal13 and Marine13 radiocarbon age calibration curves 0–50,000 years cal BP. Radiocarbon 55(4):1869–1887., 2013.

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## CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: C13/C12 = -24.8 o/oo : lab. mult = 1)

| | |
|---|---|
| **Laboratory number** | **Beta-405789** |
| **Conventional radiocarbon age** | **1710 ± 30 BP** |
| **Calibrated Result (95% Probability)** | **Cal AD 250 to 400 (Cal BP 1700 to 1550)** |
| Intercept of radiocarbon age with calibration curve | Cal AD 340 (Cal BP 1610) |
| Calibrated Result (68% Probability) | Cal AD 260 to 280 (Cal BP 1690 to 1670)<br>Cal AD 325 to 385 (Cal BP 1625 to 1565) |




**Database used**
INTCAL13

**References**

**Mathematics used for calibration scenario**
A Simplified Approach to Calibrating C14 Dates, Talma, A. S., Vogel, J. C., 1993, Radiocarbon 35(2):317-322

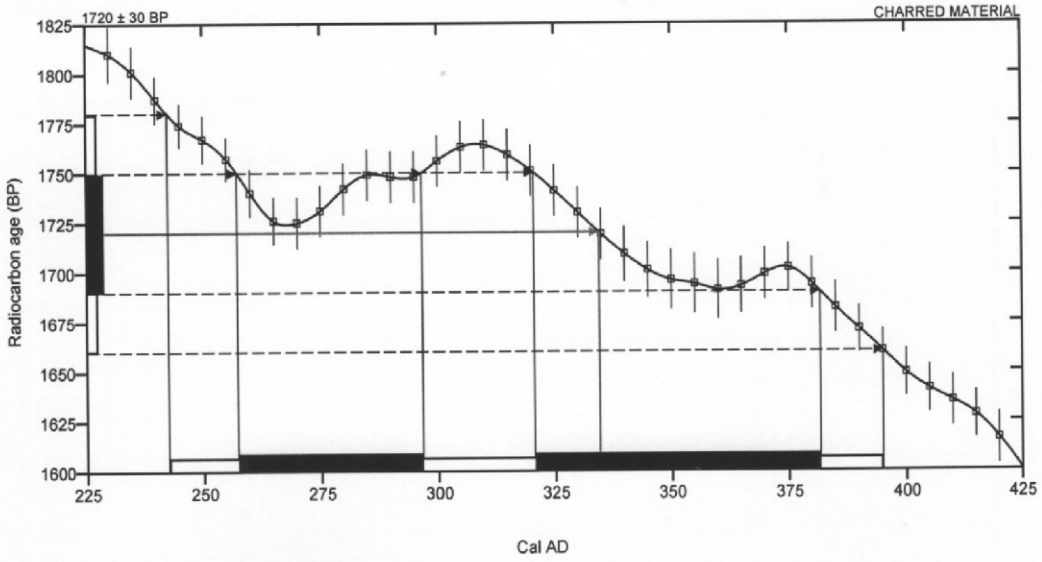
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## CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: C13/C12 = -25.9 o/oo : lab. mult = 1)

| | |
|---|---|
| **Laboratory number** | **Beta-405790** |
| **Conventional radiocarbon age** | **1720 ± 30 BP** |
| **Calibrated Result (95% Probability)** | **Cal AD 240 to 395 (Cal BP 1710 to 1555)** |
| Intercept of radiocarbon age with calibration curve | Cal AD 335 (Cal BP 1615) |
| Calibrated Result (68% Probability) | Cal AD 255 to 295 (Cal BP 1695 to 1655)<br>Cal AD 320 to 380 (Cal BP 1630 to 1570) |




**Database used**
INTCAL13

**References**

**Mathematics used for calibration scenario**
A Simplified Approach to Calibrating C14 Dates, Talma, A. S., Vogel, J. C., 1993, Radiocarbon 35(2):317-322

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The present chronology of the site is established on the basis of both numismatics evidences and scientific (Radiocarbon). The numismatic evidences reported during the current project include coins of the late Kushans including those of Kanishka II and Vasudeva. For scientific (Radiocarbon) dating charcoal samples i.e. BML 2015-1, BML 2015-2 and BML 2015-3 were collected and sent to Beta Analytic Inc. Miami Florida USA. The reported result of the radiocarbon dating is accredited to ISO/IEC 17025: 2005 Testing Accreditation PJLA # 59423 standards. As per the result of the analysis given above, the first sample data i.e. BML 2015-1 has been dated Cal AD 335 to 425; the second sample i.e. BML 2015-2 has been dated to Cal AD 250 to 400 and the last sample i.e. BML 2015-3 has been dated to Cal. AD 240 to 395. The numismatic evidences reported from the site are of the same period. Shortly, on the basis of the Radiocarbon dating and the numismatic evidences, the site can be dated to $3^{rd}$ -$4^{th}$ century AD.

# Exceptional Objects from Lakhan-Jo-Daro

**Qasid H. Mallah***
**Tooba Shafiq****

## Abstract

*One of the authentic sources of understanding of the human history of past ages is through archaeological excavation in scientific manner. The unearthed data provides the scholarly way to explain whatever and however it is discovered. If the written record is not decipherable as the case seen with Indus civilization – the explanation(s) made are suggestive for open debates. Similarly, we wish to bring some archaeological data / objects discovered from urban settlement of Lakhan-jo-Daro for open debate. Lakhan-jo-Daro is located near Mohenjo-Daro and had communication with all other smaller or larger settlements during 2600-1900 BCE Urban Phase of Indus valley civilization. The site itself carries most of the urban life character having few objects making an absolute identity of this particular settlement. Among those objects, two types of "T" shape T/C tablets, spear thrower (a copper figurine), snake deity (T/c fig), Bull head with symbol (ushnisha type), T/c animal figurine with several markings, and some others are brought for discussion and scholarly comments. These type objects apparently submit low value but when investigated deeply they pose high cultural image of any given community. Therefore the aim of paper is (a) to highlight the importance of such objects and (b) share the information I have perceived and open a discussion with galaxy of scholars around the globe for refutation or refinement the explanation(s).*

## Introduction

It is perceived through high-tech research that Indus civilization is indisputably among the greatest civilizations of the world. In the Ancient world societies had awareness of the distant land(s). Those ancient societies were geographically present in Egyptian; Mesopotamian; Iranian, Central Asian and Indus valley territories. Their culture had hallmarked in living and governing systems. They had cultural complexity and diverse distinctiveness in various aspects. The Architecture, writing and documenting system, gods and goddess (religions and beliefs) were exercised in their own styles. Nonetheless, some practical aspects like tools and technology

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involved in agriculture, hunting, war/ defense – food and fodder carry similarities. The Use of fire in processing clay, stone and metal was seen in all societies. Turning unseen into physical being was exercised through religious /belief system. The notion of infinite power and dangerous being was adopted, praised and presented. Henceforth, the archaeologically a range of physical objects are discovered which carry strange appearance, characteristics, manifestation and background theme which may further create and cater universality, divinity and personify the given character. Hence, the inferences and explanations are created as depicted or illustrated through those objects. The Egyptian tombs carry both writing and pictographs and provide procedural details. Similarly, Mesopotamian clay tablets are records of divinity and dignity of kings, priests and the followers. Those ancient credentials were further added with other tangible items necessary for performing, representing and continuing the cultural system.

The human did not stay still or confined in limited locality; they remained on-go. The movement of people remained forever and became best medium of spread of a culture in 'to and from pattern' we may suggest as interaction system. The meeting of different people to each other result amalgamation and adoption of culture(s). South Asian Elephant seen (seals) in Central Asia (Parpola 2009): Indus seal and other material found in Salut Oman (Frenez et al 2016); the ivory in Egypt (Dunn: http://www.touregypt.net/featurestories/ivory); additionally, the elephants and other material including Mohenjo-Daro seals in Mesopotamia (Frankfort 1933: fig32, pp 50) carried not only the items but cultural traits/ customs and Indus way of living. The story of Gilgamesh empowering two lions is also seen in the seals of Indus a powerful being holding two tigers. Carnelian and ivory combs of Meluhha were famous in Mesopotamia (Maekawa and Mori 2011). The Agricultural illustrations in the Egyptian tombs depict similar stories and procedures as were perceived from Mesopotamian clay tablets. These are just few examples to sketch the cultural characters exercised by ancient humans collectively.

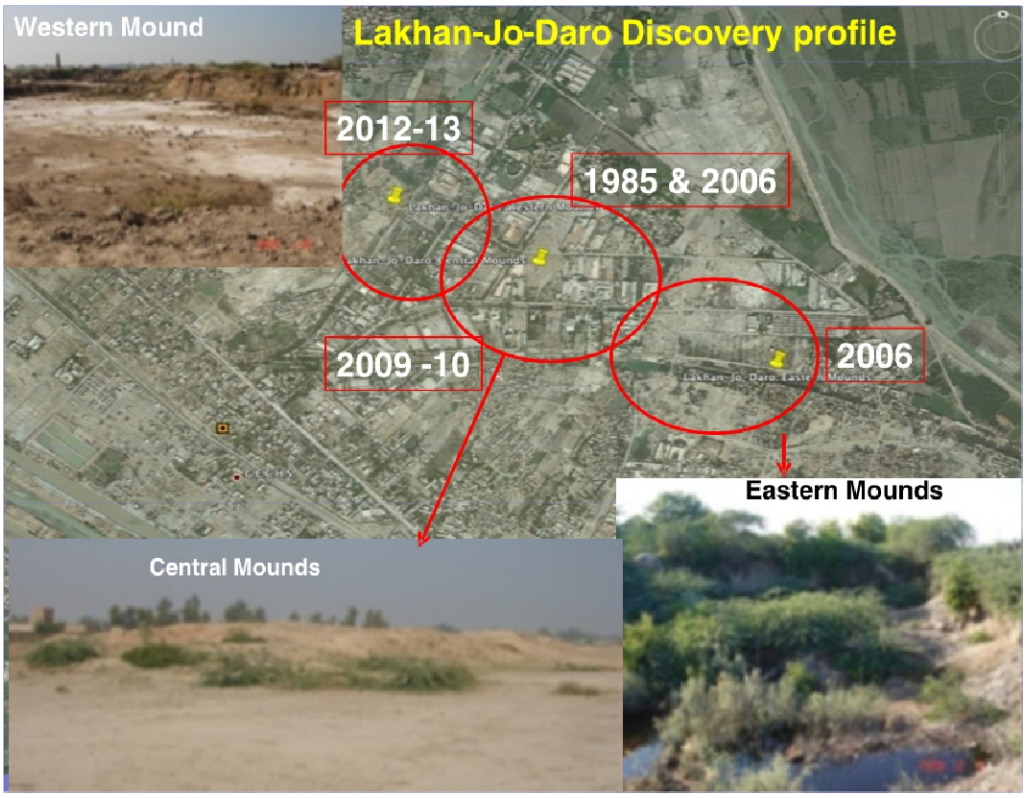
Indus civilization did not have elaborate temples or textual accounts which may extensively explain the cultural activities carried by Indus people. There are exclusive artifacts which reflect the invisible aspects. Those aspects are explained in light of parallels exercised by other communities of the ancient world in temporal sequence. In other words, when any cultural object or cultural trend appears/starts – the archaeologist consider it as marker/qualifier of change, for instance the iconography on the Indus seals attest time period of existence with or without footing in past ages. Those seals mark temporal segment on one hand and cultural outlook on other hand. The seals disappeared but icons reappeared in later periods in different cultural context(s). For example, a particular crowned human with multiple faces is surrounded by animals in seals – the Buddha is shown surrounded by animals (in Borobudur, a 9th century Buddhist temple in Java, Indonesia). In 7th Century AD, at Ellora, the Shiva is shown with other gods riding on animals and at Kanchi temple, a pair of deer is under his seat (www.hindu.com). These illustrations have greater cultural phenomenon which stretch the mind of researcher for making connections and getting points for discussion to clarify the descriptive confusion about associated cultural aspects of given society.

In doing so, the research has shown that large cities of Indus Valley have variety of objects to explain the cultural aspects and demonstrate the specific identity of the given city. For instance, dancing girl and King Priest are identity of Mohenjo-Daro; "T" shape tablets is distinctiveness of Lakhan-jo-Daro; long barrel shape beads highlight Chanhu-Daro. On the other hand, the objects commonly found from urban centers are morphologically analogous but when looked or observed deeply; they carry slight variation and that variation explain the local disparity of style only but not the broader cultural integrity. In this paper some objects discovered from Lakhan-jo-Daro are highlighted to stretch the discussion and understanding on Indus valley civilization, hence a preview of the settlement itself is provided.

**Lakhan-jo-Daro Settlement**

Lakhan-jo-Daro has proved to be one of the urban settlements of the Indus valley civilization. The continuous investigations have shown the urban characteristic of the settlement and hence have become under focus of scholars not only from Pakistan but it has drawn a wide attention

around the globe. Its prime location, environment, size of settlement and findings of cultural assemblage; all are astonishing. The site stands next to the Mohenjo-Daro in age (5000 yrs) and extent and reveal data set that can possibly provide answers to the still pending questions.




This settlement of Lakhan-jo-Daro is located along right bank of Indus River in the ESTATE (SITE) area of Sukkur City on the Sukkur-Shikarpur road at Latitude 27°.43′.27″ North and 68°.50′.51″ East degrees longitude. It was introduced in 1985 to the department of Archaeology Shah Abdul Latif University and since then has been under investigations. It has three main parts (a) central mounds (b) eastern mounds and (c) western mounds. It covers a total of estimated 3sq kilometers circumference.

Since 1988, the central mounds have remained under investigation; during the decade and half period, at least six excavation seasons (1994, 1996, 2000, 2006, 2008 and 2009-10) have been launched. A huge depository of antiquities including seals, sealing, tablets, copper objects, terracotta figurines, pots, beads and others were registered. The architectural features like walls, covered drains, staircase, and platforms were documented. From the western mounds huge

amount of steatite bead making debris and final product was found suggesting that the beads were made at industrial scale. The finished and unfinished steatite beads; white beads in various shape and size were produced. The discovery of valuable artifacts, architectural features and the geographical extension placed this settlement in the upper hierarchical tier in settlement pattern as an urban settlement of Indus valley civilization.

The present paper brings some object looked in further depth for broader view of the essential aspect of this civilization. Those artifacts are:

- Terracotta Figurine of Mother of mothers: the Light deity
- The circles: Forecasting Fortune and Future
- The bull with Intelligence Insignia
- Male Figure in action
- Begging Dog
- "T" Shape Tablets unique Identity of Lakhan-jo-Daro
- Animal figurines: the unrevealed secrecy
- Animal figurine with cut-marks: the butchery pattern

**Mother of mothers: the light deity**

The Indus archaeologists agree that there is the infrequency of male figurines in cultural objects from each site as is the number of female figurines. The female figurines are made in different styles and posture; some are heavily adorned and others are simply plain. Some automatically explain their status and others speak their simplicity. The categorization may have utilitarian inferences. For instance, the figurines heavily ornamented having several features like *Taj* (crown); entire upper body/torso bejeweled from forehead to waist with additional feature for specific purpose as a cup/bowl instead of ears. The intensive adornment and creation of different features when combined together; cognitively explain different concepts like goddess, deity, princess, elite or a rich lady. Those figurines are examined closely and discussed in different way to disclose the functional implication. This type of figurine was found from Lakhan-jo-Daro as well and is part of present discussion. In this debate, the factors like ornamentations, the replacement of ears with cup/bowl like article is considered.

J.M. Kenoyer in his book on Indus valley civilization mentioned that the figurines having cup like ears (figurine catalog #141 pp 222); have some remains of "*black pigment or soot"* inside of the cup and he suggested that these may have been filled with oil and may have been used as "scared lamp" (Kenoyer 1998). As mentioned earlier that typical aspects (a) ornamentation (b) replacement of ear are important to discuss. The figurines having all essential jewelry like fan/crown (*Taj*) , forehead belt, Choker (*Hassi/gulu band* ) Necklace (*Harr*) and waist belt (*Kamar Band*) as a frontal embellishment can be hierarchically classified as female with high status perhaps as a "Mother Goddess". The replacement of ear with a cup/bowl analogously correlates in a shape with traditional terracotta lamp/ bowl locally known as (*diyo/diyaa, deepa*). The traditional lamp is significantly used for various purposes such as producing light to remove the darkness and to perform rituals on religious or non religious occasions such as *diwali / eid* and is lighted at shrines and *Dargah*. In other words, the *diyas* are used by Hindu, Buddhist, Zoroastrian, Muslims and many others in daily worship, rituals and lightning purpose regularly. One type of daily worship of Hindus which involves diyas is called *Aarti*; performed before any deity or insignia either in home or in the temple. The Aarti is a Sanskrit word which means to eradicate the darkness (*Wikipedia*), hence conceptually associated with light providing sources like sun and moon. The round movement during the performance of Aarti symbolizes the round shape of those cosmos the sun and moon (*Website on Aarti*).

The Indus people probably had the rituals to eradicate the darkness through lighting a flame and that was possible through two ears near two eyes through which one can see the world brightly. The flames from ear brought the light seen through eyes hold the whole concept; thus, the figurine was given a status of the 'mother of mothers the light deity'. The figurine was made in such a way that it can be placed anywhere and might hold enough oil for burning during the time of worship of given emblem.




Fig 2: Terracotta torso from Lakhan-jo-Daro

This type of figurine is found from Lakhan-jo-Daro as well in damaged shape. This is a torso of a female figurine with prominent physical features (**Fig**:2). It is damaged but still provides sufficient knowledge. The size of body at shoulders is 4.4cm, the body thickness at shoulders is 1.7cm, and neck is round with 1.7 cm, round appliqué eye dia 5mm. The appliqué breasts are broken, however, the traces show place of attachment and the cup dia is 8mm. The mouth is formed with a 3mm incised line. The decorative elements are damaged – however, fan (*Taj*) and choker (*Hassi/gulu band*) can be visualized. The ears are created in cup shape. The nose and forehead is formed by punching the clay. The arms and lower part of body is damaged. Discovery and Presence of this type figurine from urban sites of Indus valley like Harappa Mohenjo-Daro and Lakhan-jo-Daro support the idea of common performance of given rite in which light (fire) was frequently involved throughout the Indus civilization.

**Forecasting the Fortune and Future**

Forecasting the fortune and future is interesting hobby of both the teller and listeners exercised by human since millennia in numerous parts of the world. The teller earns daily living and listener gets satisfaction or plans the daily routine accordingly or ignores it completely whatever the teller has explained. There is no limit of the medium and method of fortune telling– anybody can sit on the footpath and ask people if they are interested. Or anybody go to the temple, shrine or *Dargah* where a Pir Baba, a fakir or an ascetic can perform the rituals to forecast the fortune and future. There is no limitation of religion, creed, or gender. The bird (parrot) is used or the lines on hand palm directly are read. In other cases, any type of object is moved either on the palm of hand or on any piece of wood or on the ground and ascetic goes on explaining the fortune and future. Traditionally, an item called *Dharo* is used to explain the fortune and future. The *Dharo* is dice type object having various designs mainly the circles or holes and at least three to four pieces are string together to execute the service. It is found with the several traditional communities around the globe.



Fig 3: Traditional Dharo

This type of dice (fig 3) is commonly found from sites of Indus valley which is without central piercing suggesting independent game object or an actor to exercise the forecasting activity. In addition to dice, there are other objects like seals and bone / ivory sticks having circles and few of them have given a bird (duck) head.

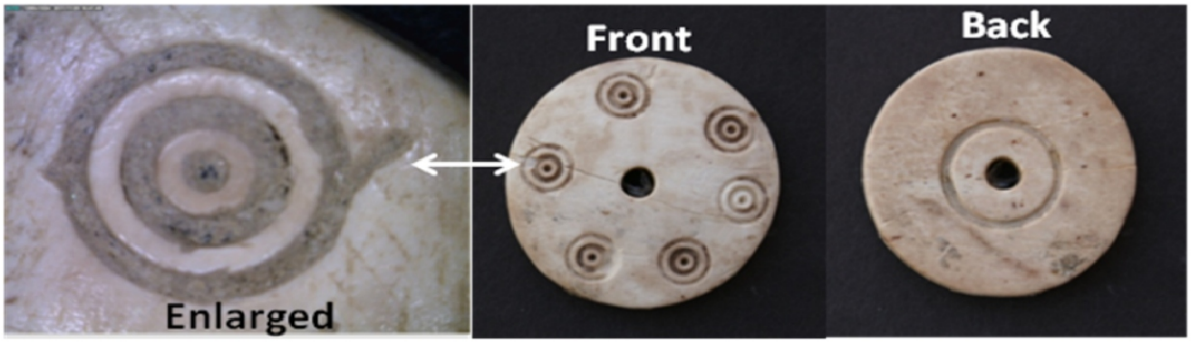



Fig4: Circular Ivory Bone object found from Lakhan-jo-Daro

The archaeological discoveries of artifacts illustrate multiple direction to explain the item – some items draw attention to look in specific directions and think about broader spectrum. The circular bone artifacts are discovered from Lakhan-jo-Daro which has six carved circles on the surface along the outer edge of item (fig4). There is dot in each circle. One large circle is produced on backside around the perforation. Another object made of faience in broken shape having carved circles is also documented (fig5). Additionally, a bone rod /stick dice contains the four circular lines near the proximal part and two circular lines at distal end. These lines are connected with encircling long line around the rod.

Another item, the Ivory rod has been found from Lakhan-jo-Daro measuring as length 6.6cm x5.5 thickness dia and has incised decoration at one end which is slightly thinner than the rest of body. It has two incised lines on other end. There is another incised line which continues to the top by rolling the object. A deep incised line is produced just below the top and could have used for tying either a thread or metallic rod. This object may have been used as pendant as well.



Fig5: Bone Rod found from Lakhan-jo-Daro

The Faience object found from Lakhan-jo-Daro is in circular shape measuring as 1.2cm body diameter and 2mm thickness have circle and a hole in center (fig6). The circle was made through incised line on one side and the backside is flat and plain. A hole in center with 2mm perforation and sun motif design is prepared which is now damaged.

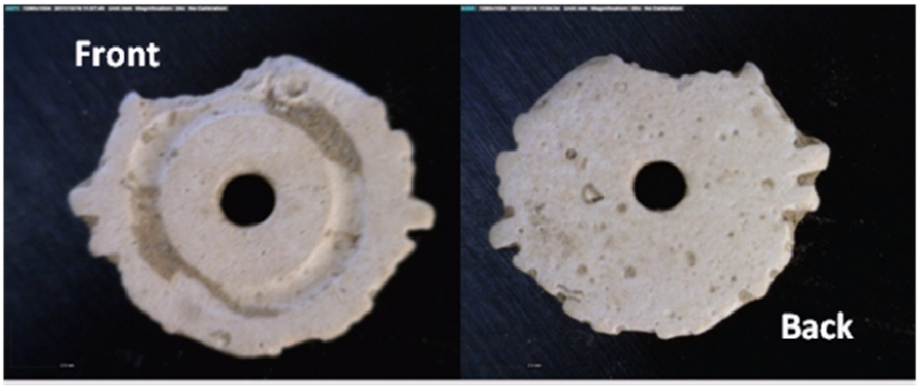



Fig. 6 Enlarged Faience object from Lakhan-jo-Daro

For the sake of comprehending socio-cultural significance the motif(s) may also be given importance and consider for discussion. The motif on this particular objects is produced as circles in geometrical pattern in a same way as on the seals, gaming objects, luxury items (comb) and on the stick dices. The circle motif was common throughout Indus valley as well as other communities of the ancient world.

The Linear Elamite writing system includes frequent use of the circle and circle was added with dot in center (Madjidzadeh 2011). The Royal Game board of Ur, made between 2600 and 2400 BC is based on the circular items having circles in similar style as are found from Lakhan-jo-Daro. The luxury objects like ivory comb (fig7) exported from Indus Valley to the Omani settlements like Ras al-Jinz and Tell Abraq contained circle motif (www.Harappa.com) stylistically circles look similar as the object found from Lakhan-jo-Daro.



**Figure7** Ivory comb found from Ras al-Jinz Oman (*downloaded with thanks from Harappa.com*)

The Kot Dijian seals found from Harappa have circles and continued into Harappan phase are also discovered throughout the Indus valley. The stick dice found from Mohenjo-Daro contain the circles and the duck head and a stick 6.81x0.7x0.63 cm having four circles on each side is found from Nausharo. An identical stick dice is discovered from Gonur Depe in Margiana which carries only three circles one on each side and one in the center (Sarianidi 1998 as cited by Possehl 2001: 230).

The motif of "concentric" circles has given the cosmological relation with sun and moon and stars. The traditional Dharo / Ramal in Arabic called 'Kura' is thrown by the expert on the palm of a person and the position and counting of the Dharo is read and explained to person. The counting hence is connected with astrology in which all stars are given numbers. The Hindus take it to the Vedas, Lord Shiva and Parvati goddess. Alexander practiced Ramal astrology and the Arabs during 1st century BC were expert in Ramal / Kura. Until now, the tradition has not died / eliminated. In Hindu pantheon the yoni hold important position and *"is symbolized with round object with a hole pierced in it and is associated with Parvati the wife of Shiva and a prominent symbol of the Mother Goddess"*( Veliath 2002:8). The Jains gave sole importance to the circle and consider it as all earth bodies and heavenly bodies have circular shape (Puttaswamy 2012:75).

The versatility of circle motif hence provided us with a sound assumption that Indus people may have the tradition to forecast the fortune and future which is only possible when the circles are given dual deliberation (a) the counting and (b) the association with cosmos and ideology. The combination would take them to explanation / forecasting the future and fortune. I had contacted a more than 70 years old Muslim fortune teller Jogi (yogi) named Sobho Khan possessing Faar – Faal (dice or *Dharo*), a snake; wearing yellow *Kamez* (shirt) and a set of three necklaces of different type of beads including glass, plastic and stone; all string together in multicolor thread. The device he holds was divided in three parts separated with a bead in different color. The dice made of ivory contained circles as two and one on three sides and one side was left empty. The each dice piece was moving freely and when shakes in hand and thrown on any type of platform or palm of hand, the dice would turn all sides flat. The combination of circle number was a

reading of fortune in which total number six was a sign of best luck and empty side of dice was counted and read as a sign of bad luck. The process starts with putting first finger on the central dice on the single circle side by asking the name. Sobho Khan the forecaster learnt this craft from Mahhan fakir from him he received a cloth bag/sack and several other symbolic items for which he denied to provide the details. this cloth shoulder bag is *the* symbol of being an independent forecaster. Sobho Khan has few students/disciples who learn this skill and hence the legacy of forecasting the fortune and future continues.

**The Bull with Intelligence Insignia**

The bull is one of the earliest domesticated animals. All ancient societies have given fundamental importance to the bull. Soon after its domestication, because of the qualities and adjusting behavior with human; the animal was utilized in religious; mythological; socio-economic (leader- trader); sacrifice and subsistence purposes. This animal was associated with Cosmic Galaxies (*Taurus* in astronomy) and gained the identity of celestial bodied like moon. As in Mesopotamia the moon god was named as '*Sin'* in Akkadian and "*Nanna*" in Sumerian and was the son of *Enlil* and *Ninlil*. The moon god was also worshiped in Assyria and Babylonia (wikipedia.org/wiki/Sin). The Moon –god was famously granted as *En-zu*, which means "lord of wisdom" had symbol of bull as his father *Enlil* the *"Bull of Heaven"* (wikipedia.org/wiki/Sin). The popularity of Moon-god was diminished around 1500 -1000 BC. He reappeared later on with less importance (Foster 2005: 758-62 as cited by Stone 2016).

The Egyptian *Ka* represents power/life-force and is word for the bull. During 3100 BCE early dynastic period; the king was depicted in the form of Bull who later on is mentioned as "*Hapi-ankh*" and was associated with *Apis*, *Ptah* and *Osiris* (Hill 2010). The archaeological discoveries in Indus valley have shown that Indus communities had given greater representation to the Bull. The (*Bos indcus* ) having most robust body was indigenous to the land. The discovery of large number of bull related artifacts; depiction and occurrence of bull in different forms and shapes suggest that Indus civilization was a civilization of Bull people and they were the most powerful clan or top officials of Mohenjo-Daro and Harappa (Kenoyer 1998).

Numerous bull figurines are found from Lakhan-jo-Daro among which a bullhead maximally measures as the length 52. 95 mm and thickness 32.99 mm; has unique appearance. It has three most important features (a) knot/ knob on the head (b) lining along the eyes up to the chin and (c) lines around the neck (fig8).

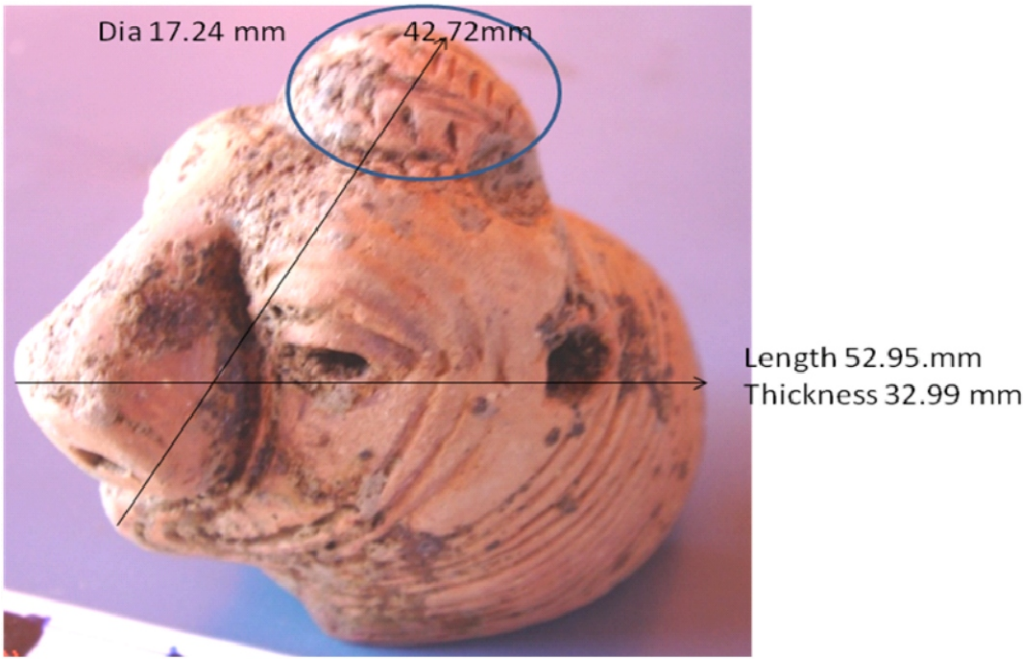



Fig8 Bull head found from Lakhan-jo-Daro

The knob is in circular shape having incised lines around and on the top. There is another dotted line at the base of top-knob where a through hole is pierced and is clearly visible. There is another through hole on the upper portion of neck. Both holes indicate some addition to this figure. The neck is also decorated with incised lines. In Between neck line and knob again has a band in ㄱ shape. Three incised lines are provided around the eyes which group together at the chin and increase robustness of the figure. The chin, nostrils and beautiful eyes carry message of its prominent personality.

There are two important features to discuss (i) horn and ears are missing (b) the decorated knob. Are these features the choice of artist who made the object or need of the time/ occasion to illustrate the theme behind? When a bull is chosen to perform the message and for

demonstration it becomes essential to make changes in its original being. Hence, the elimination and addition of some features happens and this is not the first case – it is routine tradition to change the individual's appearance according to the theme to be represented. For instance, the 'Crown' is a symbolic headgear given to the king, prince, princess, god or deity etc. which explains the power, glory, immortality, royalty and sovereignty etc. When any person uses the given the symbol i.e. 'crown or staff'; the theme is known to all members of given community. The same is perceived in ancient societies, for example, in Egypt, famous Osiris had long cap like crown called *Atef*. Similarly, during New Kingdom pharaohs used *Khepresh* (Blue Crown or War Crown) during ceremonies and war.



Fig 9 Head of the (a) Bull from Lakhan-jo-Daro and (b) head of Buddha, crowned by the ushnisha, 3rd century Hadda Afghanistan (Wikipedia)

In Mesopotamia, *Amurru* the deity of Amorite people of Babylonia 2100 BCE was recognized having a symbol of gazelle under his feet and crook in hand. The turtle was a symbol of *Enki* during 1125BC-1100 BCE. The Assyrian god *Ashur* appeared with horned cap and there are numerous other examples as well in which any type of symbolic icon have been necessary to highlight the identity and power (www.mesopotamia.co.uk/gods/explore/amurru). From Dayr az-Zawr a 3rd Millennium BC Mesopotamian site in Syria; a sculpture of a bull having a human face and head was discovered. The statue is given a cap (crown) horns encircle the crown below

which simple decoration with incised parallel line enclosed with wavy line along with extended ears. The beard is shown in wavy line below the chin. This figure of bull having with crowned head and face suggest the high intellectuality.

In Indus valley the horn, the tree or tree branches (Pipal) are used symbolically for identity of various deities and supreme beings. The Porto Shiva seal has horn (perhaps Zebu bull) and a fan at the center; both horn and fan make the crown. Other deities carry plant branch either from piple (*ficus religiosa*) or banyan (*ficus indica*) trees (Kenoyer 1998:103). The masks and wigs were not used as symbols. However, the modification of original being has been common practice to depict the given entity and story.

The terracotta figurines are given symbolic icon like turban, hat and fan as headgear to both male and female. About these icons, the Indus scholars suggest the ethnicity and clans of Indus people (Possehl 2002:121, Kenoyer 1998). The use of turban as over head garment is also associated with Rig-Veda age and is exercised by various traditional communities of Pakistan today with great respect and honor.

It is realized that probably there was no such tradition to have Royal and or majestic crown(s) in Indus valley except than those on few terracotta figurines and depicted on the seals. Archaeologically, the crown as an identity of royals and/or royal family appears during Buddhist Era in which the top hair knot was depicted as an oval shape crown Ushnisha/usnisa. The prince leaves palace and sits under the Pipal tree (*Ficus religiosa*) for great enlightenment which was finally achieved. The vast knowledge and wisdom of Buddha was symbolized through Ushnisha and later on adopted by various Buddhist Royals/kings. Morphologically, very similar Ushnisha type of top-knob is provided to the Bull figurine under discussion (fig9)- it is unique feature not seen to any other figurine hence is considered as an intelligence insignia to the mighty bull of Indus found from Lakhan-jo-Daro settlement of Indus valley civilization.

**Male Figure in action**

Indus civilization does not have monuments with elaborated paintings carving and appliqué details of the life and societies. The Indus people chose the seals and figurines to tell the tales. The bronze figurines of dancing girl, spear thrower from Chanhudaro and Lakhan-jo-Daro are few examples. In these directions; a terracotta figurine standing on a platform rolling something with both hands on narrow stand is discovered from Lakhan-jo-Daro (fig 10&11). The base platform, stand and stuff for rolling are separately made and then joined together along with actual human (male) statue. The height of statue is 5.7 cm, legs 2.6 cm; hips 1.7 width and thickness 1.3cm. The arm length is 3.3 cm and round with 6mm thickness dia. Eyes round with 5mm dia. The nose is extended in semi-circular shape. The headdress is upright and tilted backwards. The feet are also created in the figure. The entire figure is shown bended towards the stand as it is pressing / rolling something on the platform of the stand.

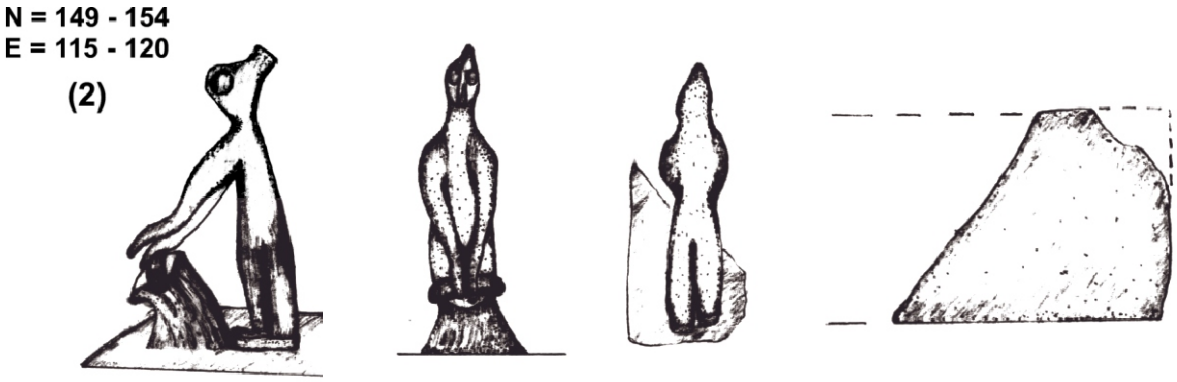



Figure10: Drawing of working terracotta figurine.



Figure11: Physical Profile of the working terracotta figurine

**Begging dog**

The torso of begging dog figurine wearing a collar is registered. The legs and tail is broken (fig12). The mouth, nostrils, and pierced ears are formed. The round appliqué eyes slightly damaged are made. It has a hole in the back under the tail for fixing any pole or stand. Very small semi-circular fan headdress is made. And an appliqué collar of 5mm width is attached; it is twisted slightly to create the 'v' shape below the jaw. A type of begging dog was found from Harappa Cat.no. 164 (Kenoyer 1998:228).



Figure 12: Begging dog found from Lakhan-jo-Daro

**"T" Shape Tablets unique Identity of Lakhan-jo-Daro**

At least two terracotta tablets in "T" shape profile have been discovered and designated in this paper as Tablet 1 &2. Both tablets have different iconographic illustrations thus described separately.

**Tablet 1 (fig13)**

The curvilinear tablet depicted with different icons on both sides divided as "A" and "B". The side 'A' contains swastika at base and complex Indus sign on top part. The side 'B' has same swastika at base and a branch from Pipal tree having five leaves. The central part on both sides

have similar features as half circle in ascending position until two rounded stopper / topper (like ring stones) are given as ring stones found from Mohenjo-Daro and Harappa.




Fig13: "T" Shape Terracotta tablet found from Lakhan-jo-Daro

As is visible on the tablet at least four features can be considered for its validity, for instance (a) Swastika, (b) the hauler, (c) Pipal Leaves and (d) round feature (like ring stones) and each icon is discussed individually.

**Swastika**

The most popular swastika sign 卐 or 卍 (Wikipedia) has been used throughout globe by different communities during different times. The symbol is used for several purposes like

religious, rituals, mythology, prosperity, wealth, decorative, identification and so on. It is seen on the pottery, seals, figurines, architecture, and body decoration throughout the world in numerous societies using according to their own purpose. To trace its origin and spread is beyond the scope of this paper however, the research provide earliest example from Mezine Ukrine 12000ya. It is found from Mesopotamia, Egypt, Indus, Chinese, Greek, and Mesoamerican/Mayan civilizations. Where it is taken granted for fortune, purity, wisdom and so on by saints, soldiers, kings, commoners and others(Shah academia.edu; Sarin, 2012, Vahia, & Nisha nd; Sanujit 2011).

In Indus valley civilization context the majority of representation are illustrated on the seals in which swastika appears independently and also conjoined with other characters for instance, seal number 74: H-182 B swastika recurs five times each in a block and is added with three other characters; similarly from Mohenjo-Daro seal number 87: M-488 A col. is shown in singular form along with elephant, tiger looking back, deity in the tree and a crocodile (Parpola et al 210).



Fig 13a Swastika symbol on the tablet

The swastika is part of endless knot as seen on the seal number M-1356 (Shah and Parpola 1991: 175). It is very important to note that another version of the swastika graffiti on pot sherd is found from Rehman Dheri as Rhd-150 A (Shah and Parpola 1991: 366). This swastika has curved ends as semicircular shape.

In South Asian context, during third century BC, Swastika became the chest symbol after the death of Buddha and spread other areas where Buddhism was in full swing like in Tibet (Sanujit 211). It is also considered a sign of luck among the Jains and Guajarati paint on shaven head during the occasion of marriage (Wilson 1894). In other words it has been commonly used by the Buddhist, Jains and Hindus (Dutta 2010; Wikipedia). The Hindus symbolizes the Brahma as a creator; Vishnu as a sun; and Surya as a Sun's ray in four direction (Sanujit 211). It is beginning and emergence of everything. In North India it is used during birth of a child and weddings; both are new beginnings.

**The hauler**

On the 'T" part of side "A" of tablet; there is combination of two signs (i) porter and on top of it is (ii) jar sign; both interpreted differently (Possehl 2003: 136-137). The symbol morphologically suggests a carrier / hauler carrying material / goods on the shoulder and having emblem 'Jar' on top (i.e. head). The symbol occurs on the seals from Indus settlements and is defined as Ppr/ ppri= savior, protector (Bhanbhro 2012). Almost similar meaning is made by others as 'god-saver'; Fairservis identifies it as 'watchman' (Possehl 2003: 136). Nevertheless in this particular case it combines additional sign thus the value increases or change.



Fig13b Indus script symbol on the Tablet

This icon of a hauler is stamped on a pointed base goblet from Mohenjo-Daro numbered as M-1372 A(Shah and Parpola 1991: 180). The symbol occurs on the round seal number M-1388 A with and addition of three oblong lines smaller in size than hauler (Shah and Parpola 1991: 184). The hauler is shown with buffalo and a person in between pointing to both hauler and animal in

seal number M-1405A (Shah and Parpola 1991: 189). The square unicorn seal number M-1779a has prominent hauler symbol. Most importantly it is shown on unicorn seal number M-1735A (Parpola et al 2010:36) in which only one vertical line symbol is addition. In other words the significance of hauler seems greater. In seal number M-1828a the human figure (type) symbol is added in between hauler and vertical line(Parpola et al 2010:56). A broken unicorn seal H-1677A from Harappa contains hauler and one more script symbol. Another unicorn seal H-1682A has hauler and other Indus script characters (Parpola et al 2010:235-36).

This symbol appear with Zebu in seal number M-1901A; where it has another hauler without the 'Jar' addition and few Indus script signs(Parpola et al 2010:74). Another seal number M-1928a hauler is very prominent with three small vertical lines and one large vertical line (Parpola et al 2010:84). Most significantly the symbols is illustrated on a seal number M-1957A without and iconography (Parpola et al 2010:90). The hauler is on one side and wheel symbol is on other and in between some more script characters are given. The first two symbols near the haler are illustrated on seal number M-1962a (Parpola et al 2010:91). Nevertheless, the seal M-1962 have very close stylistic similarity with **impression** found from Harappa as H-1731A – the sherd is broken thus the third symbol is not clear(Parpola et al 2010:243). Very identical tablet bas-relief as H-1104A and H-1105A are found from Harappa (Parpola et al 2010:153-54). Both items contain only three characters like hauler, something within circle and one more character besides it. The manufacturing variation is very clear even in the photograph.

The faience tablet in bas-relief H-1808A has again identical symbols with one more character here the number increase as four. The matching broken faience tablet in bas-relief H-1809A contains hauler symbol (Parpola et al 2010: 256). Additionally, this symbol is shown in another faience tablet in bas-relief H-1844A where it has two more signs on the sides (Parpola et al 2010: 258). Hauler is present in several other seals, tablets found from Mohenjo-Daro and Harappa (Parpola et al 2010) and is summarized in the following table:

| SN | Seal No. | Description |
|---|---|---|
| | M-1835a | Appear prominently with some additional symbols p58 |
| | M-1839a | It has human (type) figure in between vertical line on each side in other |

| | | |
|---|---|---|
| | | words if we look from left to right – hauler vertical line human type figure and vertical line pp59 |
| | H-1142A | Tablet in bas-relief symbol appears with other characters pp158 |
| | H-1181A | Incised Tablet contains the symbol with other characters pp163 |
| | H-1287A | Incised Tablet contains the symbol with other characters pp167 |
| | H-1709A | Hauler with two other symbols and no iconography pp238 |

**Pipal Leaf**

On the "T" part of the 'B' side of this tablet; the Pipal leaf is made. The Pipal leaf is one of the identifier of Mature Indus phase. This occurs on the pottery paintings along with several other decorative motifs (Panjwani 2009). The leaf shape occurs in Indus script in five versions (a) only shape outline (b) lines within outline and addition on the top from right side only; (c) leaf having addition on top on both sides; (d) addition within addition on top of leaf. The sign as defined by non archaeologist scholar under the Rigvedic light of understanding as first three shapes as *Ashva* = personal name, Agni; the 'c' as with addition *Ashvah*= name of person and the 'd' as caste of people (Bhanbhro 2012 : 29).

There is a seal having two unicorns, nine Pipal leaves some script symbols the leave are associated with present 'b' category and this seal carry ideologist value. Kalibangan motifs of plants and horn are the depiction of Pipal leaves within horns (Possehl 2003: 144). Another seal number M-1186 A having two papal branches with at least three leaves on each where a horn crowned deity is standing in between. There is another deity in sitting posture with crown having a tree branch a midst looking at the standing deity. It has a hill goat, and seven crowned people in row and some script characters (Shah and Parpola 1991).

The seal number M-1317A ((Shah and Parpola 1991:169) is also noteworthy which has only two characters as a Pipal leaf type 'c' and the hauler / porter in almost same style as is on this tablet. The Pipal leaf is given in between two Jar type motifs and additional sign in square seal number M-1771 A (Parpola, et al 2010:46). The central location of Pipal leaf is noticeable. The seal M-1830A carries Pipal leaf version 'c&d' and appears with 'Jar' and 'Wheel' type symbols (Parpola et al 2010:56).



Fig 13c Pipal leaf symbol on the tablet and comparative Pipal leaf.

Pipal leaf impression has been found Harappa in the context of drain and have been thought is sacred (Harapa.com). The terracotta tablet number M-1431 has four sides and on side 'A' has Pipal leaf version 'a' along with the script (Shah and Parpola 1991: 427). The pictorial representation is essential in which a deity is sitting in between perhaps tree and tiger. The tiger is looking back to the deity and deity is looking at the tree and pointing to the tiger as well as tree. The side 'B' has very important illustrations of animals like Elephant, Rhinoceros, and bull? On top of it had crocodile and duck? The side 'E' has pictorial representation of peoples in action perhaps the birds and animals are also shown. The person who is sitting is holding something like pounder in uplifted hands as he/she is almost killing / smashing something while another person in bent position one arm extended as holding the same thing in front of sitting person. Other characters are unreadable.

Pipal leaf is seen on the tablets in bas-relief from Harappa H-1102A along with two more characters (Parpola et al 2010:153). Similarly, it is (version 'a') present in Faience tablet H-1850 and version 'b&d' in H-1862A and H-1863A (Parpola et al 2010: 259). Most astonishing Pipal leaf representation in bas-relief can be seen in the terracotta tablet H-1951B (Parpola et al 2010: 267). A total of thirteen leaves are made in gate type arrangements in between it a deity with tiger paw - crown is standing. This is a unique representation of Pipal leaf that has never reoccurred at any other settlement of Indus civilization. A very similar style of seal H-194B

(Parpola et al 2010: 402-403); has similar number thirteen (human figures?) around and a deity with crown is standing within gate type arrangements.

In south Asian context it has great cultural value as well. The Atharva veda indicates this tree as supporter to human in many ways including providing fertility to the infertile ladies. According to the *Atharva Veda* Peepal tree is considered as benefactor of mankind by blessing barren women with children. Thus the tree is considered potent with fertility (Nagar 2011). This is tree which provides wood for tender fire and shade for Sami's and gods reside under it. The Hindus particularly, worship this tree because they believe that the gods and goddesses like Vishnu, Buddha, Kirshna, Brahma, Lakshmi, Surya, Aditya, Vana Durga all live there. The representation during Indus Phase suggests that the versatility of this tree was not ignored by the Indus people as well.

**Other Features**

Two other features like middle shaft and two rounded ring stone type on top of it. The middle shaft contains semicircular lines – morphologically and stylistically such type of line are common feature given to the neck of several unicorns, arms of human figurines (deities) and body part of animal icons mainly the tiger. For instance, the seal M-311A (Parpola et al 2010: 132&397 col.) has mythological body decorated with similar style semicircular lines and face part is hilly goat horn crowned human figurine. These decorative lines may also carry emblematic importance as well. Otherwise such type of lines give another hypothetical idea as date-palm tree shaft –if duplicated would be artistically given similar type of lines. The remains of dates have been found from Mesopotamia, Egypt and various archaeological sites and Indus people might have used as their diet and may signify as great fruit which can be used throughout year as well. The long tree shaft and branches may have architectural use hence these factors increase the importance of tree as a hole and make it proper for valued / status identification as is perceived in the tablet.

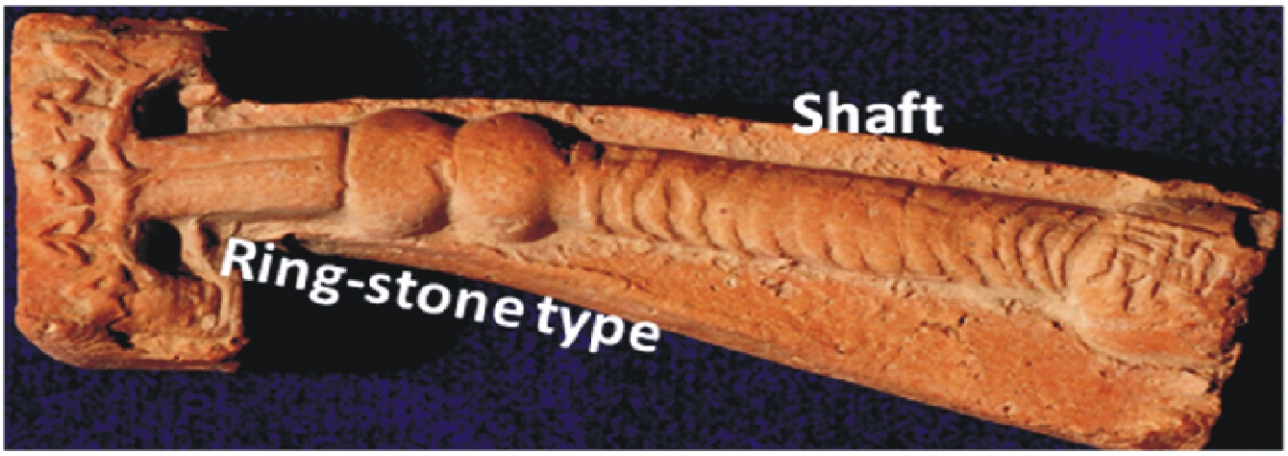



Fig13d Other noticed feature on the tablet

The ring-stone type feature, is also important – ring-stones are found from both Major cities like Mohenjo-Daro and Harappa. The symbol is given on the faience tablets in bas-relief one from Mohenjo-Daro as M-2025B and six from Harappa as H-1779Bto H-1784B (Parpola et al 2010: 105 &253). Pillar found from Dholavera show the similarities - Finally it can be said that all motifs on this terracotta tablet carry essential features and representing huge multivariate background yet to be comprehended.

**Tablet 2 (figure14)**

During the investigation on Lakhan-Jo-Daro one more "T" shape tablet was discovered. This tablet had semi-circular head and is worn-out indicating that it may have been used extremely. It is very small antique measuring as L52.39x W 10.57xth8.44mm and carries representation of at least thirteen various features. For the explaining this object in detail; it is divided into two parts as 'A' and 'B'. The side 'A' contains (1) crocodile on the semicircular part of the tablet, (2) Rhinoceros looking back, (3) unicorn, (4) manager, (5) Jar type script Symbol, (6) Pipal leaf and (7) hilly Goat. The side 'B' has (8) Rhinoceros (9) column/pillar? (10) Pipal leaf (11) unicorn (12) manager and (13) swastika on the semicircular part of the tablet.

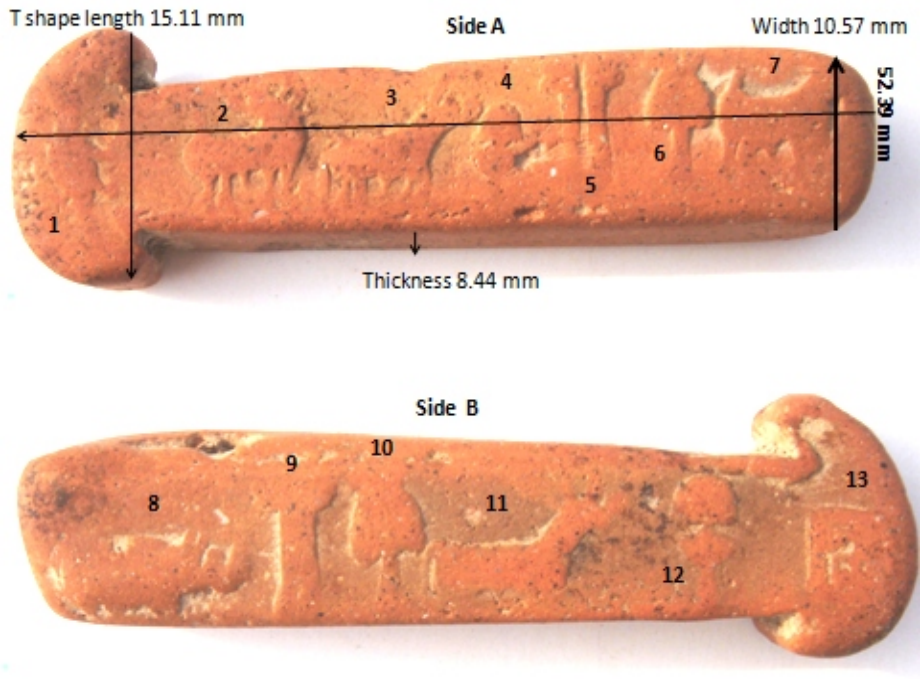



Figure 14: two views of another "T" shape tablet found from Lakhan-jo-Daro

All these features are depicted on the seals and tablet found from all major sites of the Indus valley civilization. Why these animals have been chosen for this tablet and what they represent is difficult to understand. However, to establish their connections to each other; the crocodile and Rhinoceros are associated with the water bodies and Pipal cannot grow without constant water supply. The swastika is symbol that is found worldwide among ancient cultures and has numerous uses and purposes. In South Asian context; it is used by Buddhist, Jains and Hindus for various rituals and identities. The unicorn is not found in reality and hence considered as mythological animal and when depicted on the seals a manger is given under the face.

On the side 'A' of the tablet, the crocodile has particular space and direction to whom only Rhinoceros is looking back through turning the face. The unicorn has given a manger under the chin without any exclusive expression. The only Indus Script sign of 'Jar' is very important in this context. The Pipal leaf and goat are also prominent. On the side 'B' all symbols are shown separately perhaps to pose / create their separate identity/purpose. The separate space for emblem/ manger suggests and impose the separate and additional segment of the story whatever

it is. Nevertheless, the script character #5 of 'Jar' and pillar#9 are part of depiction and are not repeated. It is vaguely said the crocodile side story has the Jar type new abstract element and the swastika side has the pillar, manger and absence of goat as facts of the account needs to be decoded.

**Animal figurines: the Secrecy Emblem**

In Indus valley civilization, the cultural behavior has amazing facets as maintaining secrecy is one. They have astoundingly codified many things including (perhaps personal names); for instance Stoneware bangles found from Mohenjo-Daro many of them contained micro-inscriptions / hypertext hard to see or read through naked eye. Those bangles are described as "highly specialized" in craft or manufacture and "administratively controlled" in importance. One animal figurine found Lakhan-jo-Daro has with Indus script characters which were perceived through microscope with 30x magnification.



Figure 15: Simply made animal figurine

This is a small bull figurine that has hump but other features like horns and face are missing (fig15). Looking at the shape it can be said that this is perhaps a calf / juvenile. The figurine is slightly damaged and eroded but provides a complete body profile. The body length is 5.3cm and thickness is 1.8 cm, height is 2.6 cm. The figurine was examined with 30x magnification and

results showed that figurine contained several thinly scratched lines. Some were straight lines and others were the characters as seen in Indus script.



*Figure15a : Close-up of the scratching. scratching on the body of figurine.*



*Figure 15b: scratching like Indus script on the side of figurine.*



*Fig 15c various lines showing Indus script symbols*

This attribute of writing Indus script roughly does not frequently occur, or, is not highlighted by Indus Scholars at larger scale. As mentioned earlier that the other example came from Mohenjo-Daro stoneware bangles which contained invisible markings and characters of Indus script which have been argued as the names of owner. If agreed as the name of owner then the question is why written so invisible? It is assumed that these may have been the secret messages avoided to be revealed by commoners. This figurine may have served the same purpose of secrete message to anyone except than the owner. Indus Archaeologist need to focus of this aspect as well.

**Animal figurine with cut-marks: the butchery pattern**

The animal figurines commonly found from majority of the sites. Some are simply made and others are highly decorated and carefully made. Within this a few figurines contain various types of pre-fired cut marks at different locations. One figurine discovered from Lakhan-jo-Daro was analyzed seriously. This is a torso of animal figurine is registered. The face, horn/ears, legs, tail all are damaged. The body measures as 6.3cmx2cm. The figurine contains some deep cut marks at very specific spots like right side of upper part of body, on the left side of neck and at the hind leg joint on the left side.

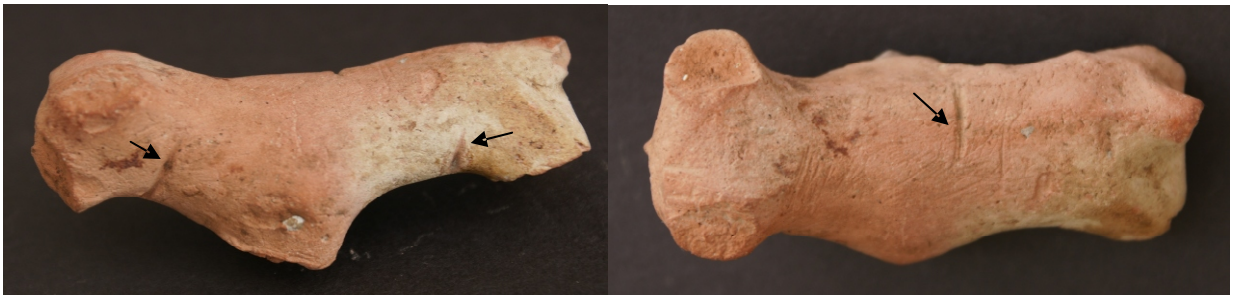


*Figure 16 : Terracotta animal figurine with cut marks on sides. Terracotta animal figurine with cut mark on top of body.*

Ethno-archaeological documentation of traditional butcher communities in Khairpur indicated that after removing the skin of the animal; the large parts of body like fore and hind legs were cut at the joints (thigh to toe) and in other cases, the animal was also cut into two halves (Shafaq 2016). The joint bones from Lakhan-jo-Daro also showed several cut marks which may have

happened during skin removing process of the animal. This type of pattern suggests the similarity of butchering act and hence the cut marks on the figurines reveal butchery practices of Indus people. The legs of figurines are broken however they might have held the cut marks.

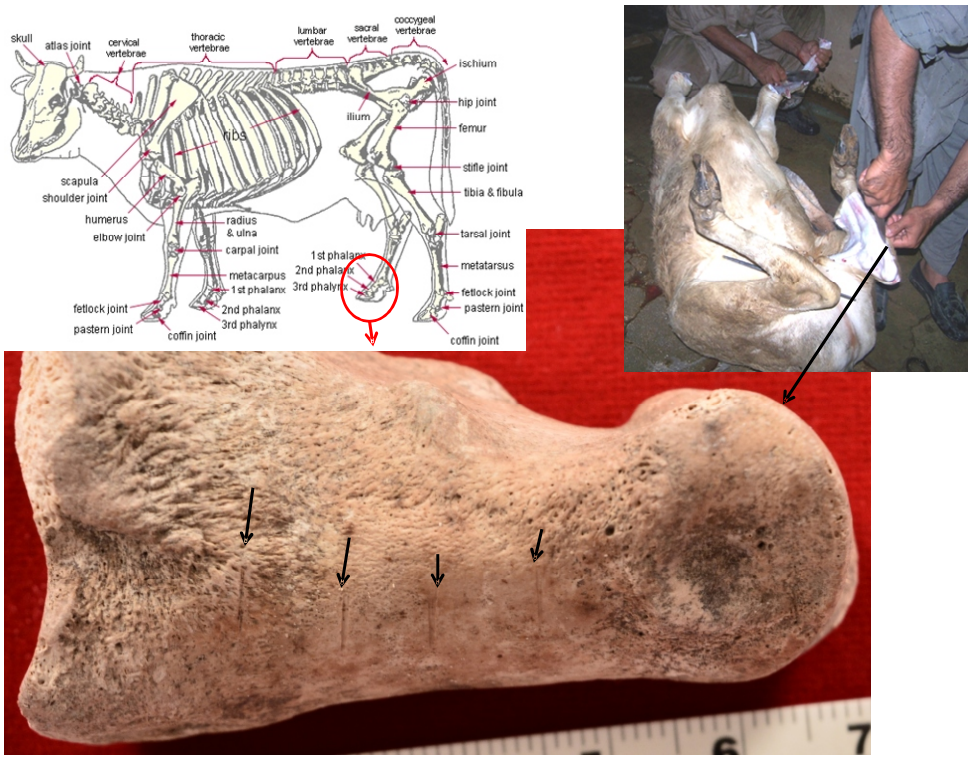



Fig 17: Butchering process and Cut-marks on the bone (*with thanks by Tooba Shafaq*)

The archeological indicators like figurine and bones disclose true practice(s) conducted by ancient people. The cut marks on bone show the process and procedure adopted by butcher and very similar pattern is exercised by children on the toys (if one considers those figurines as toys). The combination of entire data set i.e. (a) cut marks on bone; (b) cut-lines on figurines and (c) ethno-archaeological practice confirm the slaughtering system of Indus people lived in the Lakhan-jo-Daro city.

**Summary**

In Indus Archaeology, except excavation reports, the favored topics for research have remained as cemeteries, seals, beads, bones, copper items and decorated pottery items etc. The common potsherds, figurines, T/C cakes and smaller items are not given that much time for analysis. Consequently, much is still unknown, thus, this paper draws attention of scholars to examine and discuss every object very closely. The significance of this type of study is to establish a deliberation and explain broader as well as the trivial aspects of culture. For instance, the terracotta figurines those which are highly decorated are called as "mother goddesses" and others are considered just simple objects and hence not given academic importance. This notion leaves behind several aspects to be known or discussed. Such as the light deity provide a clear message about the sacred and holiness on one hand and status and wealthiest on the other. The intensity of body adornment indicates social hierarchy and tradition of elite jewelry wearing pattern. These both notions can't be combined together; thus the figurines having these features as discussed in this paper explain only one notion as mother goddesses. Similarly, the bull still have sufficient value in the daily life of the agricultural communities and Indus people showed value of the bull by providing intelligence insignia which further illustrates any typical social episode. This type of symbol is never used to any other figurine.

The recreation and sport objects were given importance like the begging dog might had entertained people in similar way as the *Madari* and his monkey does in streets today. The butchering process used by Lakhan-jo-Daro people is detailed through cut marks given on the terracotta figurine. The widespread opinion about the Indus seals and other antiques is that the smaller the object- the bigger/broader the thought would be. The "T" shape tablets having few symbols on both sides might have delivered gigantic theme of its own nature. Another example is the 'circles' which are apparently used for decoration but in contemporary societies some specific object decorated with circles are used for earning through divinity. A dice is decorated with circles and circles are used to forecast the fortune and future.

During present analysis of the animal figurine having with Indus script characters are discussed and it is perceived that maintaining secrecy was important for the Indus people and the message may have sent regardless of choosing the carrier mode. Otherwise what was the reason to create several Indus script like characters on the simply made animal figurine? This is the same attitude found in the traditional communities when a messenger carries a message and a reminder which may be any symbol owned by sender or the details of personal thoughts of sender which would click to receiver for authentication of the messenger's association and the message itself. At the end of message delivery it is said that "few humble words may be considered as all details" and hence the act completes. So the short message written on the figurine may have carried intensive details of the associated story.

Finally, it could be said that there are so many objects and if analyzed with multidirectional approach, may explain the mysterious details concerning the societies of the Indus valley civilization.

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# Buddhist Faith and Kanishka

**Muhammad Ilyas Bhatti***

**Abstract:**

*The present study entitled "Buddhist Faith and Kanishka" focused mainly on the establishment, growth and prosperity of the Kushan Empire. This research is based on the evidence collected from Gandharan Buddhist tradition as documented in art, archaeology, and epigraphy, which comes mainly from the region around the Taxila. This was once the chief city of the ancient state of Gandhara and, for a while, a center of Kushan power. Hundreds of sculptures were discovered at ruined Buddhist sanctuaries in and around Taxila; most had been carved in hybrid styles that combined Indian, Hellenistic, Roman, and Parthian elements as evidenced by the results of excavations at Taxila. In fact, men and women in Central Asian dress are often depicted as devotees in Buddhist sculpture found throughout the region. It was during the early reign of Kanishka that traces of Kushans impact over Gandhara art could be seen. It is of course difficult to determine the geographical boundaries of Gandhara as they have always been shifting. Taxila, once the capital of Gandhara kingdom, was famous for higher education and its colourful woolen products. As a trade center it was connected by trade route to almost all important cities of North India. The art and architecture of Gandhara continued to develop till the 7$^{th}$ century CE.*

**Keywords:**

Kushan, Kanishka, Buddha, Gandhara, Taxila, sculptors, stupa, Sarpgharaksha, Dharmatrata, Julian,

## INTRODUCTION

The art that flourishes at Gandhara was not the first to appear on Pakistani soil. Even earlier, the ancient schools of Indian art are represented by the sculptors of this region. The school of Gandhara, though later in date, does not seem to be the natural continuity of these early art schools. It discloses the clear impact of the Hellenistic influences, betrays comparatively evolved technical skill and introduces new foreign motifs. Nevertheless, it is primarily religious in character, serving the Buddhist faith. The Gandharan narrative sculptures vividly portray architecture, the life-scene of Buddha and jataka stories in the true forms of art expression namely, symbolic, synoptic, and narrative. In executing them, the ancient artists have thoroughly

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depicted the life of the people of Gandhara region in all its kaleidoscopic variety reflecting intensely on the architecture, mode of dress, coiffure, personal ornaments, etc. The weapons of war, revealing the high class military life, the civilized mind and the aesthetic outlook of the people, etc., have all been brought within the range of sculptural art.

Study on Gandhara art have not given sufficient weight to one important consideration when assessing early Gandharan art. An assessment of Gandharan art routinely traces Graeco-Bactrian influences, as well as Roman, Parthian, Scythian, and Indian influences from the Gandhara and Taxila Valley. Hardly anyone questions whether aspects of art indigenous to the region were integrated into Gandhara art. This approach would not deny that influences did indeed come from the sphere of the Indian subcontinent, and from foreign sources to the West; rather it raises the question whether the influences were absorbed into existing arts and crafts preceding, or unrelated to, the arts in the service of the Buddhist religion.

Gandharan studies in general and studies of Gandhara art in particular have traditionally been, and continue to be, dominated by archaeologists and art historians. In fact, until very recently materials falling within the purview of these fields - mainly artistic and archaeological remains, including inscriptions - were nearly all that we had at our disposal for the study of Gandhara art and Buddhism. The birch bark scroll manuscript in Kharosthi script has been, since its discovery in 1892, virtually the sole known specimen of a Buddhist manuscript written in the language that we now call Gandhari. Moreover, it was not certain whether this unique Gandhari manuscript

was in some sense a peculiarity, or even a unique deviation in the cultural tradition of Gandhara, or whether it was, rather, the sole surviving document — the tip of the iceberg, as it were — of a larger but otherwise unknown corpus of Buddhist texts in Gandhari/Kharosthi, perhaps even of something that could be called a "Gandhari canon" of Buddhism.[1]

In light of the discovery in the last few years of large numbers of other similar Gandharan Buddhist manuscripts, the latter interpretation has clearly turned out to be the correct one. Although the study and publication of this new material are still in the early stages, and the

complete process will take many years, it is already obvious that scholars of Gandharan Buddhism and of Gandharan studies in general, will have a completely new body of material to work with. At this point, while we can only begin to guess in what ways this will reshape and improve our understanding of Buddhism in Gandhara, we can be quite sure that it will have profound effects.

A study of the development of Gandhara art begins with analysis of the numismatic data, which furnish the most widespread and secure chronological indicators. The many coins found at urban and Buddhist sites, especially in stupa relic deposits, help us to determine a sequence. Even though the date of a coin's production does not directly correspond to the time of its deposition, a reliable succession emerges.[2]

In Gandhara, the early phase of Gandhara art may be tied to the earliest appearance of the Buddha image in that region. Recent studies on related points work from the hypothesis that the Buddha image in the Northwest dates to around the beginning of the Christian era, or a few decades earlier.[3] This conclusion is based on the analyses of some single pieces by Fussman, who showed that quite possibly the earliest standing Buddha appears on a Tilya Tepe token (an archaeological site in northern Afghanistan near Sheberghan) which can be dated roughly between 50 and I BCE, and that it is followed by depiction of the Buddha on the gold Bimaran relic casket (Bimaran site, near Jalalabad in eastern Afghanistan), dated within the first half of the first century of the Christian era.[4] Another's very early Gandharan depiction of the Buddha is the pre- to mid-first-century-CE small Nitta bronze; it too, like the Tilya Tepe token, reveals the coalescing of Western (Hellenistic) and Eastern (Gangetic and Northwestern) modes of depiction.[5] These examples, parenthetically, do not argue for the primary of the Buddha image in Gandhara, as an equally early Buddha image, dated between 1 and 50 CE, can be assigned to the

[1] Richard Salomon, "New Manuscript Sources for the Study of Gandharan Buddhism," in Gandharan Buddhism: Archaeology, Art, Texts, ed. Pia Brancaccio and Kurt Behrendt, p. 135.
[2] M. Alram, "Indo-Parthian and Early Kushan Chronology: The Numismatic Evidence," in *Coins, Art, and Chronology: Essays on the Pre-Islamic History of the Indo-Iranian Borderlands,* ed. M. Alram and D. Klimburg-Salter (Vienna: Verlag der Osterreichischen Akademie der Wissenschaften, 1999).
[3] Gail,"On the Beginning of a Figurative Representation," especially p. 435, also Van Kooij, "Architectural Context of the Early Buddha Image," p. 511.

Mathura school.[6] In sum, on the basis of the generally agreed-upon dating for early Buddhist art in Gandhara, the present study of Gandharan crafts in early Gandharan Buddhist art confines itself to sculpture that can be dated with reasonable assurance between the first century BCE and the first century CE.

The reliefs around the Sikri stupa housed in the Lahore Museum represent the very beginning of Buddhist art in Gandhara. Their antiquity has been recognized by Marshall, Foucher, and Lohuizen-de Leeuw.[7] The material from the archaeological sites in Gandhara, particularly form Taxila, covers much of the geographic extent of the Gandhara region. The sites range from Taxila, situated east of the Indus River in Pakistan, to Hadda, beyond Pakistan, in eastern Afghanistan. Between Taxila and Hadda lie the other sites, all west of the Indus. Sikri probably is in the Paja Hills, north of Mardan in the Peshawar Plains. The others are located in the Lower Swat District of the Khyber Pakhtunkhwa, Pakistan. It is helpful to keep in mind the spread of these sites when trying to interpret diversity in the local crafts within Gandhara, Sub-regional diversifications can be due to geographic, ecological, environmental, and anthropological factors. They can also be due to the result of different foreign influences affecting different habitational enclaves in the mountainous stretches of Gandhara.

[4] Fussman, "Numismatic and Epigraphic Evidence," 67ff. For dating of the Bimaran relic casket, see arter, "Reappraisal of the Bimaran Reliquary," 84. See also the entry by N. Kreitman in Errington and Cribb, *Crossroads of Asia,* 189-92. But note that the Bimaran reliquary is dated ca. late first century BCE in Huntington, *Art of Ancient India,* 113.

[5] E.g., See Carter, "Gandharan Bronze Buddha Statuette."

[6] See Pal, "Pre-Kushan Buddha Image," 1ff, n. 5. See also Lohuizen-de Leeuw, "New Evidence with Regard to the Origin of the Buddha Image," 391-93, figs. 22-25.

[7] Marshall, *Buddhist Art of Gandhara,* pp. 55-58; Foucher, "Les bas-reliefs du stupa de Sikri"; Lohuizen-de Leeuw, The *"Scythian Period",* pp.100-101, pp.108-10.

## METHODOLOGY

The narrative stone sculptures, decorative reliefs, or images of Gandhara are an important tool with the help of which an attempt has been made to understand the various aspects of the Kushan's multiethnic blend of many cultures, history, architecture, and religion. Gandharan studies in general and studies of Gandhara art in particular have traditionally been, and continue to be, dominated by archaeologists and art historians. In fact, until very recently materials falling within the purview of these fields - mainly artistic and archaeological remains, including stone sculpture, inscriptions and coins - were nearly all that we had at our disposal for the study of Gandhara art. Images carved in the sculpture workshops of this ancient realm are among the most expressive and influential in the history of Buddhist art of Gandhara. Scholars have often tried to force the evidence into orderly configurations that fit their own presumption.

## BUDDHISM DURING THE TIME OF KANISHKA

The anthropomorphic image of the Buddha became popular in art during the time of Kanishka. The earlier preference for a symbolic representation of the Buddha's presence was now abandoned in favour of incarnation. Part of the reason lay in changes within the Buddhist religion itself, which no longer visualized the Buddha as an inspired worldly who had found a path to salvation. He had now been blessed, and his followers required a personal focus upon which to pin their devotion. With their far-sighted awareness of cultural differences, the Kushans sponsored the production of two distinct types of Buddha image, one created in the western part of their empire, the other in the plains of India.

From various Chinese sources that Emperor Kanishka entered Buddhist legend as an exemplary Buddhist devotee, second only to Ashoka. Art historians have attributed much of the flowering of the Mathura and Gandhara schools of Buddhist sculpture to his royal patronage.[8] Upon study of the coins and epigraphs, many scholars have agreed in principle that Kanishka's patronage of the faith must have been essentially politic.[9] The Buddhist emblems which appear on his coins are, statistically speaking, rare and far out-numbered by other types. Kanishka may well have

[8] Coomaraswamy, HIIA, p. 52.
[9] Göbl, p. 191.

been, like Constantine, attracted by a variety of religions and guided as much by the need of politics as by his own spiritual needs. A number of theologians have been associated with him by Church traditions–Asvaghosha, Vasumitra, Parsva, Sarpgharaksha, Dharmatrata, Matriceta, and Nagarjuna–among them some of the most influential figures of the time. Their writings provide much of the literary nucleus of the iconology of Buddhist art of the Kushan epoch.

Kanishka's great political power is attributed to his understanding of Buddhism, according to a tale preserved in the so-called Sūtrālamkāra. The king wished to visit Kanishkapura (presumably a town he built in Kashmir). En route he encountered a group of 500 beggars who had all been wealthy kings in their former lives. But because they had failed to give alms, had been avaricious and greedy, they had been reborn in this poverty. Kanishka commented that although he was then the master of men, he wished to avoid such a fate in the future and understood the need for charity. Then his minister praised the king for his penetrating intelligence. The minister went on to say that in order to be a great king worthy of the name, one must distinguish the deep meaning of the Law of the Buddha.

**The Council in Kashmir**

Kanishka, as King of Gandhara, convened a great council of the Buddhist faith in Kashmir "four hundred years after the death of the Buddha," as reported by Hsüan-tsang, and patterned after the tradition of councils at Rajagriha or Vaisali or Asoka's at Pataliputra.[10] According to the Chinese pilgrim, Kanishka was deeply pious, frequently consulted the Buddhist sutras, had a priest enter his palace daily to preach, and often consulted with his adviser Parsva (or Parsvika), a holy patriarch mentioned occasionally in the Chinese Tripitaka. Being disturbed by conflicting sectarian doctrines, Kanishka had monks of each of the Buddhist schools gather from the four quarters in Kashmir to resolve these conflicts. When their vast numbers had been reduced to 499 arhats, Kanishka said that he was suffering from the heat and humidity and wished to go to his own country or else to Rajagriha, site of the First Council. He was persuaded to remain in Kashmir, and built a special vihara there for the assembly.

[10] Hsüan-tsang; Beal trans. Vol. I, pp. 156 ff.

The president of the council was a Sarvastivadin doctor, Vasumitra, a name borne by no less than five men of importance in Indian Buddhist history. Not being an arhat, he was at first refused admission, but by a miracle, the devas announced that he would become a Buddha and would actually succeed to Maitreya's throne in the Tushita Paradise. Together the five hundred sages produced commentaries on the three pitakas. Kanishka had these engraved on sheets of red copper, enclosed them in a stone container, and built a stupa over it. Then, as he started to return to his capital with his army, he fell to his knees and bestowed the entire kingdom of Kashmir upon the brotherhood of monks. The attribution of a Kashmir council to Kanishka is thought to be a pious fabrication by which Kanishka's biography was given some of the same elements as Asoka's.[11]

**Asvaghosha[12] and Caraka[13], A Physician of Kanishka**

Through evidence from a number of sources Kanishka is linked with Asvaghosha, a playwright and poet who came to be sacred as a Bodhisattva in Eastern Asia. In the Chinese version of the Sampradaya nidana there is the tale that Asvaghosha dwelled at the court of the king of Pataliputra, the suzerain lord of eastern India.[14] However, that ruler had been defeated by the Yüeh-chih. Kanishka demanded a ransom of 900,000 pieces of gold, or one for each citizen, to leave the city in peace. The king of Pataliputra counter–offered to let him have the Buddha's begging bowl, a compassionate cockerel that would not drink water which contained any life in it, and finally the learned Asvaghosha. Further, there is testimony that Asvaghosha was converted to Buddhism by Parsva, Kanishka's religious adviser, that Kanishka had sought relief

[11] Rājataramginī I. 168-173; stein trans. I, 30-31.

[12] Asvaghosha, the great Kushan poet was born in Brahman family of Survanaski (his mother's lineage) in Saketa near Sravasti in northern India in the first century of the Christian era. He acquired an in depth knowledge of the four Vedas, the six treatises on the Vedangas, Epics and Darsnas, and a strong grounding in Sanskrit grammar at a young age. This enable him to quickly master the Buddhist Tripitaka of the 18 Schools when he converted to Buddhism.

[13] Caraka, the physician in the court of Kanishka, is one of two authors whose compilations of ancient medical lore lie at theroot of Ayurvedic practices. Presumable Caraka lived in Taxila during the time of Kanishka, i.e. first or second centuries of the Christian era.

[14] Teoh Eng Soon, The lotus in the Buddhist art of India, pp. 68.; Levi, JA, pp. 449 ff. That he was taken not from Pataliputa but from Saketa and was the sole goal of the invasion, see JA, 1908 II, p. 83.

and guidance from him after his bloody war with the Parthian king, and that Asvaghosha received a miraculous sign while viewing the Kanishka stupa at Peshawar.

If these direct connections of the two men seem like pious fabrications, they are impossible to prove or disprove. In any event, Asvaghosha is an important figure for historians of Indian art of the Kushan period.[15] To his name have been attributed a great number of Buddhist texts, but two major works whose authorship is securely his—the Saundarananda and the Buddhacarita—were composed as expressions of the poetic and emotional content of the faith rather than as didactic outlines.[16] The Saundarananda, for example, treats of the struggle against his sensual passions by Nanda, Sakyamuni's half-brother; its theme was frequently used by the sculptors of Gandhara and Mathura. The Buddhacarita is a legendary biography of Sakyamuni, conceived in terms of highly personal responses to the events of the career of the Tathagata and has numerous parallels in the sculpture of Gandhara.

Kanishka's physician Che-le (Caraka), whom Kanishka had summoned to his court to advise him how to moderate his drinking and eating and how to control his senses.[17] Caraka is one of the greatest names in the history of Indian medicine. He delivered one of Kanishka's favourite wives of a still born boy, skilfully saving the life of the mother. He advised the king not to favour the bed of this wife any longer; if he did, the same thing would happen. But the fires of lascivious desires in Kanishka were intense, and he tendered his affections on the same wife, who brought another boy into the world with the same fate. Caraka then said that the king did not follow his instructions but surrendered himself to carnal love—a passion which should never be entertained. Those who are wise regard it as a hateful robber. Caraka found it necessary to leave the evil regime of the king and to become a forest hermit.

**The Kanishka Stupa at Peshawar**

Most of the major Chinese pilgrim reports dealing with northern India discuss a great stupa built by Kanishka outside Fo-lu-sha-pu-lo (i.e., Purusha-pura, the modern Peshawar). Of all the

[15] Rosenfield, Dynastic Arts of the Kushans, 1967, p. 32.
[16] B. C. Law, Asvaghosha, p. 3; Levi, JA, 1928, pp. 193 ff.
[17] Levi, JA, 1896, pp.480-44-83.

pagodas of the Western world, this was probably the grandest in the eyes of the Chinese, who reproduced both its name and form in their homeland.[18] Even at the time of Alberuni (ca. A.D. 1000) it was still a vivid memory.[19]

The most detailed description of this stupa is that of Hsüan-tsang, which is generally supported in simpler guise by the earlier ones of Sung-yun and Fa-hsien.[20]The stupa was said to have been built as fulfilment of a prediction of the Buddha, who said while in Gandhara that four hundred years after his death a king would erect a stupa to contain many relics of the Buddha's bones and flesh. At the stated time, Kanishka ascended the throne and governed the whole of Jambudvipa. At first he despised and reviled the Buddha's Law (there were no such derogatory comments in the earlier reports),' but while hunting a white hare in wild country, he met a shepherd boy (or boys) building a small stupa of mud three feet high and repeating the Buddha's prophecy. According to Fa-hsien, the boy was Sakra (Indra) in disguise. Kanishka ordered a stupa built around the small one in order to prove the power of his religious merit; but however high his stupa rose, the smaller one exceeded it by three feet. Kanishka's stupa eventually reached 229 metres, and the older one was covered. The great king then raised on top twenty-five circlets of gilded copper on a staff, and in the centre of the stupa he placed a number of relics of the Buddha. When the work was finished, the small stupa came through the larger one halfway up the southeast side. The great stupa was then cut down to its second story, whereupon the small one moved back to the centre of the building. Kanishka realized that divine powers were greater than his, and rebuilt it as before.[21]

Cunningham, at some time before 1875, assumes that a pair of mounds outside the Ganj Gate at Peshawar called Shah-ji-ki-dheri (Royal Mounds) was the remains of the Kanishka stupa and

[18] Soper, Literary Evidence for Early Buddhist Art in China, pp.112, 132.
[19] Alberuni, XLIX; trans. Sachau, Vol. II, pp. 10–13. As late as the Pala period, monks were being trained there; see the Ghosravan prasasti. Benerji, JBORS, 1948, pp. 111-116.
[20] Trans. Beal, Vol. I, pp. 98-109; for Sung-yun, see Beal, pp. ciii-cvi; Fa-shien, p xxxii.
[21] Beal trans., Vol. I, pp. 101-105. In Sung-yun;s report, the smaller stupa moved itself four hundred feet away from the new one, which rose thirteen stories to seven hundred feet in height (including an iron pillar at the top with thirteen circlets). Beal trans, Vol. I, p. civ.

vihara.[22] However, in spite of some tentative and inconclusive soundings, it was not until 1908-1910 that the site was cleared by a small-scale, poorly financed excavation,[23] which succeeded in providing a plan of the stupa, the location of the vihara, a few examples of figurative sculpture in stone and in stucco, and of course the celebrated Kanishka reliquary from the heart of the mound. The monument was constructed on a high plinth whose total diameter was 87 metres. The plan of the plinth was basically that of a square with four projections on each side, giving it a cruciform shape with curved projections at each comer of the square. There were probably stairways leading onto the four projecting wings, and the lower courses of the plinth were decorated with stucco images. Nothing of the superstructure was found. [24]

**Kanishka's Death and After Life**

Kanishka as a cakravartin, a militant universal monarch as described in Chinese text. They describe his wars in India and the capture of Pataliputra; they discuss a victorious war against an unidentified King of Parthia and a frustrated attempt to conquer the East. The war with the Parthians is reported in a Chinese version of the Sridharma-pitaka, in which Kanishka is given a Asokan guise.[25] The King of An-hsi (Parthia) attacked Kanishka, whereupon Kanishka killed 900,000 Parthians. An arhat saw this deed and, to make Kanishka repent this bloodshed, induced in him a vision of the suffering of hell. Thereupon the king regretted and sought spiritual guidance from Asvaghosha, who promised him salvation in the future.

Kanishka's war in the East has a similar flavour in the Chinese version of the Samyukta-ratna-pitaka,[26] in which the king had three wise men whom he considered his intimate friends: Asvaghosha Bodhisattva, Mathara his chief minister, and Caraka his celebrated physician. Asvaghosha promised that if the king followed his instructions, he would achieve happiness in the life to come; the minister said that if he performed the counsel of his minister without exposing it, the entire world would fall beneath his empire; the doctor said that if the king followed his advice, he would not die a brutal death or suffer disabilities.

[22] Cunningham, ASIR, 1908–09, p. 32, n. 2.
[23] ASIR, 1908–09, pp. 38-59; ASIR,1910–11, pp. 25-32.
[24] Rosenfield, Dynastic Arts of the Kushans, 1967, p. 35 ff.
[25] Levi, JA, 1896, pp. 447, 472.
[26] Ibid, p. 480.

The failure of an Eastern expedition plays a role in the tales of Kanishka's death. In the Chinese Tripitaka (Sampradaya-nidana) it is related how, on the advice of his minister Mathara, Kanishka undertook the conquest of the world.[27] While on the expedition to the north, Kanishka's men learned of his desire for world conquest and took counsel among themselves. They said that the king was greedy and cruel and unreasonable, that his campaigns and conquests were frequent and had fatigued all his servants; that he could not be contented; that he wanted to reign over the four regions; that the garrisons guarded distant frontiers, and the soldiers' families were far from them. They decided to rid themselves of him. Since the king was ill, they put a blanket over him; a man sat on it, and the king died at once.[28]

Kanishka had heard Asvaghosha preach the Law that he was saved from hell and reborn in the great ocean as a fish with a thousand heads.[29] But in consequence of his deeds, a wheel of knives forever cut off his heads. Thus, in each of his successive rebirths he was constantly decapitated, the wheel continued to turn, and his heads filled the vast ocean.

Then there was an arhat who was the bell ringer for a vihara. To him, the king said: "Whenever the bell rings, the wheel stops, and during this moment my sadness and suffering are mitigated a bit. I wish only that the bell ringer takes pity on me, that the sound of the bell resound and be prolonged." Filled with compassion, the monk rang the bell in the king's favour. On the summit of this same monastery, for the sake of the king, a bell was continually rung by men in relays.[30]

**Taxila and the Kushan Empire**

The chief political and cultural centre in the Western Panjab, the Taxila, became the site of three separate ruined cities: the Bhir Mound, which represents the oldest urban settlement; Sirkap, the Greco-Parthian city; and Sirsukh, which is the remains of a Kushan stronghold. Of the three, Sirkap has been the most extensively excavated, and has yielded evidence that the Kushans

[27] Levi, JA, pp. 482-83.
[28] Rosenfield, 1961, p. 39.
[29] Levi, JA, pp. 483-84.
[30] Rosenfield, 1961, p. 39.

succeeded the Indo-Parthian dynasty of Gondophares as rulers of the city-probably about 50 CE. One unique type of silver drachma of Kujula was minted there, but some time in the reign of Vima or (more likely) Kanishka a new bastion was erected at what is now called the Sirsukh mound, two km. to the northeast.[31] Measuring around 457 meters by 335 meters, it was built according to a different plan and using a different mode of fortification than those at Sirkap. The bastion walls were more than eighteen feet thick, with semi-circular towers, their form anticipating medieval Islamic and European fortifications.[32]

It seems likely that upon the construction of this new citadel by the Kushans a series of sanctuaries was begun east of Sirsukh, sanctuaries whose artistic features are notably later than those west of Sirkap, such as the great Dharmarajika stupa, Kalawan, or the Fire Temple at Jandial. These later sites include the stupas and Viharas at Mohra Moradu, Jaulian, Giri and Bhamala, Pippala, and Lalchak and Badalpur; from these have come interesting examples of Indo-Scythian donor portraits.

There is numerous evidence of the presence of the Kushans in other parts of the Western Panjab, particularly the inscriptions at Zeda, Und, Manikiala, and Ara.[33] Kushan coins have been found in the region in great quantity, most notably later ones inscribed with Brahmi letters indicating Vasu and Chhu, suggesting that the Kushans or rulers claiming their authority held the region until the fourth century, in spite of the mention in the Ferhista of Ardashir's conquest of the region as far as Sirhind—a passage of doubtful authenticity.[34]

A highly important inscription was found at Sui Vihar, 26 km. southwest of Bahawalpur, dated in the eleventh year of the reign of Kanishka.[35] This inscription indicates the extension of the Kushan authority south of the Panjab, although it is not clear whether or not the Kushans directly controlled the trading stations at the mouth of the Indus.[36]

[31] Marshall, Taxila, pp. 217-222.
[32] Rosenfield, 1961, fn. p. 289.
[33] Konow, CII, for Zeda, p. 145, for Und, p. 171, for Manikiala, p. 67, and for Ara, p. 162.
[34] Marshall, Taxila, p. 73.
[35] Konow, CII, p. 138.
[36] Rosenfield, 1961, fn. p. 290.

## CONCLUSION

The religious art works flourished during the regime of Kushans, the most famous were stone sculpture of Gandhara and Mathura. The sculptures of various kings and princes of the Kushan dynasty were also unearthed from various religious establishments. It is obvious that the dynastic art was a part of religious art. A number of cults and gods were recorded on the various coins of the Kushans which were found from Taxila and other Gandharan archaeological sites in the region. When the Kushan took over the control of the South Asia region, they come across Buddhism and Brahmanism; the both religious cults emerged on the Kushan coins and sculptures. Hellenistic style of Gandharan Buddhist art was also seen in the sculptures. The Kushan rulers called themselves the 'Son of God' or the 'Son of the Heaven'.

The Inscriptions found from various archaeological sites experienced the donations and patronage of religious institutions, i.e. Buddhism and Jainism by the Kushan kings and aristocrats. The Kushan rulers promoted and flourished commerce, trades and urban life in the region where ever they went. The figures sculpted on Gandhara narrative reliefs and sculptures during the Kushan regime depicted the beginning of the sari and garment to cover the breasts. The mixer of local and foreign elements can be seen in the Gandhara sculptures.

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# Another Interesting Relief from Swat Valley, Varia Collection-Swat Museum

**Abdul Ghafoor***

**Abstract:**
*Swat valley, apart from its scenic beauty making it identical with Switzerland of Pakistan has been famous for its profusely rich archaeological heritage. It has been the abode of different cultures and stated to be the birth place of Tantric Buddhism. Mahayana Buddhism and its physical manifestations took deep roots here before its transformation to Tantric Buddhism. There are unique archaeological sites of the Buddhist period which find highly elevated place in the Buddhist annals and under the lavish patronage of the religious zealots, artists created unmatched specimens of Gandhara art. The Varia Collection in Swat Museum contains very important sculptures. This paper is an attempt to describe one such interesting relief to highlight the importance of the invaluable collection.*

**Key Words: Buddhism, Swat, Varia Collection, Museum, Gandhara Art,**

The Swat Valley, in the north-western mountainous regions of Khyber Pakhtunkhwa is well known to ancient and contemporaneous historians as neighboring part of the Gandhara province of the Achaemenid Empire from 6th century BCE to the invasion of Alexander the Great in 327 BCE (Vidale & Olivieri,2016:vii). It is one of critical threads to elucidate the emergence, evolution and development of Gandhara art, especially Buddhist art in Gandhara.

In 1956, Tucci reached Saidu Sharif on the famus reconnaissance, alongwith Francesca Bonardi and later joined by Faccenna and G. Gullini (Olivieri, 2006:29). Tucci distinguished the prevailing environment and situation of Swat in past. He emphasized that the conditions prevailing in Swat were very favourable to the junction of ideas, situated as it was on great acess point which brought the West into contact with the East, with Central and India, and where met, not to resist but to approach one another, the most active religions of those times (Tucci, 1958:279).[1] Chinesd travelers and pilgrim visited, Swat valley in fifth century CE and narrated surving Buddhist heritage in the region.

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[1] First exploration of the Swat region took placed in 1926 and 1933 by Sir A. Stein, (Stein.1930:10). In 1938, on the behalf of Archaeological Survey of India, Barger Evert and Philip Wright carried out the exploration on a smaller scale and conducted limited archaeological excavations in Swat (Barger & Wright.1930:1).

Since 1956, Italian Mission carried out comprehensive field activities, including field survey and excavations in Swat. The Italian mission (Institute for the Middle and Far-East, IsMEO) collected lot of rare antiquities apart from their regular excavations in Swat valley. Local inhabitants approached the mission to share their information about the Buddhist ruins in Swat Valley and handed over some randomly collected antiquities.[2] Some of antiquities were presented and few were purchased by the Italian Mission. Varia Collection comprises of antiquities of different materials, such as stone, stucco etc. Because of various origins and provenances it was termed "Varia Collection".[3] According the record maintained by Italian Mission, till 2003, mission received and registered 1604 antiquities including 1152, stone objects. In the beginning Vaira collection was kept at the rest house of Italian Archaeological Mission at Saidu Sharif in Swat. After the establishment of Archaeological museum Swat, in 1959, these antiquities were shifted to Archaeological Museum Swat.[4] 71 antiquities of Varia Collection, including 62 stone sculptures were shifted to Italy, under the agreement between Government of Pakistan and Italy. Antiquities collected by Italian Mission in Pakistan were subsequently, shared out to Swat Museum, Federal Department of Archaeology and Museums.[5] Stone collection, is consisting of jatakas (previous Births stories of the Buddha), momentous events from the life of the Buddha, individual images of the Buddha and Bodhisattvas.

In 1966, Maurizio Taddei published a rare and interesting stone relief **(Fig.1).**[6] That piece was reported from a private collection. Said relief is depicted with the standing image of Buddha with his hand resting on the dharmacakra. Taddei referred its influence from

[2]Simultaneously local inhabitant and elites also handed over lot of valuable stone sculptures to Miangul Abdul Haq Jehan-Zeb the ex Wali-e-Swat. He was the elder son of Miangul Abdul Wadud, the founder of the Swat state, known as Bacha Sahib.

3A collection or miscellany,Latin, neuter plural of variusvarious

4Swat Museum was established by Late Mian Gul Jahanzeb, then the Wali-e- Swat, to keep his private collection and material collected by I.A.M after three seasons of excavations in Butkara and Udigram.

5 After 18th constitutional amendment 2010, now this material belongs to provincial government of Khyber Pakhtunkhwa.

[6] Taddei Maurizio,1966, An interesting relief from Swat Valley, East and West, Rome, Vol.16, Nos.1-2, pp.84-88

Syrian representation of Nemesis. There is another Swati relief (13x20.5 cm), of black schist, discovered from Barikot Swat during a survey by Italian Mission **(Fig.2).** This rare relief is part of Varia collection, presently in, National Museum of Oriental Art "G.Tucci" Rome. It is a stupa middle stupa panel. From right a Corinthian pilaster, with a flute on shaft is depicted. Haloed Buddha is standing on the left side of a column, adorned with tri-rattna, three lotuses in a row on top. Buddha is fully clad in his monastic robe. He is holding the hem of his drapery with his left hand and moving the wheel of law with right hand. It is an exceptional depiction where Buddha is setting in motion the wheel of law while standing. Wheel of law is illustrated behind the column and half of it is visible on right side. On the left of column remaining scene is badly damaged. This relief is depicted with the identical subject, First sermon and novelty of standing pose of Buddha.[7] Physical condition of the relief (Varia Collection) is damaged; left corner is broken and missing. Facial features of figures are badly worn out. Stone panel is illustrating, one of principal event, the First Sermon.

It is an interesting and unforeseen depiction of standing Buddha setting the wheel of Law in motion, in Gandharan sculptures which Maurizio Taddei pin pointed. dharmacakrapravartaka Buddha have been assimilated**,** in an friendly environment. The wheel alone can symbolize Nemesis as well as Buddha. On the other hand, the tradition of showing Buddha sitting down with his hand resting on the cakra is usual in Gandhara.[8] To find close iconographic resemblances between these two panels is astonishing. These panels representing a novel style of moving the wheel of law by Lord Buddha. It is rare style ever reported in Buddhist art of Gandhara. Such influence is connected with the Oriental cults in the Roman Empire, Syria and central Asia. Amalgamation of invaders in the region caused emergence of such depiction of First Sermon. The far from causal resemblances that tie them to some Syrian representation from the Roman age cannot be explained by a generally assumed classical taste as if we were just dealing with a fashion that led men to clothe local deities in Western attire. Every iconographical detail adopted

[7] .Its inventory No.V-461,. Presently lying at , National Museum of Oriental Art "G.Tucci" Rome, Italy.

[8] Taddei M & D.Faccenna, Sculptures from the Sacred Area of Butkara I (Ismeo rep Mem.II), 2, Roma, 1962, p.20, pl.LIVa

is a sign of fluctuation or profound change in religious culture. Buddhist art in Gandhara gave a western form to its religious concepts and imported representations carry with them at least a part of their original meaning. It is therefore necessary to define precisely the prototypes of certain Gandhara representation not limiting ourselves to general references outside of space and time to types like Apollo, Athena, Herakles etc. reference that even when correct are to be considered indirect and therefore devoid of any value in regard to a historical religious evaluation .



**Fig.1. Standing Buddha, turning the wheel of Law, from Gandhara. Private Collection**



**Fig. 2. Standing Buddha, turning the wheel of Law, from Barikot Swat – Varia Collection**

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# A Little Known Miniature Relief from Peshawar Museum: Study of its Iconography

**Muhammad Hameed***

## Abstract

*The present research papers deals with one fragment of a miniature relief in The Peshawar Museum, Pakistan. The fragment has three sides or faces showing different episodes from life of the Buddha. Study of iconography of this miniature relief is the main focus of the paper. Scope of the investigation is further extended by making comparative study of the pictorial representation with the usual depiction on Gandharan sculptures and reliefs. Further more references of the textal versions are also quoted. Some new thoughts about identity and utility of the fragmenst have also been given.*

**Keywords**: Miniature, Shrine, Reliefs, Stupa, Buddha, Buddhisattva, Gandhara, Iconography, Sacred Buddhist Text

## Introduction

The Peshwar Museum houses fragment of a miniature portable object made of stone. The object measures H: 10.4 cm come from an unknown provenance. Its accession number is PM 03280. Only a couple of scholars (Allchin 1972, Pl. IX., Yoshihide 2000: 130, Pl. 6) have mentioned introductory details about this object. Narrative art depicted on three sides of this miniature still lacks comprehensive analysis. Overall execution of the imagery reflects Gandharan style, however, depiction of figures and characters either represents different mode. Artists seems to have focussed only key figures of a narrative and deliberately skipped other attendants which we normally see on general Gandhara sculptures and reliefs. In the following, figural representation of this tiny fragment has been studied with reference to its textual as well as examples from main stream of Gandhara art.

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**Exterior of the Object**

The outer face of this relief is divided into an upper and a lower panel (**Fig. 01**). The upper panel is small and forms curvature of the miniature stūpa's dome. It depicts turbaned and bejewelled Bodhisattva in meditation. He sits on a lotus throne and an upper and lower garment as well as an ornamental headdress. His crested turban shows a large circular grooved bead in the centre. On either side of the central bead, some sharp and round edges are visible. A smiling round face, a long nose, and half-closed eyes with a heavy upper and lower lid, prominent cheeks, a pencil moustache and a small chin characterise his physiognomy. It is difficult to identify whether he is holding an object in his hands. Zwalf has different interpretation of such depictions.



**Figure 01. The Upper Panel of the Fragment from Peshawar Museum. Acc. No. PM 03280. Courtesy. Mr. Fawad Khan.**

[9] For more examples see Faccenna 1962 Vol. II. 2: Pls. CCXLII, CCXLIII, CCXLIXa & b, CCLIIb, & CCIVb.
[10] More examples in Zwalf 1996: Pls.77-79.

The entire composition is set inside a trefoil arch. As usual, the upper foil represents a large cusp resting on two other small foils. An attempt was made to carve brick lining design on the inner border of the trefoil arch. Such type of decorative treatment can be observed on various portable shrine fragments in the present collection and on some Gandharan reliefs.[11]



**Figure 01.1. Depiction in Lower Panel of the Fragment**

[11] The decoration with tiny brick lining on all these portable shrine fragments is identical and the narratives are framed inside this decorated border. For examples from Gandharan sculptures and reliefs which show a larger version of more or less similar decoration, see Ackermann 1975: Pls. XX & LXXXVIb. Faccenna1962 Vol. II. 2: Pls. LXVII, LXXIXa & b, XCI, CCXXVIII, CCXCII, CCXCIX, CCCa, CCCXXXIIa, CCCXXXIIIa & b. Faccenna1964 Vol. .II, 3: Pls. CCCLXVb, CCCLXVI, CCCLXIXb, CDXCVIIIb, CDXCIXb, DXIIb. Kurita 2003: Pls. 640. Zwalf 1996: Pls. 261, 453 Vol. l: 252 and Vol. ll: 290. The decoration on some of these reliefs takes the form of bead-and-reel design.

The lower rectangular panel of the fragment's exterior depicts a standing Buddha in *abhaya* (**Fig. 01.1**). He is possibly haloed, fragmentarily preserved on both sides of the Buddha's head. His facial features are similar to those of the seated Bodhisattva in the trefoil arch. The Buddha's dense hair is straight and form a large *uṣnīṣa*. His right leg is slightly flexed. Such a representation of the Buddha was quite popular in Gandhara and numerous such sculptures have been preserved.

**Inner Sections of the Fragment**

The iconographical arrangement of the fragment's inner sections is very interesting. They are divided into three vertical panels, separated from each other by a thin moulding. The inner borders of these panels are further marked by the traditional brick lining decoration.[13] In order to comprehend the iconography, the interior of the fragment is divided into two sections namely, "The Right Section" and "The Left Section".

**The Right Section**

The upper panel of the right section illustrates "Bodhisattva riding a ram" (**Fig. 02**). Above the Bodhisattva's head, a round object touches his turban. It could be an umbrella. There are three more figures in the scene; two standing and one sitting in front of the ram. The scene narrates "Bodhisattva's way to school on the way to his teacher's residence". This representation of the event is quite common in Gandharan reliefs (**Fig. 02.1**).[14]

[12] E.g. Ackermann 1975: Pl. LXIII. Zwalf 1996: Pls. 1-16.
[13] See details given in footnote 3.
[14] To know about other examples from Gandhara, see See e.g. Ackermann 1975: Pls.VII & XVII. Faccenna 1962 Vol. II. 2: Pl. CCXXIV. Hallade 1968: Pl. 88. Ingholt 1957: Pl. 23. Kurita 2003: Pl. XI, Figs. 81-83.



**Figure 02. The Upper Panel of the Fragment**

According to Schlingloff (2000/2013 Vol I: 344), the literary narratives of the episode can be found in:

Mūlasarvāstivādavinaya,Skt. ed. Gnoli, 1, p. 58, 1- 16.

Buddhacarita, II. V. 24; ed. p. 15; transl. p. 24.

Lalitavistara, ch. 10; ed. p. 125, 15- p. 128, 14; trad. p. 113-17.



**Figure 02.1. Bodhisattva Riding a Ram. Relief from Peshawar Museum. Acc. No. PM_02736, after Ali & Qazi 2008: 68.**

The middle panel of the fragment's right section depicts "pensive Bodhisattva" (**Fig. 03**). Turbaned and bejewelled Bodhisattva sits, turned to his right, on a raised platform with his right leg down and the left leg resting on right knee. His left hand is placed near the neck and the elbow rests on the left knee. The right hand lies near the left knee. A figure stands on either side of the Bodhisattva. The lower part of the relief depicts a seated figure in the lower right corner and a ploughman with his two bulls in the lower left corner of the panel.



**Figure 03. The Middle Panel of the Fragment**

These iconographical details depict first meditation in a slightly different way as compared to the many Gandharan reliefs.[15] However, very few depict the Bodhisattva's attitude before practising meditation (**Fig. 03.1**).[16] Our relief represents one such example from the miniature portable shrines. It depicts the environment, location and mind-set causing the first meditation. Kurita has illustrated two such reliefs which bear close resemblance (2003: Figs. 133 & 606). One of the reliefs depicts the Bodhisattva looking to his right in a pensive mood, while the second relief shows the Bodhisattva looking to his left. The standing figures on each side of the Bodhisattva could be the king and attendants.

Cf. Kurita 2003: Figs. 129-134. Zwalf 1996: Pls. 171-172.

Kurita 2003: Figs. 132 & 606. According to Quagliotti, such depictions represent Siddhārtha in first meditation, seated in a pensive attitude Quagliotti 1996: 97-115.

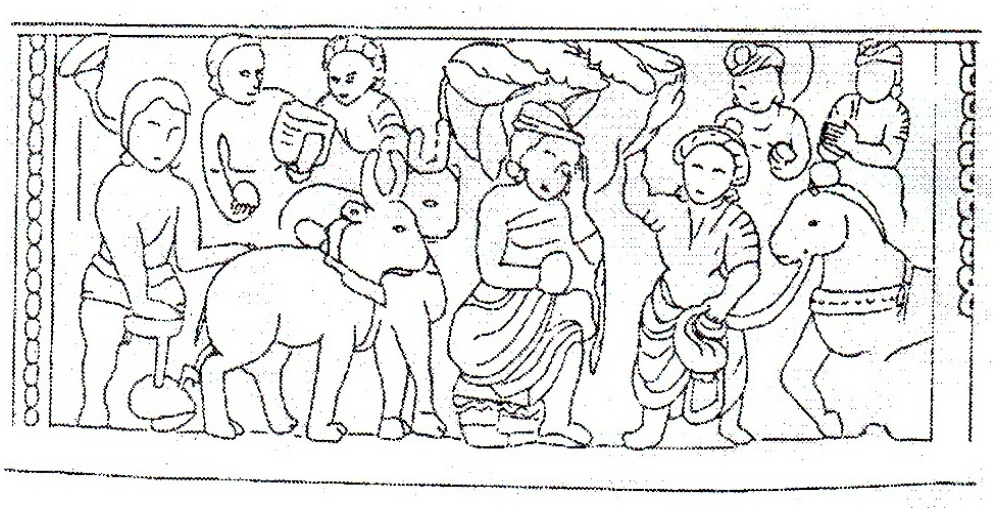


**Figure 03.1. Line Drawing of a Gandharan Relief Depicting Attitude of the Bodhisattva before First Meditation. Relief from National Museum Karachi, after Schlingloff 2000/2013 Vol. II: 69.**

According to Schlingloff (2000/2013 Vol. I: 355) the literary versions of the narrative can be found in:

Mahāvastu,ed. Vol. II. p. 130, 14- f: p. 45, 4 p. 47, 19. transl. Vol. II. p. 42-45.

Mūlasarvāstivādavinaya,Skt. ed. Gnoli, 1, p. 75, 16 - p. 77, 25. p. 107, 26 f.

Buddhacarita,V, v. 3-23; ed. p. 45-48; transl. p. 61-66.

Lalitavistara, ch. 11; ed. p. 128, 15- p. 132. 17; trad. p. 118-21.

Divyāvadāna, ed. p. 391, 14-20.

Nidānakathā, ed. p. 57, 20- p. 58, 12. transl. p. 74 f.

Majjhimanikāya, Nr. 36; ed. Vol. I. p. 246, 31-35. transl. Vol. I. p. 3.

The lower panel depicts "great renunciation" (**Fig. 04**). The Bodhisattva is coming out of the palace astride a horse, holding the reins. He is depicted in the usual princely manner. A Yakṣa emerges from the ground and lifts up the horse's hooves. Among the figures accompanying the Bodhisattva, the one in front of the horse could be Vaiśravaṇa, guiding the rider. The figure behind the Bodhisattva could be Vajrapāṇi. The other figures in the background of the scene are city goddesses, which Zwalf misinterpreted as being earth-goddess (1996: 166-168). The relief's lower right corner is broken.

[17] For more information about the depiction of Vaiśravana and previous identifications of the figure, see Tanabe 1993/94: 157-185 & 2000: 1087-1100.



**Figure 04. The Lower Panel of the Fragment**

The relief belongs to one of the two main categories of the Gandharan reliefs, which depict the same event. Like many other Gandharan reliefs, it shows the Bodhisattva and the horse in profile (**Fig. 04.1**).[18] The second category of the reliefs represents the scene in a frontal view, common in false gables.[19] Still there is another category of the reliefs, which illustrate the event in a three quarter view.[20] These reliefs incorporate more figures along with the depiction of city gates.

[18] E.g. Ackermann 1975: Pls. XIV, XVb & XXIIb. Faccenna 1964 Vol. II. 2: Pl. CXXVIIb. Ingholt 1957: Pls. 45 & 47. Kurita 2003: Figs. 138, 148 &155. Zwalf 1996: Pl. 178.
[19] For more examples, see Ackermann 1975: Pl. XXXVIIIa. Faccenna 1964 Vol. II. 3: Pl. CDXVII. Ingholt 1957: Pl. 40. Jongeward 2003: Cat. No. 20. Kurita 2003: Pl. 2.I, 2.II. Figs. 145, 149 &151. Nehru 1989: Pls. 5,18 &19. Zwalf 1996 Vol. II: Pl. 176.
[20] Faccenna 1964 Vol. II. 3: Pls. CDX, CDXI, CDXII, CDXIII. Faccenna 1962 Vol. II, 2: Pl. CLI. Ingholt 1957: Pl. 48. Jongeward 2003: Cat. No. 18. Kurita 2003: Figs.144, 145, 150, 152-56. Zwalf 1996: Pl. 177.



**Figure 04.1. The Great Renunciation on a Gandharan Relief from Indian Museum Calcutta. Acc. No. 5045. Photo from *Gandhara* 2008: 183.**

The literary references of the episode can be found in *Mahāvastu, II: 159-64; Lalitavistara, XV. L. 202-25,* transl. *176-96, Sa?ghabhedavastu,* I: 88-9*; Buddhacarita,* V: 68-87 and *Jātaka,* ed. I: 62-3, transl. 172-5 (Cf. Zwalf 1996: 166-67).

**The Left Section**

The upper panel of the fragment's left section (**Fig. 05**) depicts seated Bodhisattva holding an object. He looks at a half kneeling figure in front of him. In the background, two half-length figures are visible. There are two more seated figures in frontal view: one near the Bodhisattva's seat, the other in the lower left corner of the relief. This composition depicts the episode in which the Bodhisattva learns the art of writing.



**Figure 05. The Upper Panel of the Fragment**

There are several depictions of this event in Gandhara and the composition is identical to our relief.[21] In these reliefs, occasionally the representation is followed by next event, i.e., Siddhārtha learning the art of fighting. In some cases, the scenes are depicted in two separate reliefs (**Fig. 05.1**).

In Gandharan tradition, the Bodhisattva is going to his teacher's house. In Ajanta, however, this activity takes place inside the palace (Schlingloff 2000/2013 Vol. 1: 346).



[21] E.g. Ingholt 1957: Pls. 22, 24 & 25. Kurita 2003: Figs. 85-87.

**Figure 05.1. The Bodhisattva Learning Art of Writing. Photo from Gandharan Archives Kurita.http://gandharanarchives.blogspot.com/search/label/112.Siddhartha%20in%20School**

According to Schlingloff (2000/2013 Vol I: 344), the literary narratives of the episode can be found in:

Mūlasarvāstivādavinaya, Skt. ed. Gnoli, 1, p. 58, 1- 16.
Buddhacarita, II. V. 24; ed. p. 15; transl. p. 24.
Lalitavistara, ch- 10; ed. p. 125, 15- p. 128, 14; trad. p. 113-17.
Divyāvadāna, ed. p. 391, 8.

The middle panel of the fragment's left section depicts "Bodhisattva grasping a bow and aiming at a target positioned in front of him" (**Fig. 06**). His head is raised and his back is visible to the viewer. He shifts his weight to the left leg while the right knee is slightly bent. It is difficlut to identify the arrow apart from a sharp edge near his left hand. Two figures are standing behind the Bodhisattva. A third figure, which is most probably holding a quiver, is standing in the lower left corner of the panel. The depiction shows the event "Bodhisattva learning archery".



**Figure 06. Upper Panel of the Fragment**

Numerous Gandharan reliefs illustrate this episode with variations (**Fig. 06.1**). There are reliefs where Siddhārtha is aiming at a target fixed on a tree. He is also depicted aiming at a drum or a tree. In some cases his arm is supported by a person who is standing behind him and sometimes Siddhārtha is practicing archery while riding a horse. There are some Gandharan reliefs where no target is depicted. Equally there are examples depicting two archers aiming at a target. Such imagery is identified as an archery contest.

Gandharan artists followed various versions of the story while depicting the event. The story of the Bodhisattva using a bow is mentioned in several Buddhist texts which according to Schlingloff (2000/2013 Vol. I: 347) includes:

[22] Kurita 2003: Figs. 98 & 102. Zwalf 1996: Pls. 164-167.
[23] Kurita 2003: Figs. 96, 98, 99, 100 & 102.
[24] See Faccenna 1964 Vol. II. 3: Pls. DCLIV. Kurita 2003: Figs. 90&94.
[25] See Zwalf 1996: Pl. 167.
[26] See Ackermann 1975: Pl. XIIb. Zwalf 1996: Pl. 168.
[27] See Ackermann 1975: Pl. XIIa.
[28] Zwalf 1996: Pls. 164-165.

Mūlasarvāstivādavinaya, Skt. ed. Gnoli, 1, p. 58, 18.
Divyāvadāna, ed. p. 391, 8-10.



**Figure 06.1. Bodhisattva Learning Archery on a Gandharan Relief from Peshawar Museum. Acc. No. PM_02741, after Ali & Qazi 2008: 79.**

The lower panel illustrates standing Bodhisattva, turbaned and jewelled, turned to his right and holding an unidentified object in both hands (**Fig. 07**). He seems to be talking to a figure standing in front of him. In the same direction, a seated figure is also depicted in the relief's lower right corner.



**Figure 07. Lower Panel of the Fragment**

The composition permits us to believe that the Bodhisattva is taking off his bracelet and handing it over to the figure seated in lower right corner of the panel. Behind the Bodhisattva, Kaṇthaka is depicted with head down to lick the Bodhisattva's right foot. The background shows one half-length figure at the top and one standing figure behind the horse. The figure behind Kaṇthaka appears to be *Vajrapāṇi.* It is difficult to locate the *vajra* in his hand. The figure facing the Bodhisattva is most probably Chandaka.

The scene portrays "farewell of Chandaka and Kaṇthaka". More precisely, it represents the moment when the Bodhisattva dismounts the horse. In general Gandharan reliefs, the haloed Bodhisattva is depicted while handing over his jewellery to Chandaka (**Fig. 07.1**). Kanthaka is kneeling down on front legs (sometimes without kneeling) to lick the Bodhisattva's foot.

[29] For more examples, see Ingholt 1975: Pl. 49. Kurita 2003: Figs.157-163 & 168. Zwalf 1996: Pl.179.

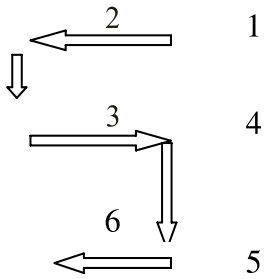
According to Zwalf the literary references include *Mahāvastu,* Vol. II: 165-6& 189-95, *Buddhacarita*, Vol. VI: 53-5, *Saṅghabhedavastu,* I: 89-92 and *Lalitavistara,* XV. L. 25 (1996: 168).



**Figure 07.1. Farewell of Chandaka and Ka¬thaka. Relief from Lahore Museum. Acc. No. G-1032 (old: 2340). Photo from *Gandhara* 2008: 223.**

**General Remarks about the Iconography of the Object**

The iconography shows different descriptive method. The most important scenes seem to have been placed in centre of the composition, such as "First Meditation". Such scenes appear to have direct impact either on princely or monastic life of Siddhartha. The chronological sequence of these scenes gives the following plan:




The arrangement of scenes is following a premeditated and is not arranged in the linear chronological way as we find in Gandharan reliefs but corresponds rather with composition. This aspect may have been inspired from Andhara, where the most

important scene is usually depicted in the centre.[30] The decorative treatment which was applied on the frames of all the tiny panels in the form of brick lining appears to be a modified version of the design applied in many sculptures and reliefs from the Swat region.[31]

**Possible Use of the Object**

Such fragments, possibly of "Miniature Stūpa-Shaped Objects" were mistakenly referred to as "Triptychs" by some scholars (Lerner 1984: 40-41. Pal 2004: 13, Sen-Gupta 2002: 53) while others discuss them as "three-sided carved reliefs" (Allchin 1972, Behrendt 2007, 2012). In fact, they represent quarter sections of a circular object. Each fragment illustrates six episodes of the Buddha's life, three on each section. Collectively, twenty four events of the Buddha's life were depicted in a complete miniature stūpa-shaped object.

These fragments, one from The Metropolitan Museum of Art, New York, represent the category of those miniature stūpas which most probably, were used inside "Building-Shaped Shrines". Unfortunately, most of the shrines have not been preserved.

These two fragments, possibly of "Miniature Stūpa-Shaped Objects" help to understand that these miniature stūpas consisted of four-quarter sections, carved on both sides illustrating the Buddha's entire life story.

**Conclusion**

Iconographical study of such miniature portable objects in Gandhara provides us with another medium of Buddhist narrative art. From the above mentioned analysis we can suggest that main idea or core of the stories follow the traditional Gandharan patron but execution is different. Such type of objects which usually fall in the category of miniature portable shrines seem to be common, if not popular. Gandharan people did use such shrines in order to fulfill their religious needs and desires either at home or during journey. Significance of these tiny fragments is quite clear when we see and study them

[30] For comparison between Gandhara and Andhara see Zin 2013.
[31] For details, see footnote 3.
[32] Present author has studied the fragment in a separate research paper. See Hameed 2016.

in context of disseminating artistic tradition beyond Gandhara as there are example where portable shrines have been discovered alongside the ancient silk road. So the study of such objects should be made regardless of their size because the iconographical treatment gives us gilmpses of varients used by Gandharan artists. This ultimately may open up a new discussion that were their more than one modes or varients of Buddhist art in Gandhara or principle were slightly different, for instance, while making large size narrative releifs and on the other hand while working on miniature reliefs, particilarly in the form of portable shrines.

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# A Unique Sculpture in the Sub-Regional Office Peshawar Collection of the Directorate of Archaeology and Museums, Khyber Pakhtunkhwa

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## Abstract

*In the so-called collection of the Sub-Regional Office, Peshawar currently housed in the reserve collection of Peshawar Museum is a unique panel in schist showing the Buddha on a stepped pulpit closely resembling the minber used by Muslim clerics for delivering sermons on Fridays and other important occasions. The kinds of scenes showing Buddha on stepped ladders descending from Trayastrimsa Heaven have been reported from different places, but in all such cases the Buddha is shown flanked by Indra and Brahma on separate ladders in association with other scenes. However, the kind of scene has never been reported from Gandhara, where the Buddha is shown on the stepped ladder but alone and in totally different posture. The authors studies almost all such panels where the Buddha has been shown descending from heaven and found no comparison or relevance of this particular scene with any of them. We have also given solid reasons to show that this is probably the first panel of the kind and unique in a sense that no such scene has ever been reported from anywhere in the Buddhist world.*

**Key words:**

**Buddha, Pulpit, Gandhara, Tryastrimsa Heaven, Stone Sculptures**.

We came across a beautiful panel carved in grey schist in the so-called collection of Sub-Regional Office, Peshawar currently housed in the reserve collection of the Directorate of Archaeology and Museums, Khyber Pakhtunkhwa, Peshawar. It depicts the Lord Buddha sitting on a pulpit resembling a flight of stairs or a staircase (Plate-I). This unique piece of Gandhara art was noted by the principal author of the paper who identified it with the Buddha preaching or delivering sermon, while a predominant view held by other archaeologists privy to the discussions was that it depicts a scene showing the Buddha descending from the *Tushita* Heaven.

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Plate-I: Buddha sitting on the pulpit (Flight of Stairs) either preaching or delivering sermon or preaching his disciples

Before coming back to our sculpture for its proper identification and description, it seems more appropriate and relevant to give a brief account of the events showing Buddha's descent from *Tushita* Heaven. In the context of descending of the Buddha, we find reference to two heavens i.e. *Trayastrimsha* or *Trayastrimsa* and *Tushita* or *Tusita* (Watson: 1993), obviously more of a myth than a reality. According to Encyclopaedia Bratinicca, 'myth in Buddhism is used at various intellectual levels in order to give symbolic and sometimes quasi-historical expression to religious teachings. Accepted on its own terms, Buddhism is a supernatural religion in the sense that, without a Buddha to reveal them, the truths remain unknown. Only after human beings have

received the Buddha's revelation can they proceed apparently by their own efforts. This teaching was explicit in the early schools, in which the revelation was still thought of as historically related to *Shakyamuni*'s mission in the world. Gradually some Buddhists developed the idea of the Buddha's continuous revelation and gracious assistance, deriving from his glorified state of time-transcending enlightenment. Thus, the comparatively simple mythology of the great Buddha myth developed into the far more elaborate tradition of Mahayana. The acceptance of the mythology, whether early or fully developed, has been a crucial factor in the development of Buddhism. Without the rich mythology associated with the Buddha, the religion collapses, and nothing is left but a demythologized, supposedly historical figure in whom it makes little sense to "take refuge".'[33] The events of the Buddha's descent from *Trayastrimsha and Tushita* Heavens have been distinctly portrayed throughout the Buddhist world.

We may refer to one such panel from Gandhara in the British Museum (Plate-2), showing the Descent of the Buddha from the *Trāyastriṃśa* heaven at *Sāṃkāśya* (or *Sankashya* in Modern Uttarpardesh). The tradition that he came down on a central ladder flanked by *Indra* and *Brahmā*, each on his own ladder, and accompanied by deities, is, with variations, found in *Pāli* and sources of northern origin. Usually in the texts *Brahmā*'s ladder is of silver and *Indra*'s of jewels and they are on the right and left respectively (Zwalf: 1996). By closely examining the scene, it is not difficult to conclude that the panel portrays three distinct staircases, with the central one assuming a prominent position.

https://www.britannica.com/topic/Buddhism/Mythology#ref300591 (Accessed on 20.3.2017)



**Plate-2: A rectangular panel from Gandhara depicting the Buddha's descent from the *Trayastrimsa* Heaven (Museum No.1917.1009.12) - Courtesy British Museum**

Then we find another example from the Gandhara collection at the Ashmolean Museum – a relief depicting the Buddha's descent from the Heaven of the Thirty-three godsfront. This master piece has been attributed to the Kushan Period in the 3rd century AC (Plate-3)[34]. In this relief, three stairs are distinctly shown with the middle one reserved for the Lord Buddha visibly bigger than the remaining two reserved for *Brahma* and *Indra* on the right and left respectively.



**Plate-3: Relief from Gandhara in the Ashmolean Museum, depicting the Buddha's descent from the Heaven of the Thirty-three godsfront. The Buddha is shown standing on the top of the ladder flanked by Indra and Brahma.**

https://www.pinterest.pt/pin/491385009324392489/ (Accessed o 19.3.20170)

According to the Tibetan traditions, *Lhabab Düchen* - one of the four Buddhist festivals occurs on the 22nd day of the ninth lunar month according to Tibetan calendar. It is celebrated to observe Buddha's descent from The Heaven of Thirty-Three back to earth. Buddha had left for The Heaven of Thirty-Three (*Trayastrimsa*) at the age of 41, in order to give teachings to benefit the gods in that desire realm, and to repay the kindness of his mother by liberating her from *Samsara*. This event is considered to be one of the eight great deeds of the Buddha. On *Lhabab Duchen*, the effects of positive or negative actions are multiplied ten million times. It is part of Tibetan Buddhist tradition to engage in virtuous activities and prayer on this day.[35] We come across a number of paintings from Tibet, where the event is depicted in "*thanka*" (rolled painting) showing the descent of Buddha *Shakyamuni* from the thirty-third heaven, with a giant triple ladder leads the way from cosmic Mt. Meru down to earth (Plate-4).



Plate-4: Buddha shown to have descended through the middle ladder of the tripple-ladder

The descent from the *Trayastrimsa* Heaven from Butkara – I (Plate-5) is also on display in Swat Museum (Khan, M. Ashraf (1993): 92-93). This particular relief is depicting the descent of the Buddha not in human form but he is represented by his feet on the middle stair with three leafy

[35] http://www.tibettravel.org/tibetan-festivals/lhabab-duchen-festival-in-tibet.html - Accessed on 21.3.2016.

trees on each ladder, with figures of *Indra* and *Brahma* on right and left stairs respectively and the nun *Utpalavarna* shown kneeling near the foot prints.



**Plate-5 - Gandhara - Butkara, 1st c. CE, Swat Museum, Saidu Sharif**

In Peshawar Museum, there is an arch-shaped panel depicting the story of Buddha descending from *Trayastrimsa* heaven (Plate-6). The lowest of the three parts shows Buddha standing in the middle on the triple ladder, flanked by *Indra* and *Brahma* (Ali, et al. 2005). "The wide sweeping folds of the Buddha's robes seem to anticipate the distinctive style of the Buddha's robe treatment associated with the Gupta period in India, and point to a late 3rd-century date. All the Buddhas are shown in a swaying pose as the weight of his body is taken on his right leg with the left leg poised to step down (Ali, et al. 2005).



**Plate – 6: Descent of Buddha from *Trayastrimsa* Heaven shown in the last portion of the panel.**

One such panel depicting the descent of the Buddha in the company of *Indra* and *Brahma* is also available in the reserve collection of Victoria & Albert Museum (Plate-7). In this particular panel, the Buddha's descent was achieved with three celestial stairways, in three stages flanked by *Indra* and *Brahma* (Behrendt, Kurt A. 2007).



**Plate-7 - Descent of Buddha from *Trayastrimsa* Heaven in Victoria Albert Museum from Gandhara (2nd/3rd Century)**

Coming to our figure (Plate-1) again for description, this rectangular panel is partly broken from the left side and showing the Buddha sitting on a pulpit closely resembling the *minbar* being used by Muslim clerics for delivering sermons on Fridays and other important occasions. Buddha has been shown in sitting posture in many scenes from Gandhara. Ingold has described the kind of posture 'in the European manner' (Ingold: 1957: p.114 plate-226 and Kurita 2003 - Plate 65). The plain stepped pulpit with no decorative elements consists of nine steps of flights with the Buddha seated on the middle step i.e. the fifth from either side. He is seen occupying the entire pulpit from top to bottom. The head is missing. The Buddha is shown wearing two distinct costumes i.e. the upper and the lower garments in wavy folds. The folds of the drapery are rendered by means of ridges, running in parallel curves. He is visibly wearing a long garment his bare feet are clearly visible. The right hand is broken; however, the arm appears to have been raised slightly upward, while the left hand also partially missing but seems to have been placed on his left thigh. It can reasonably be inferred that the Buddha is shown in *abhyana mudra*, dressed in Gandharan style, with both shoulders covered by drapery. The upper garment is draped gracefully across chest from both shoulders and thrown back as visible from the folds

close to the neck. This garment in wavy folds not only covers the upper body but also hangs down the left knee. According to K. Krishna Murthy, "the dress of Buddha in the Gandharan sculptures constitutes a *Samghati* and *uttarasanga*. The *uttariya*, in most cases, covered both the shoulders" (Murthy, 1977: 27). In the instant case this description is very true. The uttariya here is passing over the shoulders of the Buddha, rolling round the right and left arms (Plate-1). In most cases gods are showing wearing a long *dhoti* (*adhavastra*) which extends up to ankles in graceful folds (Murthy; 1977: 19). In the instant case also the dhoti would apparently seems to extend up to ankles, had the Buddha not portrayed in sitting position. The lower garment also contains such folds. The kind of scene has not been noticed earlier and unique in a sense that Buddha has never been shown sitting on the kind of stepped pulpit. We may reasonably suggest that the Buddha is delivering sermon or addressing his disciple.

Further, we have strong reasons to suggest that the scene is not the one showing the Buddha descending from heaven. The bases for our belief include the following:-

(a) The panel is not broken from the right side, while it is partially damaged on the left side, suggesting that it was not a triple ladder, which is always there in the case of descent of the Buddha from *Trayastrimsa* Heaven;

(b) The Buddha is mostly shown standing on the top of the staircase or in some cases in the middle of the stair in the scenes showing him descending from the Heaven, but not on the last stair as in the case of this particular scene;

(c) In the descending scenes the Buddha is shown flanked by *Indra* and *Brahma* on their respective stairs on the right and left, while both are missing in this particular scene;

(d) The Buddha is always shown in standing or descending position on the stair in scenes showing his descent from heaven, but in this particular scene he is depicted as sitting in the middle of the nine-stepped pulpit extending his feet down to the last step;

(e) The Buddha's descent is witnessed by celestial and human worshippers, arranged over six rows on either side of the staircase, which are missing here;

(f) The usual figure at the bottom - the figure of a donor seen in the descent scenes is missing here.

The word Pulpit is derived from Latin word *pulpitum* (platform or staging). It is generally a raised above the surrounding ground constructed with the dual purpose of audibility and visibility for preachers of the divine religions. It is accessed by steps with sides coming to about waist height. "The public proclamation of the truths of religion from a raised chair or platform, or the reading of God's revelation from a special place in public worship, is common to Jews, Christian and Moslems (Zwemer: 1933). We have no distinct evidence of the usage of pulpit for propagation of any faith in the distant past, but sources not substantiated with authentic evidences do support the idea of the usage of prominent and raised platform for addressing people or delivering sermons were probably in vogue since remote antiquity (Kleiner, Fred S. (2013). According to Coomaraswamy, there is hardly any conceptual element in Buddhist imagery that cannot be traced down from earlier sources (Bhattacharyya; 1978: 9). By the 2nd Century CE, pulpit in both Greek and Roman art had found place (Kleiner, Fred S. (2013). In the opinion of Buchthal, "the main achievement of the Gandhara School, the creation of a cycle of religious sculpture on Mediterranean lines, implies a very different approach to classical imagery, and is connected with a different group of Roman monuments (Buchthal, H; 1945: 7-8). As such the introduction of the kind of element in Gandhara art cannot be at all excluded.

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# Mucilinda Buddha in Gandhara

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Snakes or serpents are included amongst the most popular, widespread and oldest mythological symbols in all ancient cultures of the world. The word serpent originated from Latin word '*serpens*', used for crawling animals or snakes. Snakes have been associated with some of the oldest rituals known to humankind (Robbins, Lawrence H. 2007) and represent dual expression of good and evil (Malkowski, Edward F. 2007 & Skinner, C. Andrew 2001). Nāga is the Sanskrit and Pali word for a deity or class of entity or being taking the form of a very great snake, specifically the king cobra, found in the Indian religions of Hinduism, Budhism and Jainism *(Elgood 2000: p.234)*. There are several words for "snake" in general, and one of the very commonly used ones is *sarpá* . Sometimes the word *nāgá* is also used generically to mean "snake" (Apte 1997: p.423). Nagas are worshiped in different parts of India. Vishnu was originally portrayed in the form sheltered by a Naga. The serpent is a common feature in Ganesha iconography and appears in many forms around the neck used as a sacred thread or wrapped around the stomach as a belt, held in hand, coiled at the ankles, or as a throne (Krishan 1999: pp.51-52 & Martin, Dubost 1997: p.202). Shiva is often shown garlanded with a snake (Flood, Gavin 1996: p.151).

Mucalinda (Gombrich, Richard F. 2006; p.72), Muccalinda (Ireland, John D. 1997 & Bhikkhu, Thanissaro 2012), Muchalinda[36] or Mucilinda (Gaston-Aubert, Jean-Pierre 2010: pp.116-150) is the name of a naga (a snake like being), who protected the Buddha from the elements after his enlightenment. According to Muccalinda Sutta (Ireland, John D. 1997 & Bhikkhu, Thanissaro 2012 & Gaston-Aubert, Jean-Pierre 2010: pp.116-150), soon after attaining enlightenment, the Lord while sitting cross-legged for seven days experiencing the bliss of liberation at Uruvela beside the river Nerañjara at the foot of the Mucalinda Tree, a great rainstorm occurred and there were rain clouds, cold winds, and unsettled weather for seven days. "Then Mucalinda the naga-

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[36] http://worldebookfair.com/articles/eng/Mucalinda

king left his dwelling place and having encircled the Lord's body seven times with his coils, he stood with his great hood spread over the Lord's head (thinking) to protect the Lord from cold and heat, from gadflies, mosquitoes, wind, sun, and the touch of creeping things. At the end of those seven days the Lord emerged from that concentration. Then Mucalinda the naga-king, seeing that the sky had cleared and the rain clouds had gone, removed his coils from the Lord's body. Changing his own appearance and assuming the appearance of a youth, he stood in front of the Lord with his hands folded together venerating him" .

A number of scholars and researchers have expressed their view on the subject of Naga-Buddha or *Mucilinda* and related issues. Of them, Jean-Pierre Gaston-Aubert has contributed a very comprehensive paper titled "Nāga-Buddha Images of the Dvāravatī Period: A Possible Link between Dvāravatī and Angkor" (Gaston-Aubert, Jean-Pierre 2010: pp.116-150), though he erred while tracing the origin of Mucilinda Buddha in light of the Buddhist texts and traditions. The symbolic representation of the *Mucilinda* or the Nāga-Buddha usually refers to the episode of the Buddha's life when the *nāga Mucalinda* arises to protect the Buddha Śākyamuni against heavy rainfall during the seventh week of his meditation following enlightenment. The interesting depiction of the episode in different regions of the Buddhist world and the use of different designations for the kind of iconography reveals confusion amongst the scholars about the real meaning of these images. According to the Buddhist texts the Buddha wound up in *naga* coils, however except in the sculptures from Gandhara, *Mucilinda* Buddha is depicted with the Buddha seated upon the coils of the *naga*, which form a pedestal or throne throughout the Buddhist world, suggesting a clear deviation from the text. The only other exception found in a modern sculpture of the *Mucilinda* Buddha showing the coils of the *naga* winding around the Buddha outside Gandhara can be seen in the Vihara of Wat Suthatthephawararam in Bangkok of the late 19$^{th}$ century (Gaston-Aubert, Jean-Pierre 2010: pp.116-150). It is thus very much clear that the true Buddhist traditions about the event mentioned in the texts had been followed in Gandhara region only. According to Jean-Pierre Gaston-Aubert 'the Nāga-Buddha appears for the first time late in the 2nd century CE in South Indian art on bas-reliefs decorating stūpa elements, but is seldom seen as sculpture in the round in India' (Gaston-Aubert, Jean-Pierre 2010: pp.116-150). This further suggests that the episode was first depicted in Gandhara in light of the textual

narrations in Pali canons. This important episode has never been portrayed in accordance with the Buddhist texts anywhere in the Buddhist world except in Gandhara.

'The iconographical nāga hood over a deity's head is common to Hindu, Jain and Buddhist art. In Jain art, Jina or Tīrthaṅkara images are represented by standing or sitting human figures protected by the poly-cephalous hood of a nāga, whose undulating coils appear on both sides. The mythical life story of the 23rd Tīrthaṅkara Parśvanātha tells of two nāga that arose during a hurricane-like rainstorm to protect Parśvanātha during his meditation that led to his enlightenment. This legend could be at the origin of the *Mucalinda* episode, as both the Buddhist and Jain traditions have borrowed from one another and many episodes are common to the Buddha's life and Tīrthaṅkara's lives'. (Dupont 1950 & 1959: pp.3961 & pp.261-264; Woodward 1997, 72. & Sen 2007, 6768).

We have to see at a glance the textual references to the *Mucilinda* Buddha on one hand and the actual depiction of this episode in the Buddhist religious art on the other. The Pāli sources speak of an enlarged or inflated *nāga* head, but Xuán Zàng relates that *Mucalinda* grew seven heads (Gaston-Aubert, Jean-Pierre 2010: pp.116-150). We find difference in details in the Pāli and Sanskrit textual sources relating to the legend of *Mucalinda*, but these sources generally agree on the basic theme. Both sources refer to a tree spirit, the nāgarāja named *Mucalinda* (or *Mucilinda*), who resided in the roots of the tree and who appeared during the seventh week of the meditation of the Buddha Śākyamuni following his enlightenment on the banks of the Narañjanā river at Uruvela, near Bodhgāya. The name *Mucalinda* or *Mucilinda* also designates the tree under which the Buddha was meditating, from the root word muc meaning liberation. (Gaston-Aubert, Jean-Pierre 2010: pp.116-150). The seven coils are also quoted from Tibetan sources by W. W. Rockhill (Woodville 1884 & 1972). “No image of the Nāga-Buddha has been found in India as a sculpture in the round for worship, except for one that was discovered at Bodhgayā in northeastern India. This figure depicts the Buddha in deep meditation with eyes half-closed and hands in *dhyānamudrā*, seated in full lotus position, as in the style of the Sarnāth School, on the three Coils of a *nāga*. The *nāga* hood has seven identical (although much abraded) heads arranged around a nimbus or prabhāmaṇḍala. The body of the *nāga* is visible as three undulating

coils on each side of the Buddha. This statue has been dated from the 6th to 7th century (post-Gupta or pre-Pāla period)" (Gaston-Aubert, Jean-Pierre 2010: pp.116-150).

**When we come to Gandhara, the sculptural manifestations of the episode are not so common as compared to other important events relating to the Buddha as represented in the Gandhara art. The first reported Buddha protected by Mucilinda from Gandhara depicted in a relief panel in grey schist dated to 2nd century CE is currently in the South & South East Asia Collection of Victoria Albert Museum, London (Figure-1). Ackermann identified t**his rectangular panel 'as depicting the story of the Naga King, Mucilinda, who protects the meditating Buddha after his Enlightenment for seven days against a raging tempest'. He further claimed that this was the first example of the depiction of this scene to have been discovered in Gandharan art. Quarter of the narrative scene in this panel is missing because of a diagonal break from the top left corner through to the middle of the lower edge. The panel also appears to have a vertical break resulting in the missing of the scene on the right side of the Buddha. The Buddha figure in the right portion of the panel in the existing condition is wrapped up to the shoulders in snake coils with only his head and neck visible under the seven hoods of the snake. On either side further snakes have risen up with their heads. A figure on the left side of the Buddha is seen turning to his right. This panel is 6.5 inches high and 10 inches wide.



*Figure 1: Buddha protected by Mucilinda from Gandhara depicted in a relief panel in grey schist dated to 2nd century CE in the South & South East Asia Collection of Victoria Albert Museum, London*

A similar panel in green schist from Gandhara showing the Buddha having been sheltered by the Mucilanda was also offered for sale at Bonhams Auction House, New York[37], but no further details are available. Kurita has mentioned another such panel (Figure-2) in some private collection in London (Kurita, Isao: 2003). This rectangular panel in grey schist (9 cm in height) obviously from Gandhara also portrays the event of Naga King, Mucilinda. The meditating Buddha is flanked by two devotees, wrapped by the naga coils almost in similar fashion as is shown in figure-1. The Buddha is visibly seated on at least two-stepped raised platform, under the Bodhi tree with the halo-like serpent hood above his head. Due to the unsatisfactory state of preservation of the panel, the hoods of the naga are not clearly visible to be counted. While in the present condition, only two hoods are visible to the naked eye one on right and left sides of the head of the Buddha, but most probably, there must have been seven hoods spread over the Buddha head as was witnessed in figure-1 but are not clearly visible in this damaged panel. However, no

[37] http://collections.vam.ac.uk/item/O65733/buddha-protected-by-mucilinda-relief-panel-unknown/

snakes are seen on either side of the Buddha as compared to the scene in figure-1. On the right side could also be seen the base of a pillar  It is important to note that in the texts also referred to in this article, no devotees have been mentioned with the Buddha at the time of this episode.



*Figure Figure-2: Mucilinda Buddha from Gandhara in a private collection in London (Kurita 2003)*

Then we come across another beautiful rectangular panel in good state of preservation, depicting the Mucilinda Buddha (2nd-4th century CE) wrapped in the coils of the Serpent King, Mucilinda, under the Bodhi tree in the form of a canopy. The seven coils are exactly in the same manner as are seen in figures-1 and 2. The Buddha is flanked by two devotees one each on his right and left sides. The panel measures 60 x 46cm and weighs 70 kg. This very rare panel from Gandhara is said to have been acquired from an

important London collection in 1970s and offered for sale at the Timeline Auctions, Essex, UK[38]. Two hoods of the serpent could be seen on the right and left sides of the head of the Buddha. One the extreme right side could also be seen Corinthian pillar.



*Figure 3:Mucilinda Buddha from Gandhara offered for sale at the Timeline Auctions, Essex, UK*

Before coming to the panel depicting the Mucilinda Buddha in the so-called Sub-Regional Office Peshawar Collection presently housed in the Godown of Peshawar Museum (Figure-4), we would like to look at legends concerning this event and differently described by scholars. According to Thomas E. Donaldson, '*Dhyana-mudra* (or *Samadhi*) is also the hand pose adopted for the images of *Mucilinda* Buddha (Donaldson 2001: p.109). Buddhist legend reveals that 'while Buddha was in the state of Samadhi[39] for seven days under a tree near the pond, after achieving Enlightenment, he experienced no bodily wants. The blind serpent *Mucalinda* within the pool had his vision restored by the light that emanated from the Buddha's body. The serpent thus became the disciple of Buddha. When Mara unchained the fury of elements to disturb Buddha's

http://www.timelineauctions.com/lot/buddha-and-mucilinda-frieze/61670/

[39] *Samadhi* it the highest state of meditation, at which complete unity is reached.

*Samadhi*, *Mucilinda* seven times wounded his coils around him and spread his hood over his head to protect him' (Donaldson 2001: pp.109-110). However, in the Gandharan sculptures depicting Buddha protected by *Mucilinda* is so heavily wrapped by the serpent that his hands are completely invisible and no idea about the gestures of his hands could be had from all these figures (Figures 1 to 4). However, we can reasonably assume that the Buddha must have his hands rested on his lap i.e. *Dhyana-mudra*. Our assumption is based on the fact that *Dhyana-mudra* is the *mudra* of meditation, of concentration on the Good law, and of the attainment of spiritual perfection. According to tradition, this *mudra* derives from the one assumed by the Buddha when meditating under the *pipal* tree before his Enlightenment. This gesture was also adopted since time immemorial, by yogis during their meditation and concentration exercises. It indicates the perfect balance of thought, rest of the senses, and tranquility. Further, it would be the most convenient position, while wrapped by the snake coils.

The grey schist panel measuring _____ x _____ cm is unique in many respects. Here the Buddha figure is clearly at the centre of the episode and so placed in the middle of the panel. He is shown sitting cross-legged on a slightly raised platform and his knees are clearly visible under his garments. The seven coils surrounding the Buddha are clearly visible. Though partially broken the hoods above the Buddha head could be conveniently counted as seven. Here the Buddha is shown flanked by four devotees or attendants two on each side. From the upper part, it can further be judged that this was a framed panel decorated with leaves of the *Bodhi* tree. The face is disfigured, but his long ear lobes are well preserved. The two figures one each on extreme right and left sides are much damaged, but the figures close to the Buddha are in better state of preservation. The figures close to the Buddha are draped in typical Gandharan costumes and are both facing the Buddha. They are bare footed.



*Figure-4:* Mucilinda *Buddha in the SRO Peshawar Collection at Peshawar Museum*

From the above discussions, the following clear points have emerged in light of the Buddhist texts and research of the scholars:-

(a) The naga-king left his dwelling place and having encircled the Lord's body seven times with his coils. The seven coils are also quoted from Tibetan sources by W. W. Rockhill (Woodville 1884 & 1972);

(b) he stood with his great hood spread over the Lord's head (thinking) to protect the Lord;

(c) Then Mucalinda the naga-king, seeing that the sky had cleared and the rain clouds had gone, removed his coils from the Lord's body. Changing his own appearance and assuming the appearance of a youth, he stood in front of the Lord with his hands folded together venerating him.

(d) "No image of the Nāga-Buddha has been found in India as a sculpture in the round for worship, except for one that was discovered at Bodhgayā in northeastern India. This figure depicts the Buddha in deep meditation with eyes half-closed and hands in

*dhyānamudrā*, seated in full lotus position, as in the style of the Sarnāth School, on the three coils of a *nāga*. The *nāga* hood has seven identical (although much abraded) heads arranged around a nimbus or prabhāmaṇḍala. The body of the *nāga* is visible as three undulating coils on each side of the Buddha. This statue has been dated from the 6th to 7th century (post-Gupta or pre-Pāla period)" (Gaston-Aubert, Jean-Pierre 2010: pp.116-150).

(e) The first reported Buddha protected by Mucilinda from Gandhara (Figure-1) has been dated to 2nd century CE.

The above position strengthen our opinion that the episode of Mucilinda Buddha was first sculpted in Gandhara and spread from there to the other Buddhist regions of the time. No sculpture carved in stone or other material depicting the exact episode has been reported from any part of the Buddhist world before the 6th/7th century CE including the famous Buddhist centres of India, while the depiction of the episode in the other Buddhist countries including China, Japan, Korea, Thailand, Taiwan, Tibet, Cambodia, Myanmar, Indonesia, etc. Gandhara is the only region where the episode was carved in local schist stone in the 2nd century CE i.e. almost four to five hundred years before it was reported from India in the post-Gupta period (Gaston-Aubert, Jean-Pierre 2010: pp.116-150). It is thus established beyond any shadow of doubt that the tradition of Mucilinda Buddha is a very late introduction in the entire Buddhist world, at least not before the 6th/7th century, except in Gandhara where this episode was sculpted in the 2nd century CE. Further, Gandhara sculptures depicting the event truly present the event in line with textual record of the important episode such as:-

(a) According to Buddhist texts, the naga wrapped the body of the Buddha and the episode carved in Gandhara exactly portray the same, while the portrayal of the event from other Buddhist countries including India are completely contrary to the texts. The Buddha is shown seated on the coiled snake in those sculptures or paintings, which clearly suggest that only Gandhara sculptors followed the story reported in the Buddhist texts;

(a) The naga is said to have surrounded the body of the Buddha seven times, which is only true for the Gandhara sculptures and the sculptures and paintings from other parts of the Buddhist world never followed the Buddhist texts while portraying this event;

(b) The texts refer to the hood(s) of the *naga* protecting the Buddha from hazards including rain and wind and the hoods are clearly visible in the Gandharan sculptures.

The Gandharan Mucilinda Buddha panel in the Victoria and Albert Museum has been dated to the 2nd century. Till date all the panels from Gandhara depicting the episode have not been retrieved as a result of any scientific excavation that might have facilitated the researchers to place them in a definite time-frame. Since these sculptures belong to the Kushan period and without any proper context, the date could be 1st century as well, when all important events started appearing in stone when Mahayana Buddhism became very popular.

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# The Buddha Contemplating the Bodhi Tree: A Case Study of Buddhist Diptych Type Portable Shrines from Gandhara

**Muhammad Hameed***

## Abstract

*Some contents of the Buddhist portable shrines represent the Buddha sitting in crossed-leg posture, engaged in looking at the bodhi-tree to his left with one hand raised to chest level and the other holding part of his robe. The scene is repeatedly illustrated in various fragments of these shrines. Its identification has been problematic and enigmatic. The iconographical details as well as context of the scene have not been properly understood and explained. So its figural and chronological significance in narrative reliefs still needs to be determined. This research paper intends to make comprehensive analysis of such depictions in the diptych type portable shrines. Attempt has also been made to find its parallels in principal Gandhāran reliefs. Reviewing the relevant Buddhist text and its application in such imagery is also focal point of the methodology. The outcome of this effort will be helpful in explaining its context and also determining chronological sequence of this event in the life of Buddha Śakyamu ̄i. This will also facilitate in understanding the reason why this scene was commonly represented in the shrines.*

## Keywords:

The Buddha. Diptychs. Portable Shrines. Contemplate. Bodhi Tree.

### Introduction

Generally Buddhist diptych type portable shrines illustrate scenes from the life of Buddha Śakyamuṇi. Most commonly illustrated scenes include, namely birth of the Buddha, enlightenment, first sermon, and death. However, occasionally some unusual compositions can also be noted. Most frequent in this regard is depiction of the Buddha sitting cross-legged and looking at bodhi-tree or a branch of tree to his left. In one exception there is change in direction (Cf. Fig. 4) and the Buddha is depicted looking at the Bodhi tree to his left. Most often a figure can be observed, appearing from the tree. Keeping in view the miniature size of the figures, the tree is also symbolized by three petals.

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The Buddha is flanked by figures and their number varies from object to object. These figures seem to be gods and royal figures rather than monks. They are properly clothed and jewelled (Fig. 1a). The Buddha is paying no attention to the audience. It is interesting to note that we have very few examples of such representation in the general Gandhāran reliefs. This makes difficult for experts to judge whether it represents pre-enlightenment or post-enlightenment phase of Buddha's life. Equally important is to know why this composition was so popular in the portable shrines. This can be observed with some very important events namely renunciation, first sermon and the Buddha crossing *Nairanjana* river.



**Figure 1. Wing of a Portable Shrine**



**Figure 1a. Details of Scene**

**Depiction in Shrines**

There are at least five fragments of portable shrines where we can observe such depiction of the Buddha. These shrines belong either to the collections of different museums all around the world or to private collection. The first fragment of the diptych type portable shrine is a stone diptych from the collection of Metropolitan Museum of Art, New York (Fig. 1). The second is in the State Hermitage Museum (Fig. 2) and the third is from the Tokyo National Museum (Fig, 3). The remaining two wings of the diptychs belong to a private collection in Japan (Fig. 4 and 5). Except the fragment from Tokyo National Museum and from The Hermitage pieces, others represent plain exterior. All these are stone diptychs and display unique character in carving and

presentation. In each case the scene in represented in different context and with different episodes from life of the Buddha.



**Figure 2. Fragment of Stone Diptych from the State Hermitage Museum**

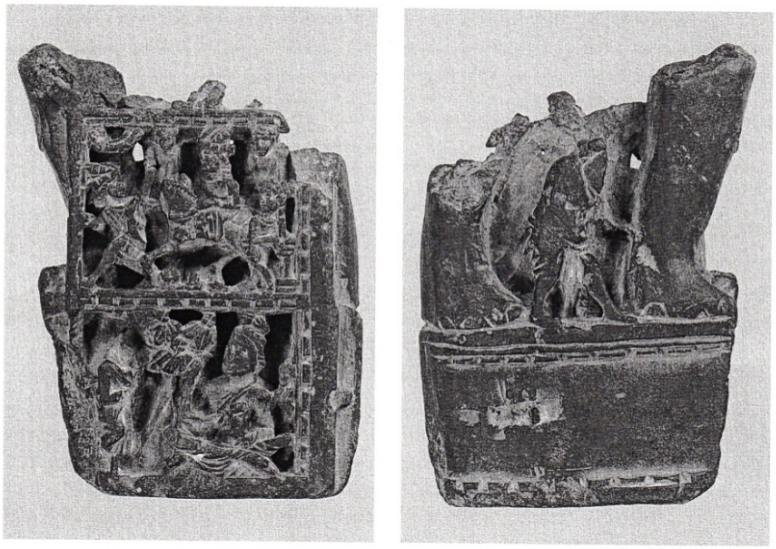


**Figure 3. Fragment of Stone Diptych from the Tokyo National Museum**



**Figure 4. Stone Diptych from Private Collection. Photo Courtesy Katsumi Tanabe**



**Figure 5. Stone Diptych from Private Collection. Photo Courtesy Katsumi Tanabe**

**Previous interpretations of the theme**

In 1984 Pal catalogued couple of stone diptychs from the Professor Samuel Eilenberg Collection, Metropolitan Museum of Art, New York (Pal, 1984).One of the fragments consists of a relief depicting two scenes from life of the Buddha (Fig. 1). Vertically arranged, the upper half depicts the first sermon while the lower depicts seated Buddha, looking at the bodhi tree, surrounded by a large group of attendants (Cf. Fig. 1a). According to Pal 1984, "There appears to be a cluster of flowers near this Buddha's left shoulder, tempting us to identify the scene as a reference to the legend of *Dipankara* Buddha and the Brahmin *Megha*" (p. 110). Secondly, Lerner & Kossak included some more fragments of stone diptychs from in their catalogue (Lerner & Kossak,1991). This catalogue also lists the same relief and it was not easy to provid description of this exceptional scene. Accoring to Lerner and Kossak (1991) the composition may represents either Amrapali´s gift or Siddhartha contemplating saluting the *boddhi* tree before enlightemnemt. Another possiblity is that it may reprenets Shravasti miracle (p. 111).

Yoshihide compiled all the available shrines and wrote an exclusive articl (Yoshihide, 2000). In his work he added fragment of stone diyptch from Tokyo National Museum. The fragmnet also illustrates the same scene (Fig, 3). Sen-Gupta also referred to the diptych from Samuel Eilenberg Collection at The Metropolitan Museum of Art in New York (Sen-Gupta, 2002). His study focussed on the classification and chronology of the shrines. Acording to Sen-Gupta (2002), " The lower panle has not been identified" (p. 47). Behrendt catalogued large serious of obejcts in his book (Behrendt, 2007). Part of this pulblication also deals with portable shrines. Referring to the fragments, already expalined by art hisorians, his version of the narrative was much more like that of lerner and Kussak (Behrendt, 2007, p. 80). He further added," The scene was possibily intended as a non narrative, iconic representation of the Buddha, perhaps containing some speciaö meaning for the pattern", (Behrendt, 2007, p. 81).

The only reference about the stone diptych from The State Hermitage Museum we find in the exhibition catalogue (Deshpande, 2008) (Fig, 2). The catalogue descibes the scenes adjacent to *Parininivana* as, "Figure of Buddha in sitting form with head cut" (Deshpande, 2008, p. 92.). Yoshihide has recently published an article explaining three fargments from a private collection

in Japan (Yoshihide, 2013) . Two of the shrines show similar scene but arranged in different context (Cf. Figs. 4 & 5). In this article Yoshihide again made compataive iconograhical analysis with examples from Gandhāra art. Regarding the intrepretation of the scene he only presented the opinion of Tanabe who identified the secen as Śakyamuṇi has just set seat for his enlightenment.

**Parallels in Gandhāran Reliefs**

Talking about parallel examples with similar iconographical details, very few examples have so far been documented. These relatively close example also depict the Buddha in same gesture. Ackermann published fragemnt of a relief lower half of which depicts the Buddha contemplating bodhi tree (fig.6). He identified the secen as "Veneration of the Bodhi Tree" (Ackermann, 1975, p, 160 & Plate LXXXa). Later on Quagliotti also explained the relief by making cross comparison with some other exampls (Quagliotti, 1991/92). According to her opinion " the Buddha, seated in this particular position next to the tree with the devatā, is thus depicted in an prior to the First Sermon (Quagliotti, 1991/92, p, 87). Some more exapmles of such imagery were documentd by Osmund Bopearachchi (Bopearachchi, 2008) and later on by Tanabe (Tanabe, 2009-2010). These reliefs were unearthed from Begram, Kapisa, Aghanistan (Cf. Figs. 6 and 7).

In his recent research article Tanabe made iconographical analysis of the Buddha's behaviour after the perfect-enlightenment (Tanabe, 2013). The principal focus of the work was to interpret a limestone relief, unearthed from Northern Afghanistan (Fig. 8) in connection with the relevant sutra from Buddhist text. This unique relief, in private collection, depicts bodhi tree flanked by two Buddhas sharing same throne, one sitting in crossed-leg position and the other in standing. Both the Buddhas are looking at the bodhi tree in pensive gesture.

**Comparison between Shrines and Gandhāran Reliefs**

Considering the above mentioned reliefs and the fragments from portable shrines, we can make comparative analysis of the iconographical details. There are certain similarities which can be observed namely; gesture of the Buddha looking at the bodhi tree, *vṛkṣadevatās* emerging from

the tree and decorative scheme applied on the borders (Cf. Figs. 1a & 4 with 6, 7 & 8). Furthermore, rest of the iconographical treatment shows significant change. In thee shrines the Buddha is most often surrounded by group of attendants, however, in the large reliefs the Buddha occupies centre of the composition while a half-length figure emerging to his right (Figs. 6 & 7). Secondly in portable shrines this behaviour of the Buddha is always depicted in connection with some other important episodes. However in the Kapisian reliefs less importance was given to the surroundings of the Buddha.

**Textual reference of the Theme**

The existing interpretations and observations of the theme require authentic textual references to support this hypothesis. In this regard we need to consult and look for the relevant version in the sacred text. The researchers have assumed that this event seems to illustrate the post-enlightenment activity of the Buddha, rather than pre-enlightenment. From the iconography there is possibility to relate this event either with the preparation of the seat of enlightenment where the Buddha approaches the bodhi tree or with the temptation by Māra and his daughters. However, after comparing it with rest of the reliefs this possibility also ends. In both the cases there are enough examples where the Buddha is depicted in connection with bodhi tree (Cf. Kurita, Nos. 218, 219, 220 & 621). Tanabe believes that such depiction reflects behaviour of the Buddha immediate after the enlightenment as mentioned in *Sanskrit Sūtras* and in their Chinese translations. In the following passage, most relevant Buddhist *Sutrās* have been added which explain behaviour of the Buddha right after enlightenment, at least for first three weeks.

According to *Mahāvastu* version, "After the Exalted One had awakened to the incomparable enlightenment, he sat for seven days on his bed of straw at the foot of the bodhi tree with his leg crossed. "Here," said he, "at the bodhi tree I won pre-eminence (273) after seven days, woke up to enlightenment, and reached the end of the jungle and wilderness of birth, old age and death. Here I broke Māra of the lusts. Here I broke Māra the deva. Here I realised the vow made by me an infinite incalculable *kapla* ago. Here at the foot of the bodhi tree" (Jones, 1956, pp, 261-262). About the next seven days *Mahāvastu* narrates, "Then at the end of the seven days the Exalted One rose up from his throne, surveyed the bodhi tree with a Nāga,s look and with steady gaze. In joy and ease he stood for the second fasting and gazing steadily at the *bodhi tree*" (Jones, 1956,

pp, 268-269). About third week *Mahāvastu* states, "Thus for seven days the Exalted One in joy and ease contemplated the *bodhi tree* with steady gaze. The third seven days he spent walking up and down a long way in joy and ease" (Jones, 1956, p, 271).

Tanabe has referred to *Lalitavistara* chapter 22 and 23, "The *Lalitavistara* chapter 22 and 23 also repeated the Buddha kept sitting at the root of the Bodhi-Tree" (Tanabe, 2012, p 193). Commenting on *Lalitavistara* chapter 24 he mentions, "This description differs from several passages of chapter 22 and 23 quoted above, in the respect that the Buddha regarded the Bodhi-Tree without blinking eyes" (Tanabe, 2012, p 193). He also added some details from the Chinese translation of the *Lalitavistara* namely the *Fang-kuang-ta-chung-yen-ching* volume x, 24 which states, "The Tathāgata attained perfect Enlightenment for the first time. Innumerable devas admired unanimously the merits of Tathāgata. At that time the Tathāgata gazed the king of the Bodhi-Tree with unblinking eyes. As he made the blissful meditation as his food, he never thought of other kind of food. He did not rise up from the seat and had been seated for the seven day" (Tanabe, 2012, p 193).

Tanabe (2012) also referred to the version of *P,u-yao-ching* Volume VII, chapter 21, "The contemplated the Bodhi-Tree with crossed-legs and concentrated mind. He never blinked during seven days and nights he continued to contemplate the Bodhi-Tree" (p, 195). In the next paragraphs Tanabe tells us about his opinion regarding *Lalitavistara* and its translations which narrate the behaviour of the Buddha after enlightenment. He mentions, "I think that the chapter 24 of the *Lalitavistara* is wrong, because it is the description of the third seven days as is shown below. Thus the descriptions of the Lalitavistara are not consistent but contradictory, and eventually cannot be taken at face value. Therefore, in the case of the first seven days we should take the Mahāvastu and other several sūtras mentioned above narrating the appropriate behaviour of the Buddha" (Tanabe, 2012, p 193).

About the first seven days of the enlightenment it is mentioned in *Catuṣpariṣatsūtra* chapter 1.2, "The Lord Buddha in now staying at *Urubilvā* on the bank of river *Nairanjana,* at the root of the tree of enlightenment. Having attained perfect enlightenment a short time ago, he entered the concentration `fire element`. For seven days he has been seated in the meditation-posture and

nobody gives him alms. Let it go to him and each (for himself) praise him with verses! "(Kloppenburg, 1973, p, 6). Regarding second week after enlightenment *Catuṣpariṣatsūtra* 6.1describes, "The Lord stayed at the root of the tree of enlightenment as long as it was agreeable and afterwards he went to the abode of the *nāga* king *Mucalinda.* Having arrived there he placed himself under another tree and sitting in the meditation-posture, straightening his body, he made himself conscious of this thought" (Kloppenborg, 1973, p, 12).

Expalining the behaviour of the Buddha on third week *Catuṣpariṣatsūtra* 7.1 & 2 mentions, "The Lord remained on the abode of *Mucalinda*, king of the *nāgas*, as long as it was agreeable to him. Then he went to the root of the tree of enlightenment (again). Arriving there he seated himself on a prepared mat of grass in the meditation-posture, his body straightened, and made himself conscious of this thoughts. For seven days he was seated in meditation and reflected on the twelve-fold origination by dependence (*pratītyasamutpāda*) both in the forward and in the reverse order" (Kloppenborg, 1973, p, 13).

**Concluding Remarks**

Considering the depiction of the Buddha in the fragments of diptych type portable shrines this can be concluded that Gandhāran artists were familiar with this episode. They had knowledge about the behaviour of the Buddha right after the enlightement. In the first attempt they tried to illustarte the Buddha in pensive mood looking towards the bodhi tree. In this context depiction of Vṛkṣadevatā is also equally important, often illustrated, appearing from the bodhi tree. This element can easily be observed in the reliefs published by Ackermann, Quagliotti, Bopearachchi and Tanabe. On the other hand the portable shrines seem to be more popular medium of illustrating this event. Apart from couple of examples where large number of audience is depicted, generally the Buddha dominates entire composition. However, sometimes couple of figures can also be observed either flanking the Buddha or standing on one side. The Buddha is frequently represented contemplating the bodhi tree with right hand raised to chest level. Vṛkṣadevatā can also be seen emerging from the tree. In all the cases the Buddha paying no attention to the surrounding figures who have come either to congratulate or to worship him.

Regarding the textual narration from *Sanskrit Sutrās* and their Chinese translations it can be stated that this event took place in the first three weeks after the perfect enlightenment. In mature phase of Gandhāran art the episode was not so popular and very few reliefs depicting the event were produced. However during fifth and sixth century C.E, the time period when larger reliefs were replaced by miniature portable shrines, this episode became significant. The artists illustrated the event along with other popular events namely the renunciation, first sermon and death. This certailny shows its religious and iconographical significance.



**Figure 6. Veneration of *bodhi* tree, from Ackermann 1975**



**Figure 7. Relief from Begram, Kapisa. After Bopearachchi, 2008**



FIG. 16. – Relief provenant de Bégram-Kapisa, représentant le Bouddha pensif contemplant l'arbre de la bodhi après son illumination (collection privée M. Takahashi).

**Figure. Relief from Begram,**

**Kapisa. After Bopearachchi, 2008**



**Figure 9. Limestone Relief from Kapisa. After Tanabe, 2012**

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# Kalhora Architecture and Tomb of Adam Shah Kalhora

**Syed Shakir Ali Shah***

During the second half of the 17th century CE, Kalhoras who claimed descent from house of Abbas, uncle of the Holy Prophet (PBUH), had migrated from Makran. They rose to prominence in Sindh and seized political power under the leadership of Mian Naseer Muhammad Kalhora (died 1692 CE). The Kalhoras produced many capable rulers including Yar Muhammad Kalhora who had founded his capital in Khudabad, district Dadu, Mian Noor Muhammad Kalhora, Ghulam Shah Kalhora and Adam Shah Kalhora. The rule of Kalhoras was for a short period, but gained immense successes in political stability and public welfare. According to H. T. Sorley - the author of Gazetteer of Sindh, there are five stages of Kalhora rule/power:

(1) Acceptance of the Kalhora tribe by the Mughal Emperor as viceroy or Governors of Sindh - a period which began in 1701 CE.
(2) Recognition of the Kalhoras as the semi-independent rulers of Sindh by the Mughals and increase in their local power of Kalhora by 1736 CE.
(3) After the invasion of Nadir Shah in 1739, the transfer of political sovereignty over Sindh from the Mughal Empire to the Persian Kingdom resulted in the Kalhora becoming subordinate to the Persian monarch and liable to pay tribute to him.
(4) About 1747 CE the transfer of sovereignty from the Persian Kingdom to the Pathan kingdom at Kabul fallowing the military success of Ahmed Shah Durrani, the founder of modern Afghanistan. Through this change the Kalhoras became feudatories of Kabul and had to pay tribute to the power.
(5) The struggle between Kalhoras and Talpurs which began in 1778 CE and lasted at the end of 17th century - a period of civil war in which the Talpurs with the aid of Balochs settled in Sindh in considerable numbers, were at last able to destroy the falling power of the Kalhora ruling family.

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The advent of Islam took place in Sindh in the wake of Arab conquest in 8th centaury CE. The buildings representing the funerary architecture of the early Islamic period do not exist anymore. On the basis of time to time field research by different institution the funerary architecture can be divided into three distinct examples:

(a) Exposed or naked brick architecture, which is considered to be the earliest in the region;

(b) Mughal architecture;

(c) Regional style i.e Sammas' Tarkhans, Kalhora's and Talpurs.

The naked brick or exposed bricks monuments which are constructed in exposed bricks style with cut bricks ornamentation are located in Sindh province and Baluchistan which is first example of its kind in the region. The exterior surfaces of such monuments are embellished with cut brick ornamentation in endless varieties of pattern and design; the Ghaznavids first introduced this style of architecture. This type of ornamentation owes their origin to Central Asia.

The architectural heritage of any country or region can not totally divest itself from its indigenous traditions. Beside, the style of architecture is greatly influenced by local climatic conditions and the nature of locally available building material. However, the external influences and fertility through various sources, do contribute to the shaping of an architectural style. Sindh cultural exchange with the neighboring region over a long period spanning over many centuries, and the fact that almost all the Muslim ruling dynasties had their roots in Central Asia and its adjoining regions, brought new architectural traits based on accurate principles of construction. Due to geographical location of upper Sindh, its architecture was influenced by the building technique of southern Punjab which had their roots in pre-Mughal architectural traditions.

Majority of the tombs of Kalhora period are square in plan but octagonal mausoleum are also built in small numbers. The tomb of Main Naseer Mohammad Kalhora is in the shape of a pillared canopy. R.Nath the author of several publications on architecture has

the opinion that square tombs were mostly built for nobles and the octagonal type was conventionally reserved for royal personages. The facades of many Kalhora period tombs have been constructed in such a way to give an impression that the building has got more than one story. This has been done by dividing each side of the wall in three ornamental stories. Each side of the entrance contains double blind arches, one upon the other, creating impression of multi-storied building. Blind arches were first introduced in the facade in 1311 CE at Alai Darwaza Dehli. The Kalhoras havealso left their imprints in the form of, mosques and forts. The architecture of these monuments has their own style and peculiarity. The unique combination of indigenous as well as foreign architectural techniques resulted in the emergence of new style of architecture, which can be termed as Sindhi Islamic architecture.

**Common or recurring features of Kalhora Architecture**

**Enclosure Walls**

There are enclosure walls around the tomb of ruling class except Main Adam Shah Kalhoro's tomb.

**Lantern**

This feature in Sindh was introduced by Kalhora rulers and occurs even on the tombs of prominent person of Kalhora court.

**Gallery at Squnich Level**

Gallery has been provided at squnich level built on the thickness of the walls at every tomb. The feature was introduced at Thatta and gallery used to be open from outside. But in the tombs of the Kalhora ruler, the upper galleries made in the tombs built over the thickness of the walls of the chamber is closed from outside.

**Small Corner Spires**

The corners of the building pertaining to pre-Kalhora period mostly had architectural ornamentation. They are usually devoid of parapets, what to say corner spires. The

Kalhora's were the first who adopted the spires for adorning the corners of tombs and mosques, and also making it common architecturall feature of the Kalhora period.

**Corner Kiosks**

The Kalhoras introduced corner Kiosks, an attractive architectural element for the first time in Sindh. The feature had already gained popularity in some of Indian temples without approbation Sindh. This element first appeared at the tomb of Mubarak Shah Syed in 1434 CE. The Kalhoras produced this element quite suitably in their monuments.

**Monumental gate**

It is actually quite an old architectural element and in Sindh and those introduced in Makli are of no less significance. However, this element was impressively produced in Kalhora period monuments, because of their elevated position.

**Painted decoration**

The art of decorating the building with material was already known in Sindh. Buildings constructed in Sindh before the Kalhoras were adorned with either architectural element by Kashi tiles or moldings in plaster or stone carvings. They introduced different geometrical, floral, botanical, scenic, zoomorphic and even anthromorphic representations.

**Use of marble**

Several tomb stones and cenotaph were built with marble carved stone slabs over the grave of some rulers, Governors, Saints and scholar in Sindh. But the use of marble for the purpose a rarity before the Kalhora rule.

**Cusped Arches**

The element perhaps with inception from the period of Sher Shah Suri or may be earlier from late imperial or Dehli style, but in Sindh it got approval and popularity during Kalhora's.

**Merloned Parapet**

The feature was not uncommon in the subcontinent before the Kalhoras, but this feature rarely appeared in Sindh in the principal monuments of the pre-Kalhora period. Almost

all Kalhora period monuments have embattled parapet for additional beauty to the building.

The tomb of Adam Shah Kalhora is situated in deh Adam shah colony, in center of Sukkur city. Mian Adam Shah gained fame due to his saintly qualities in the mid of 16th century CE. According to sources Mian Adam Shah Kalhora was most probably 10th in descant order from Jam Chaney Khan. Because of his allegiance to the Medvi Movement, he adapted perhaps the mystic way of Syed Meeran Muhammad Jounpuri and settled at Hattri Ghulam Shah Village in Larkana district. Due to his performances and popularity and challenging political position the representatives of Delhi Raj and their favoured accomplices became jealous. On the local land owners complain the administrator of Bakkar got him arrested and sent him to Governor of Multan probably Mirza Azeez Kokaltash (the foster brother of Akber the Great Mughal) who got him martyred in 1600 A.D or in 1598 A.D. while some scholars have the opinion he died in a battle in Bakkar and was laid to rest on the top of hillock called after him as Adam Shah ji Takri. The tomb and mosques at Adam Shah Ji Takri were built by Mian Ghulam Shah Kalhoro in 1774 A.D.

The square tomb **(Fig # 1)** is exactly located $27^0$, 41', 50" N and $68^{0,}$ 5', 35" E measures 9m x 9m x with a height of 11m. It is made of burnt bricks in mud mortar mixed with Charoli, lime plaster and decorated with glazed tiles. Entrance to the tomb has been provided from south side through a deeply recessed pointed arch. The feature of lofty central recessed arch often occurs in Kalhora period monuments. This arch above the springing level bears the stalactite decoration. The central arch is flanked by vertically arranged double rows of four arched and rectangular panel alternating one on other above dado level on the exterior. The structure of the tomb has two embattled parapet **(Fig # 2)**. Due to renovation from time to time by locals and followers a few changes have been made from exterior. Previously octagonal drum of the dome was simple but later replaced with bizarre grill, filling the space with turrets furnished on each angle of the drum. The dome has an over turned lotus with a broken finial at the summit. The cardinal sides of the octagonal drum, sustaining the dome, are pierced with the clerestory windows having slightly pointed arches.

The tomb is decorated with glazed tiles, rectangular panels, stalactite design, merlons, mahapadma and finial from outside while from inside it is decorated with rectangular panels, arched panels, multicusped arches, squinches and screens with geometrical design.

The interior of the tomb has been converted from square to octagon with the help of four squinches to hold the base of the dome. It is presumed that the panels ornamenting the interior were perhaps once decorated with painted designs but distempered after wards. Interiorly in the center of each side wall is a very shallow arch rising from the floor, while the traces of fresco painting still exist, indicative of the original decoration. There are two graves inside the chamber, most probably the other grave is of "Ibrahim" son of Adam Shah or Akram Shah his brother but the record is silent in the matter.



General view of Adam Shah Kalhoro tomb from east

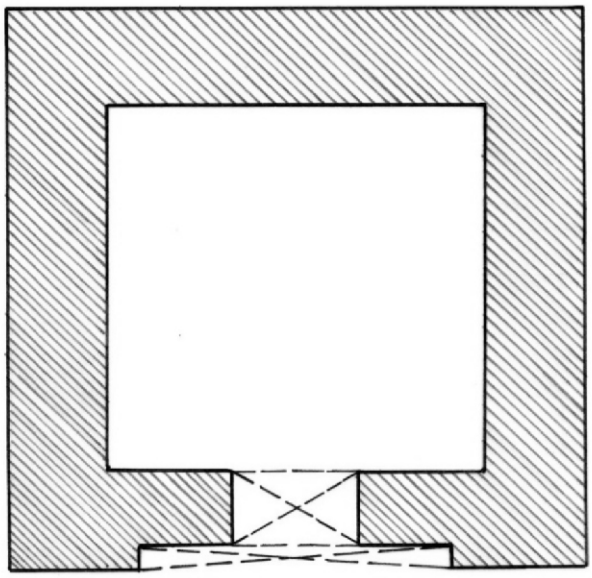
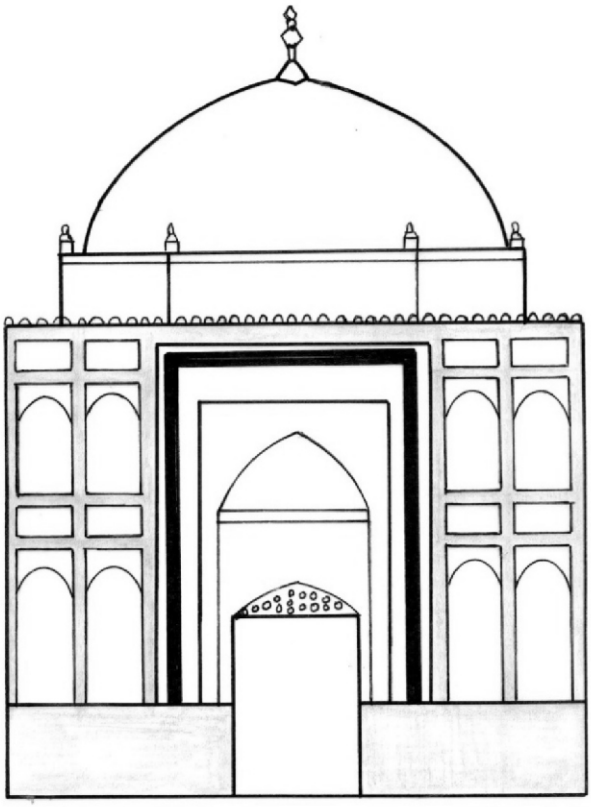



Fig. 1 Plan of Adam Shah Kalhoro Tomb



Scale 1m = 1cm Fig.2 Elevation of Adam Shah Kalhoro Tomb

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# A Sikh Gurdwara at Kalu Khan (District Swabi)

Zafar Hayat Khan, Ghayyur Shahab, Sabika Batool and Nawaz-ud-Din

**Abstract**

*Although archaeological surveys have been carried out from time to time in various parts of the district Swabi in which large numbers of Hindu and Buddhist period sites and monuments have been reported, but it is regretted that the British period buildings and sacred architecture of the district are either ignored or little importance was paid to highlight their architectural and historical significance. An attempt has been made in the present study to identify a Sikh Gurdwara located in the Kalu Khan village of district Swabi which is now converted into a government school. Since the building is no more in use for ritualistic purposes after the partition of India and Pakistan, its dominant features have mostly disappeared due to modifications to suit the present use of the buildings. We have tried our level best to describe various structural components of the said building in the forthcoming pages.*

**Key words:**

Swabi, Kalu Khan, Gurdawara, Sikh, Religious

Kalu Khan is a town, adjacent to Shewa Ada (Karnal Sher Kalay), in Razar Tehsil of District Swabi (Fig.1), and lies about 20 km northwest of the district headquarter, on Mardan–Swabi road. A Sikh Gurdwara of late 19th century is reported from the town which is no more serving its original function and purpose and has now been converted into "Government Girls Primary School, No. 2, Kalu Khan". It is located at latitude 34°12'56.04" north and longitude 72°17'54.59" east with an elevation of about 337 meters above the sea level[1]. The monument of the Gurdwara is located inside the residential area of the old Hindu bazaar, and can be approached through a street known as *ḍanḍ lār* . It is locally known as dharamsaal (*dharamśālā*), which has erroneously been termed as a Hindu temple by the locals.

The Gurdwara complex comprised of an enclosure wall with an arched gateway, a courtyard flanked by an assembly hall (*Darbar Sahib*), a kitchen with drawing room

[1] The reading is taken from google earth.

(*Langar*) and the remains of the now demolished hall. The main entrance to the complex is provided from the northern side in the shape of an arched doorway in the eastern side of the enclosure wall. However the top western end of the enclosure wall is adorned with three ventilators which once served as part of an associated hall. This arched entrance is flanked by a projected cusped archway enclosed by a segmental frame. The spandrel of segmental arch is decorated with two small arched niches for oil lamps (Fig.2). Unfortunately no trace of a Gurumukhi inscription was found at the entrance since the original coating of the masonry is lost long ago. Internally one can find three main features; a small courtyard paved with burnt bricks, ventilators and remnants of an associated hall in the western wall, and the main building in the south.

The main building consists of two storeys, where the lower portion performed as an assembly hall/sanctuary and the upper storey served as a kitchen in association with drawing room. Its ground plan is roughly rectangular in shape however the walls do not cut one another at right angle (Fig.2). Internally the walls vary in size and are patterned in numerous shapes. Northern side of the sanctum/lower storey measures 6.3 meters long, the western 7.7 meters long, the southern 4.8 meters long and the eastern face measures 8 meters long. The assembly hall/sanctum of Gurdwara is approachable by three rectangular shaped wooden doorways, each 2.47 meters high (Fig.4). The central doorway is 1.3 meters wide and the other two, one on each side, 1.15 meters wide. Externally the space between two doorways is executed with arched niche, each measuring 24x34 centimeters (Fig.4). These doorways open to a large ventilated assembly hall, called as *Darbar Sahib*, now serving as anclassroom of the school.

Internally the sanctum is divided into two parts with the help of four circular pillars, in which two are sunk deep inside the walls (Fig.2). Base of each pillar is square in shape while the shaft is circular in plan and the capital is symbolized with acanthus leaves, which is then topped by a beam (Fig.6). The square base of the pillar is 56 centimeter on each side while the circular shaft has 1.025 meters circumference. The large portion in this classification measures 5 meters long while the small 2.5 meters long. This first portion has five pointed arched cupboards, three in the eastern wall (Fig.7) and two in the western (Fig.8). Each of these cupboards measures 83 centimeters wide and 1.85 meters high. These are blocked by rectangular shaped wooden doors, carved in vertical and

crisscross lines. The second part of this portion is executed in similar gesture where a cupboard is applied in the eastern wall and a small square niche in the western wall near the pillar, which measures 42x56 centimeters. The southern wall, as considered the front wall of the sanctuary, is ornamented with a rectangular cupboard in the center. It is bounded by a shoulder arch supported by two stylized Corinthian pilasters. The shafts of these pilasters are tapering in shape and designed in fluted order. The arch is further crowned by a bulged medallion which bears the Sikh insignia ( *khaṇḍa* ). The spandrels and piers of this arch are richly decorated in unique mode of work. These are applied with bold arabesque in high relief piercing from a fluted/circular vase while the top is adorned with a boldly carved floral motif (Fig.6). The cupboard measures 3 meters high, 1.8 meter wide and projected 26 centimeters from the wall. Moreover, a rectangular shaped geometrically designed perforated wooden door is provided to this cupboard. This cupboard might have served as a library which is an essential part of the Sikh Gurdwara. One of the elders of the area informed the authors that there had been a canopy and a raised platform in the center of the hall for the installation of *Guru Granth Sahib*. The 4 meters high flat roof of this lower portion is again divided into two parts. The large (northern) portion has a wide square shaped opening to the upper storey which is supported by I–type steel beams.

The front façade of the Gurdwara is a double storeyed building but the staircase to the upper storey is missing while recently a steel staircase has been provided in the eastern corner (Fig.4 & 5). The western wall of the courtyard, as mentioned earlier, has a series of large niches below the ventilators and traces of a demolished building (Fig.11), which makes an idea that there had been an associated hall with the sanctuary. The roof of this demolished structure might have served as courtyard for the upper storey. Staircase would have been provided inside this supporting building. The upper storey has three rectangular shaped wooden doorways and a window in the western corner (Fig.5). All these four openings are overlapped by false segmental arches. Above the central doorway a boldly projected eave is provided which is supported by decorative pedestals, one on the either side. This entrance is provided with two small arched niches on both sides. The upper storey of Gurdwara served as a kitchen and drawing room (*sangat* and *pangat*), called as *Langar*. Internally this portion is also classified into two parts, external and

internal respectively (Fig.3 & 9). The external portion measures 6.4 meters wide in the north, 5.14 meters both in the east and west, and 5.56 meters in the south while it is 2.87 meters high. In the center of this portion a wooden fence is provided to the square opening from the lower portion (Fig.9 & 10). This square opening measures 2.5 meters on each side while it is covered with a 60 centimeters high wooden fence. The western wall has four elongated panels or arched niches, each measure 174x83 centimeters (Fig.10). Moreover the southern wall resides two rectangular shaped doorways at each end and two windows in the center (Fig.9). The doorways measure 1.2 meters wide and 2.1 meters high whereas the windows measure 102x76 centimeters each. The internal part of this upper storey is about 2.6 meters long and 4.94 meters wide. The southern wall of this portion has a large rectangular panel in the center which is 1.4 meters high and 1 meter wide.

As far as the occupation of this Gurdwara is concerned, the authors were informed that the Sikh community left the town after the partition of Indo-Pakistan in 1947 and the empty building was later on converted into a school. The whole building is standing tall in a proper preserved form except for a few damages mentioned earlier.

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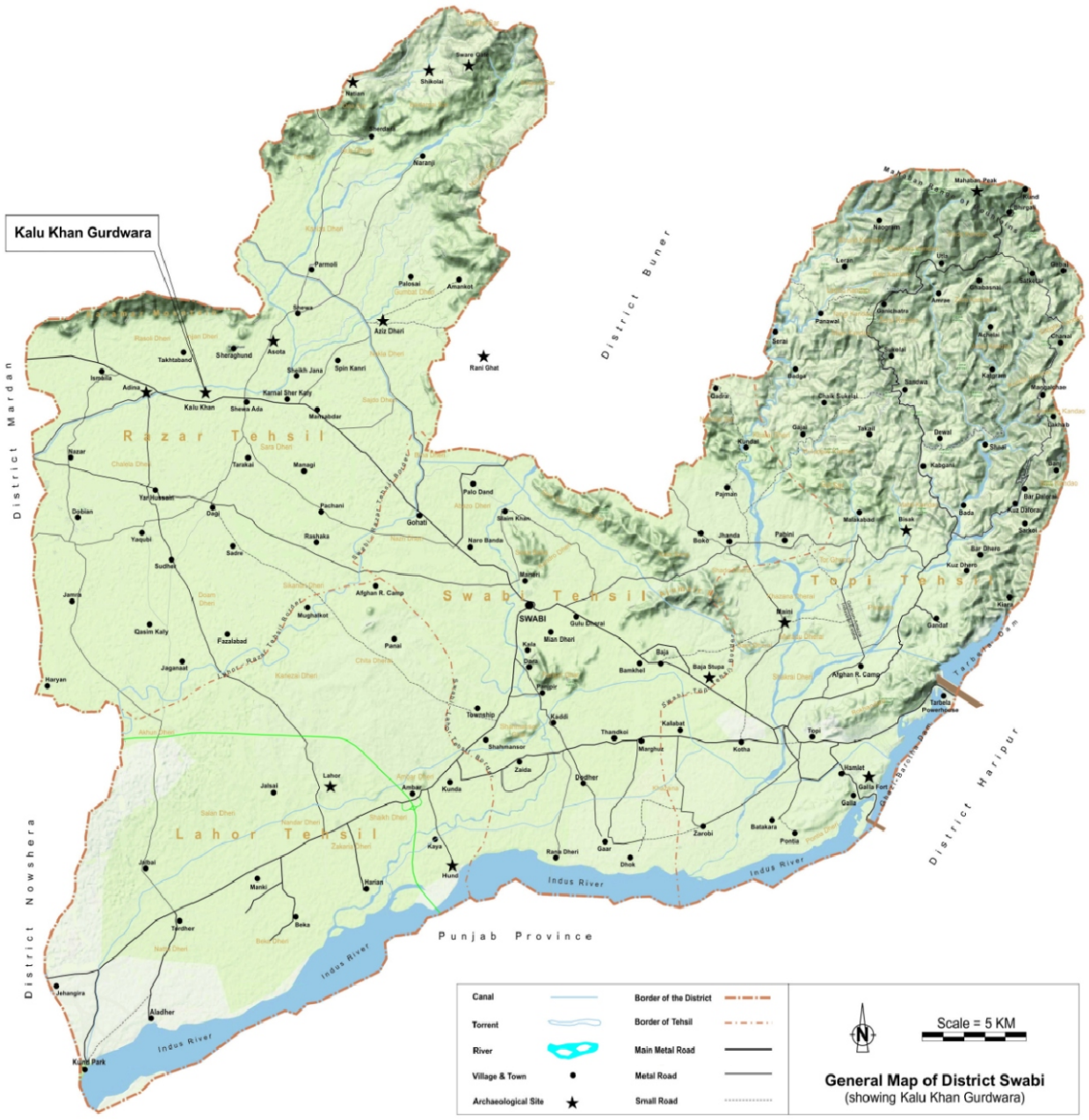



Fig.1. Map of District Swabi showing the Gurdwara (*google image*)

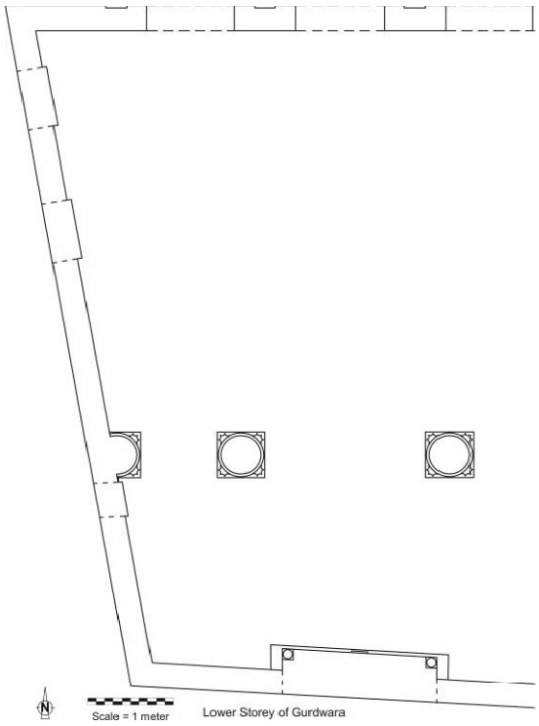



Fig.2. Plan of the lower storey

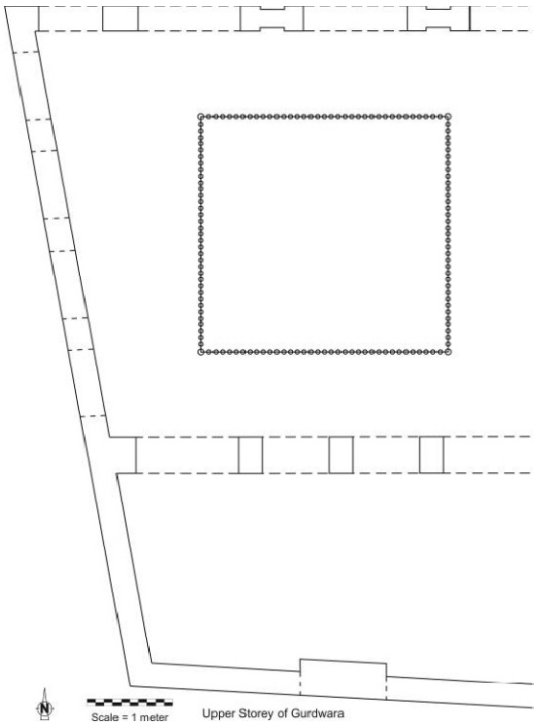



Fig.3. Plan of the upper storey



Fig.4. Front façade of the lower portion



Fig.5. Front façade of the upper portion



Fig.6. Internal (southern) wall of the assembly hall



Fig.7. Eastern wall of the assembly hall



Fig.8. Western wall of the assembly hall



Fig.9. Internal (southern) wall of the upper storey



Fig.10. Western wall of the upper storey



Fig.11. Western wall of the courtyard



Fig.12. Gateway and enclosure wall of the complex

# Tomb of Ali Mardan Khan: Conservation Plan

Saleem Ul Haq*
Architect Maqsood Ahmad**

## Introduction

Sepulchral architecture was an important element in all periods of Muslim rule in the sub-continent. Some of the finest and most characteristic examples that remain of Mughal architecture were tombs. An example of this is the white-marble beauty: The Taj Mahal. However, as has been extensively discussed by various scholars, Indian sepulchral architecture had its inherent set of characteristics and features that were adhered to by all architects and builders and which carried their own set of meanings. The word *maqbara* is used for both graveyard and mausoleum, although *qabristan* is also used for the former; *qabr* may, besides the grave itself, signify a monumental tomb, especially of the simpler variety; *dargah* is used especially for the tomb or shrine of a *pir*, where there may be also such associated buildings as a mosque, *mihman-khana, etc.*; in Kashmir a *pir's* tomb is usually called *ziyarat*, and the related *mazar* may also be used, especially for the smaller wayside shrine; *rauza* is commonly used for a monumental tomb within an enclosure, not necessarily of a *pir*. (John Burton-Page, Indian Islamic Architecture)

There has been no study of the typology of gravestones (i.e. the stone or brick structures above ground level, the *taweez*) in India as a whole, although many types with regional variation can be recognized. Usually, on a man's tomb, above the (commonly) three diminishing rectangular slabs, a top member is placed "resembling the hump on a camel's back, or the back of a fish". The tombs of women are generally flat above the diminishing rectangular slabs, and more frequently in North India than in the Deccan may display a flat *takhti*, in form like a child's slate, where those of men have the *qalamdan* (the explanation commonly given is that only males are literate and so can carry a pencase, whereas women have to have everything written for them!); in South India in particular a woman's tomb may have instead a basin-like hollow on the upper surface.

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** Deputy Director, Punjab Archaeology, Lahore

The woman's tomb, given the same date and provenance, is lower than the man's. In the case of the larger mausoleums, this applies to the cenotaph *taweez* as much as to the *taweez* of the actual grave. There may be, in both men's and women's tombs, a mere stepped surround with the internal rectangular space filled with earth (*e.g.* grave of Aurangzeb at Khuldabad) or grass (*e.g.* grave of Jahanara Begum, daughter of Shahjahan), where however the surround and the enclosure are of white marble and there is an inscribed marble headstone). This is much approved by the pious, but leads to quick decay of the structure if the grave is not attended.

In other places, the "casket" style of tomb is favoured, at least for the more exalted personages, in which a rectangular chamber with vertical sides, about a cubit (ancient unit of linear measure, equal to about 17 to 22 inches) high, rises from the base and is capped by the shallow diminishing rectangular slabs, finished flat in the case of women, arched or triangular in cross-section for men; they may have in addition cylindrical corner stones with vertical ribbing and two or three cross-mouldings. In the most characteristic (but not the only) style one, two or three diminishing rectangular hollow "caskets" are superimposed, and are capped by a final slab set vertically on edge. The cylindrical boss at the head may be added in the case of males. They are richly carved, either with geometrical patterns, flowers, whorls, *mihrab*-like blind arches, swords, bows, and even the figure of a horseman carrying a spear, sometimes led by an attendant.

The preponderant form of the masonry mausoleum is a square chamber surmounted by a dome; but the octagonal form is also known from the 14th century (popular for royal tombs of the "Sayyid" and Lodhi dynasties, tombs of *pirs* at Multan and Ucch, nobles of the Suri dynasty, and not infrequently in Mughal times); in the earliest monumental tomb, that of Nasir al-Din Mahmud ("Sultan Ghari") at Delhi, the plinth of the structure accommodates a vaulted octagonal sepulchral chamber. When a tomb is given greater prominence by being raised on a plinth, the sepulchral chamber may be placed at earth level in a *tahkhana*, with a cenotaph *taweez* immediately above it on an upper floor. This was mainly characteristic of tombs built for women of royalty as can be seen in Nur Jahan's tomb as well as the Taj Mahal at Agra (Dr. Chughtai's Tareekh Amakan-e-Lahore). They may also incorporate independent symmetrically disposed minarets, and may stand within a formal garden.

The monument of Ali Mardan Khan is thus, a feminine tomb in essence, which was built primarily for his mother. However, later upon his death the Mughal governor was buried beside her. The tomb is a massive brick construction, octagonal in plan, with a high dome and kiosks on angular points, standing in all its majesty atop an eight-sided podium. Of all the eight canopies of the tomb; five have fallen prey to the ravages of time and only three remain. The

tomb has been without any preservation work for the last decade and needs immediate attention of the authorities.

**Location:**

To find Ali Mardan Khan's tomb, traveling east on G.T. Road, you should turn right (south) on Mughalpura Road (formerly Wheat man) Road or Vet-man Road as it is locally called). As you approach the railway tracks, you need to keep a lookout for a small sign Board by department on your right. Immediately after the sign board is a small gate (presently painted green) for pedestrian entry. The gate is normally locked and is open only on Thursdays. Although on other weekdays, if you wish to visit this remarkable Mughal monument, it is advisable to contact the Department of Archaeology so that the relevant guard is instructed to open it. This elaborate arrangement is due to the surrounding area being under the jurisdiction of Pakistan Railways, who have allowed the Department of Archaeology an enclosed walkway for access to tomb.




**Location Plan of Ali Mardan Khan's Tomb**

Be prepared for a 300 meter walk on a bare earth and partially brick floor, through this narrow walkway, relieved by an interesting pattern of light and shade filtering on the enclosing bare brick walls through a steel lattice roof. Surprisingly, this complicated arrangement is not for the

security of the magnificent tomb, but to ensure inaccessibility to the expensive railway stores of the Railway Carriage Workshop on adjacent land. To reach the historic Mughal mausoleum, you will need to continue on the original walkway, which leads you directly to a gate beyond which, in a large, isolated enclosure stands the imposing tomb of Ali Mardan Khan.



Passage leading to tomb



Another view of the passage

**Historical Background**

Ali Mardan Khan (d. Lahore, 1657), was a military leader and administrator under Safavid kings Shah Abbas I and Shah Safi, and later, Mughal ruler Shah Jahan. The son of the Safavid official Ganj-Ali Khan (d. 1624), he was a governor of Kandahar who surrendered the city to the Mughals in 1638. He was an important patron of various building projects in Kandahar and Lahore. His father, Ganj Ali Khan, was a military leader and the governor of Kerman, Sistan, and Kandahar under Shah Abbas I (r. 1588-1629). He was held in great esteem by the Shah, who bestowed him with the appellation of *Baba* ('father') (1) and ordered him to reside in Kandahar, a location of strategic importance to both the Safavids and the Mughals. Thereafter, Ganj Ali Khan ruled over Kandahar for six years before his death in 1624. The details of Ali Mardan Khan's early years remain obscure, but his name apparently first appeared in the Safavid chronicles when Shah Abbas appointed him to the governorships previously held by his father and honored him with the appellation of *Baba-ye Sani* ('the second father') in 1624. Ali-Mardan Khan governed the regions under his control from Kandahar, but in 1625 Tahmasp-Qoli Khan was appointed as the governor of Kerman in order to avoid interruption in the affairs of the city.



*Shah Abbas I entertaining Vali Muhammad Khan of Bukhara. Ceiling fresco at Chehel Sotoun (Wikipedia)*




*Shah Safi of Persia (28 January 1629-12 May 1642)*

**The surrender of Safavid Kandahar to the Mughals.**

Ali-Mardan Khan's name appears again in the Safavid and Mughal chronicles when he handed over the territories under his control, including the city of Kandahar, to the Mughal emperor Shah Jahan in 1638. This was an event of great conflict and has been highlighted in Safavid and Mughal chronicles in different ways. As may be expected, Safavid historians condemned the event while Mughal historians applauded it. These varying accounts provide different explanations of the causes as well as the consequences of Ali-Mardan Khan's controversial decision to surrender the city. However, a distinct thread that runs through most historical accounts is Ali-Mardan Khan's suspicion that Shah Safi intended to kill him. Given the distinguished role of Ganj-Ali Khan's family as high-ranking and trusted figures of the Safavid dynasty, and considering the fact that Ali-Mardan Khan handed over Kandahar nine years after Shah Safi's accession to the throne without previously showing signs of inclination toward the Mughals, this seems to be a plausible explanation. Ali-Mardan Khan even mentioned his background as a loyal servant to the Safavid kings when he was joining the Mughal court. His fears also seem well founded in the light of Shah Safi's often erratic behavior (he was given to drinking, was allegedly addicted to opium, and was notorious for his bloodlust), which had led to the death or disappearance of nearly all chief ministers, prominent generals, and governors, as well as some of his own family members.

The surrender of Kandahar occurred following a series of exchanges between Ali-Mardan Khan and the Mughal court. In March 1632 Ali-Mardan Khan sent a letter to Shah Jahan, in which he expressed his fear for his own life as well as his loyalty to the Mughal crown and his desire to surrender the fortress of Kandahar to the servants of the Mughal king. It was in this year that

Shah Jahan decided to retrieve Kandahar from his Safavid rival. He therefore ordered Sa`id Khan, the governor of Kabul, to send a trusted emissary to Kandahar, in order to persuade Ali-Mardan Khan to join the Mughal cause as well as to evaluate the state of Kandahar's fortifications and military provisions in case of a probable confrontation. Ali-Mardan Khan received the messenger warmly and promised to respond later. A letter was later sent to Sa`id Khan, in which Ali-Mardan Khan seemingly proposed that in case of a Persian advance on Kandahar, he would deliver the fortress to Sa`id Khan, provided that the latter would hasten immediately to his aid. Yet he still seemed interested in remaining on the Persian side, given the fact that after the Mughal army postponed the military campaign to the following year, Ali-Mardan Khan wrote a letter to Shah Safi and informed him of the possibility of a military campaign against Kandahar by the Mughal army and asked for assistance. At the same time, he carried on an intensive construction plan buttressing the fortifications of Kandahar in the course of forty days. Shah Safi did not take the risk seriously and instead became even more suspicious of Ali-Mardan Khan upon hearing about the new fortification constructions in Kandahar. He summoned Ali-Mardan Khan's eldest son, Ali Beg, to the court and directed his commander-in-chief, Siavoš Qollar Agasi, to march toward Kandahar in order to detain or kill Ali-Mardan Khan while pretending to hasten to his assistance. When Ali-Mardan Khan learned of the Shah's plans, he wrote three letters, all soliciting reinforcements, to the appointees of Shah Jahan, including Sa`id Khan and the governors of neighboring provinces of Ghazni and Multan. He also wrote a fourth letter to the Mughal royal court. In compliance with previous agreements, four detachments were dispatched to Kandahar. Upon the arrival of the first governor, that of Ghazni, on 23 Šawwal 1047/9 March 1638, Ali-Mardan Khan ordered a *khotba* (the formal intercessory prayer) to be recited in honor of Shah Jahan and the local coinage to be embellished with the inscription of his name. Sa`id Khan was instructed by Shah Jahan to give Ali-Mardan Khan 100,000 rupees as a present, and to escort him and his dependents to Kabul and from there to Lahore, while Mughal forces awaited battle with Safavid troops. Through one of his ranking officers (*mansabdar*s), Shah Jahan also sent a royal order (*farman)* along with precious presents to Ali-Mardan Khan.

**Ali Mardan Khan as a Mughal Official**

Ali-Mardan Khan was not only received by Shah Jahan warmly and respectfully, but was also given a crucial role in the administrative, political, and military affairs of the Mughal empire, eventually being honored with the highest possible ranking in the Mughal court. Shortly after he joined the Mughal court, during the festival of Nowruz held on 4 Du'l-qa`da 1047/19 March 1638, he was invested with a present and a rank (*mansab*) of 5,000 (or of 6000). Thanks to such promotions, accompanied by boundless royal favors on each occasion, Ali-Mardan Khan rose to the highest rank in the hierarchy of Mughal nobles, namely a rank of 7,000 *dat* (infantry) and 7,000 *sowar* (cavalry) with 5,000 of the latter being of the grade of *do-aspa* and *se-aspa* with his

annual stipend amounting to 30 lakhs (each lakh being equivalent to 100,00 rupees). He received his final promotion on 24 Šhawwal 1052/15 January 1643. On this occasion he was also distinguished with the title of Amir al-Omara ('lord of the lords').

Ali-Mardan Khan was a noble highly favored by Shah Jahan. Five occasions have been recorded when the king honored him with a visit to his mansion. On one occasion, when the king was traveling through Kabul on his way to Balkh, he resided in Ali-Mardan Khan's mansion on 28 Rabi` II 1056/1636 and stayed there until the middle of the next month since the royal buildings of Kabul were not yet completed. On 22 Rajab 1048/29 November 1638, Shah Jahan appointed Ali-Mardan Khan as the governor of the paradise-like province of Kashmir, for he was habituated to the climate of Iran and the king did not want him to suffer from the burning heat of Hindustan. Soon thereafter, Ali-Mardan Khan was also invested with the overall administration of Punjab, allowing him to pass both summer and winter in perfect ease by changing his residence. However, he was later appointed to a more strategic post as the governor of Kabul, which he held until his death. Kabul was the farthest provincial center of the northwestern territories of the Mughal Empire and thus had a strategic role in dispatching detachments and provisions for wars with the two permanent enemies of the Mughal Empire, the Safavids and the Uzbek tribes, which were undertaken either for defensive purposes or for territorial expansion. Accordingly, Ali-Mardan Khan spent the remaining years of his life as a chief general, particularly in wars against the Uzbeks. In December 1649, the province of Kashmir was bestowed on Ali-Mardan Khan as his *jagir* (revenue-producing land assigned for salary).



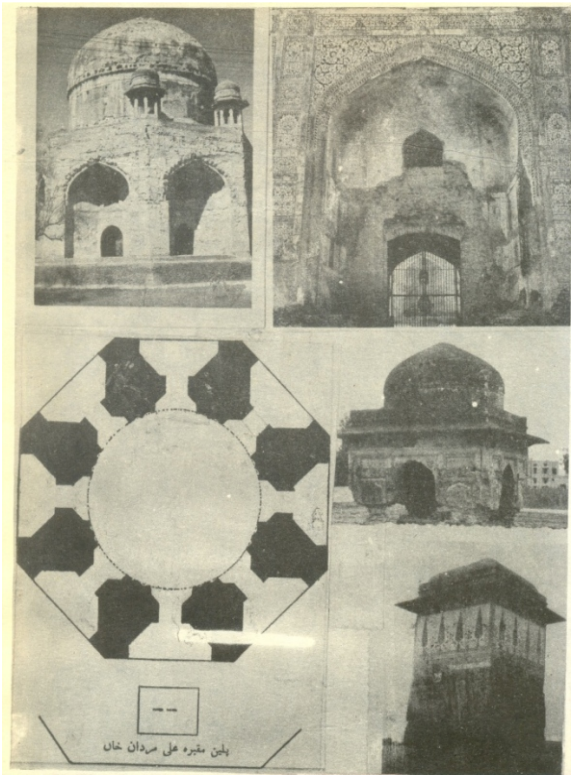

An undated photograph of
Nawab Ali Mardan Khan

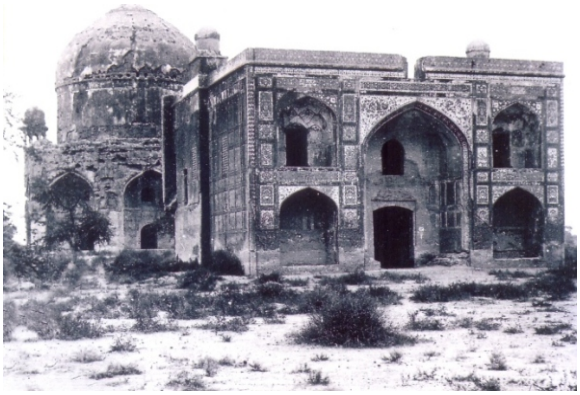
In the summer of 1657 Ali-Mardan Khan was afflicted by a severe ailment following a pandemic in the Subcontinent and passed away in the same year. His body was brought back to Lahore by his son Ebrahim Khan and was buried in the tomb of Ali-Mardan Khan's mother.

**Patronage of Architcture**

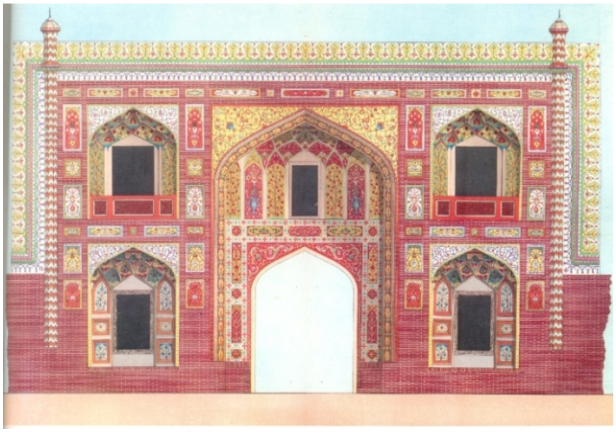
Besides political history, Ali-Mardan Khan's name is closely associated with the construction of several buildings. In the province of Kerman, the cistern of the Ganj-Ali Khan complex bears the name of Ali-Mardan Khan. He has also been credited with building of Bagh-e Nazar in Kandahar, alongside two of his father's gardens, namely, Abbasabad and Ganjabad. During his governorship, he restored the old fortifications of Kandahar and founded a new fort on the summit of the Mount Laka, which commanded the outer fortifications of the city. His most distinctive work, however, is a canal which brought water from the Ravi River to the suburbs of old Lahore, contributing to the construction of the most prominent garden of Mughal history, the Shalamar Garden of Lahore. According to Catherine B. Asher, In Mughal times, "it was on the city's outskirts, though now it is well within modern Lahore. Modeled generally on Shah Jahan's Kashmir Shalimar, it is a large terraced garden, though not situated on a river bank; instead, its water supply derived from a great canal that originated considerably north of Lahore and brought water to this Mughal city. In 1641, Khalil Allah Khan was ordered to commence the garden. A year and a half later it was completed at considerable expense by the great Mughal engineers Ali Mardan Khan and Mulla Alam Alahi Tuni".

A beautiful garden was laid out by him in Shah Jahanabad, north of the Kashmiri gate on the Jumna River. Within the city of New Delhi, Ali-Mardan Khan resided in one of the largest palaces belonging to the great Mughal nobles. In addition, he had ordered his mansion in Peshawar as well as a sheltered bazaar in the city to be built based on the architecture of Iran, Shah Jahan became so enamored with this Bazaar that he ordered the building of its replica in Shah Jahanabad. The tomb of Ali-Mardan Khan's mother, where he too was later buried, must have also been constructed upon his order. Some other works that have been associated with him are a village called Ebrahimabad, a garden in Peshawar, a bazaar in Kabul, and some bridges and canals.

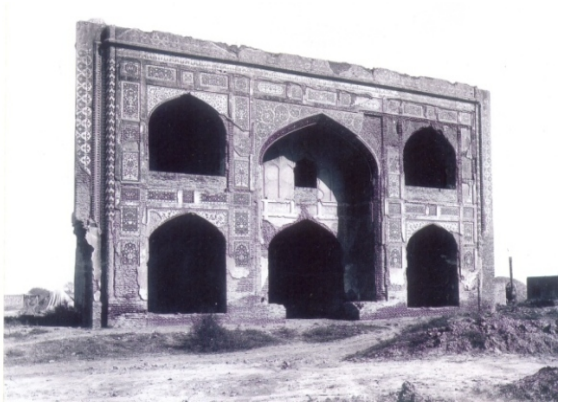




British Period Photographs showing the condition of Gateway and the Tomb in the Background



Elevation of the Tomb Gateway published in W. Griggs, The Journal of Indian Art, (July 1887).



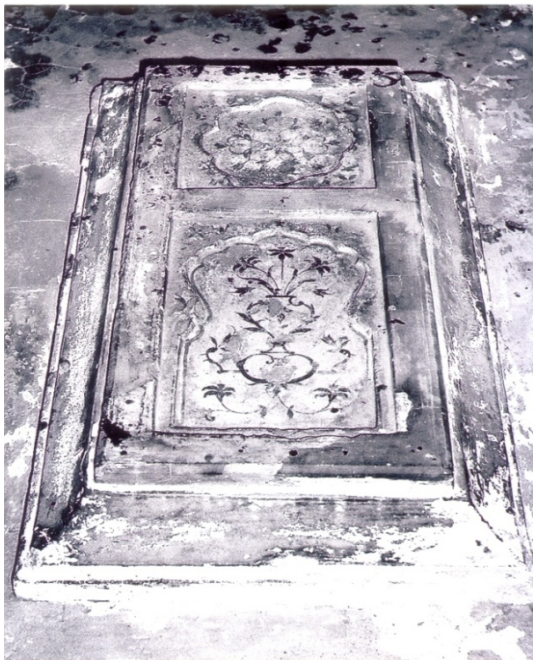
British Period Photographs showing the condition of Gateway.



Details of Decoration



Presently the Cenotaphs are painted in green to show the sacred feelings of the pilgrimages'. No evidence of decorations on the graves exists.



A British Period Photograph Showing the Decorations on the grave.



Details of Floral Patterns

**Architectural Details**

Ali Mardan Khan, Governor of Qandahar, Kashmir and Punjab, was known for his skill and judgment in the execution of public works. He is buried by the side of his mother in her tomb, on the right bank of the canal at Mughalpura. This was once surrounded by a garden of which only the gateway has survived. The tomb once stood at the centre of a paradisiacal garden, a favorite theme as evidenced in the mausoleum of Jahangir and Asif Khan etc. The extent of Ali Mardan garden can be gauged by the double-storey exclusive size gateway (**66' x 52'**) in the north mentioned above. This gateway indicates the excellence of enameled tiled mosaic work of Mughal era, which must have once adorned the tomb. This existing gateway would have marked the centers of the south, west and east edges of the garden square.



**Sketch of the Northern Alcove of the Tomb**

The tomb stands on a high octagonal platform and this octagonal character is carried throughout the building (Tehqeeqat-e-Chisti). The lofty tomb is a massive brick construction, octagonal in plan, each side measuring 34'-4" with a high dome and kiosks on angular points on an eight

sided podium 4'-9" high with each side measuring about 58 feet. It was originally a magnificent structure with the dome finished with white marble inlaid with floral design in black marble. Its sides punctured by lofty Timurid Iwans, surmounted by a massive 42' diameter dome raised on a drum. Although most of the chattries (domed kiosks) at the corners of the octagon are lost, it is a decorative feature often utilized in 16th and 17th century Mughal tombs.

Deep half domed recesses in each side contain smaller arched openings into the central chamber. The dome was originally finished with white marble inlaid with floral designs in black marble. The octagon was veneered with stone and marble paneling with the cornice molding of white marble with zigzag black inlay. The brick podium was likewise covered with red sandstone with white and black marble inlay. The half dome had interlaced tracery of plaster with pointed floral patterns and the inner surface of the dome over the tomb chamber was decorated with floral network in plaster relief similar to that of the Badshahi Mosque, Lahore. Traces of stucco tracery still exist on ceiling of the dome. In the underground chamber, under the central dome are the interned the mortal remains of the genius.



Tomb of Ali Mardan Khan



Existing Northern Gateway of Tomb

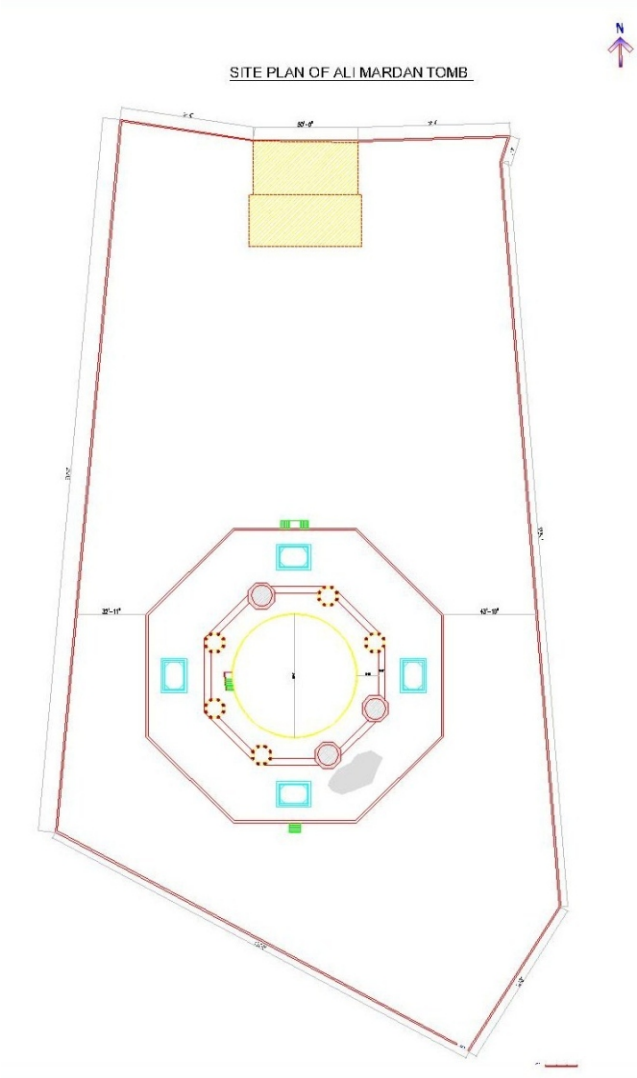
**Historical References**

In the 19th century, the great historian Noor Ahmed Chisti in his book Tehqeeqat-e-Chishti, speaks of the damage dealt by the Sikhs to the tomb in their times. The Sikh rulers stripped the tomb of its marble work and desecrated the headstone. The destruction can still be seen, however, the evidence of the tomb's grandeur is indicated by its high dome which is quite comparable to the dome of the Badshahi Mosque although their diameters are different. He writes, "The tomb is higher than the gateway and lies towards the south of it. The construction was carried out in stone (sang surkh-o-abri) but was stolen by the Sikhs. The tomb is of

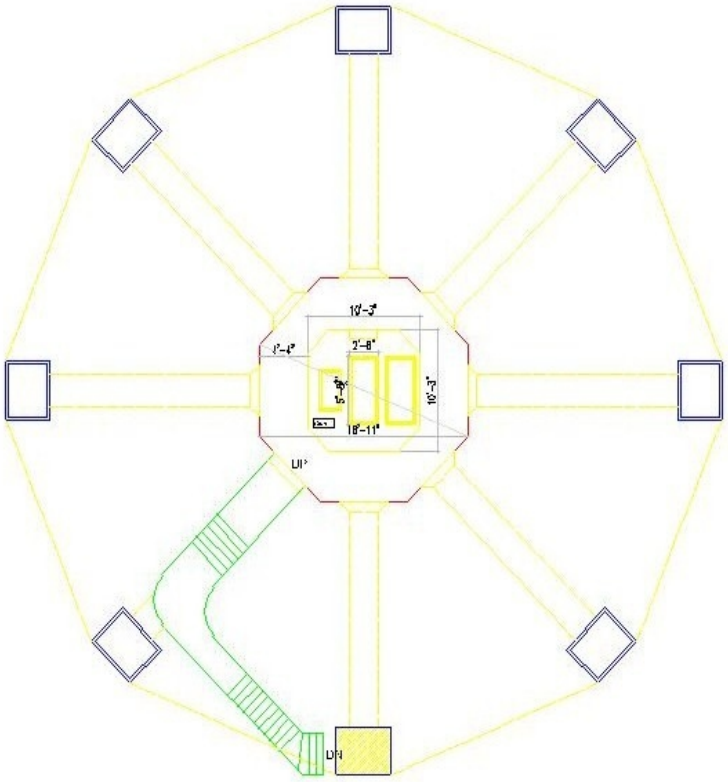
octagonal shape – on all four sides there are eight vaulted openings which are very high. Only one vaulted entrance in the north-east is open today. The rest were closed by Gulab Singh Phondia in the period of Ranjit Singh to be used for storing ammunition".

Dr. Abdullah Chughtai in his book mentions that in the earlier British period this area was known as Chentgarh. He compares the tomb's double dome construction to that of the Asif Khan tomb Shahdara, which also carries a double dome of similar measurements and draws the conclusion that it might have been that this tomb was also constructed with consultation from Ali Mardan Khan. (1051 h.)

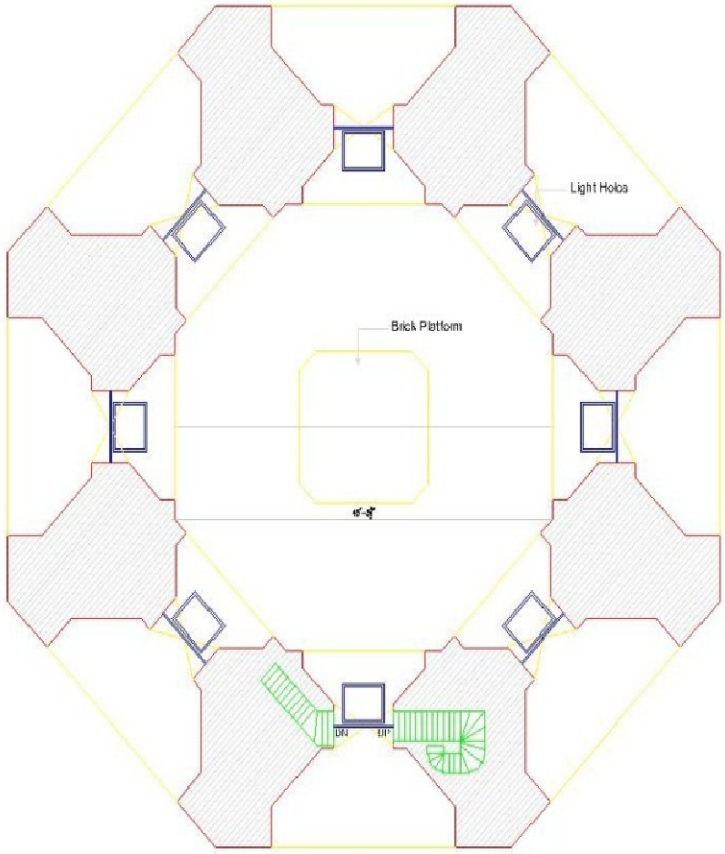
**Architectural Drawings**



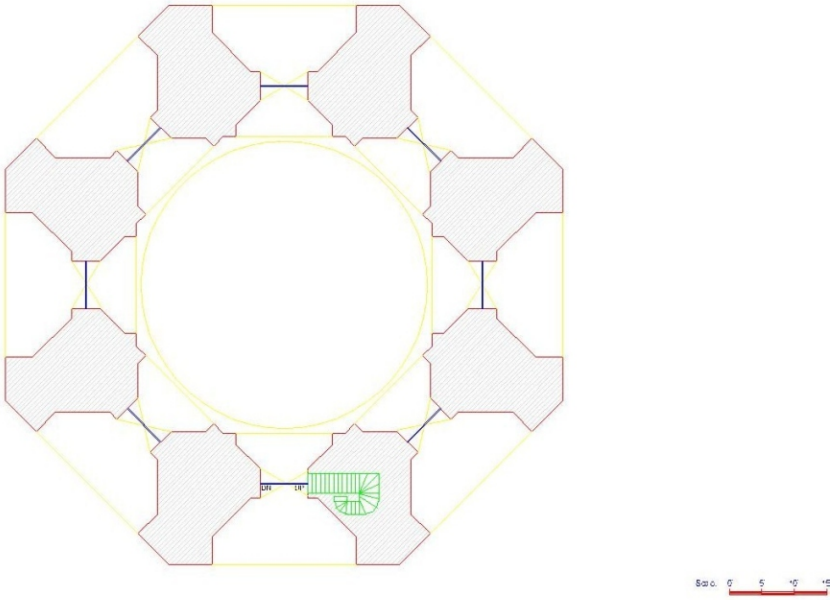
# Basement of Nawab Ali Mardan Khan Tombs



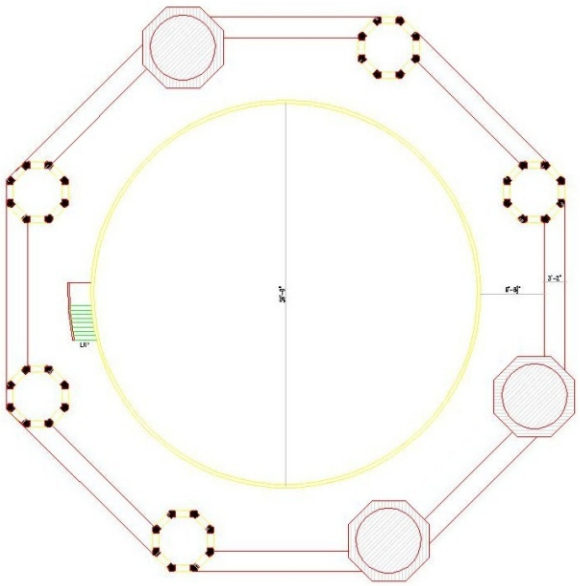
## Ground Floor of Nawab Ali Mardan Khan Tombs



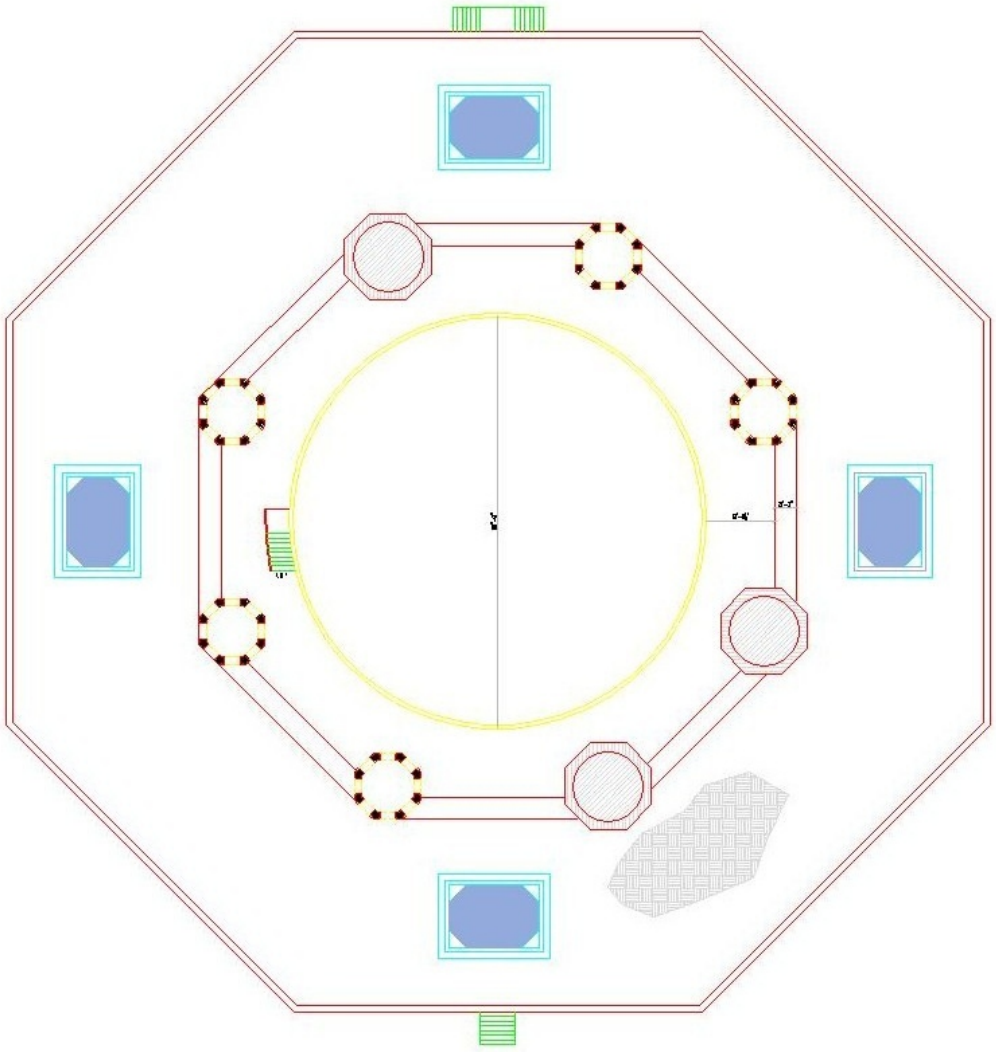
Mezzanine Floor of Nawab Ali Mardan Khan Tombs



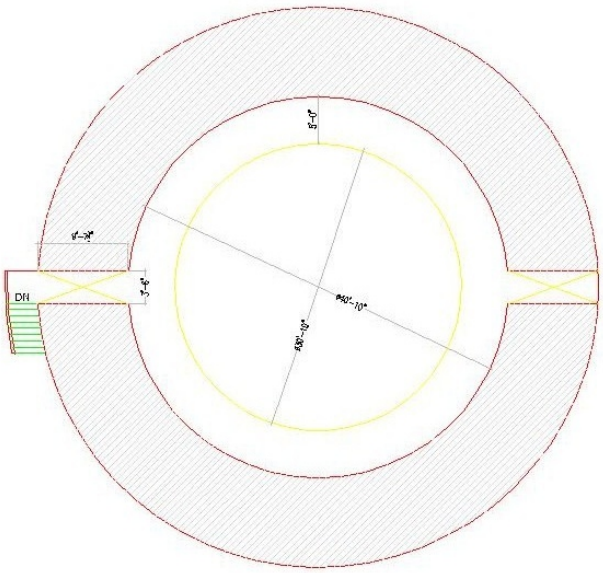
Roof Plan of Nawab Ali Mardan Khan Tombs



Top View of Nawab Ali Mardan Khan Tombs



Plan of Double Dome Nawab Ali Mardan Khan Tombs




**Present Conditions**

Although Ali Mardan Khan was a Mughal noble and not a saint, the spiritually-inclined locals call the tomb Mardan Khan's *darbar* or shrine. The grave which is in the basement chamber, and accessed through a descending flight of steps, is decorated in the manner of a saint's shrine. Today, shorn of surface decoration, except the remains of frescoes in some of the alcoves, the exterior walls must once have carried scintillating inlay of variegated stones, as can be seen in some existing remnants on the north-west of the main mausoleum. The interior of the main chambers has only exposed brick without any decorations / finishes in walls and ceilings. The surviving remains of brick platform (*"Taweez"*) irregular in shape and dilapidated condition about 9"-12" high. The 3 graves painted beneath a larger dome which was profusely decorated with fresco in geometric and floral patterns.



Irregular shape Brick Platform (*TAWEEZ*)

History of Conservation/Intervention

Archaeological Survey of India Report 1924 contains much about interventions to the tomb during the colonial era. It mentions, "The most important work undertaken in Lahore was the conservation of the Tomb of Ali Mardan Khan, the famous Mughal Engineer during the year 1923-24. It is situated inside the enclosure of the General Stores of the North Western Railway and access to the monument is at present gained by a private road belonging to the railway, but as this road is not always open, a proposal is now on foot to construct another approach from the Lahore Amritsar Road. The monument consists of a gateway adorned with kashi enameling and of the tomb proper, the lofty dome of which is a striking and conspicuous object on the right hand side of the road one goes from Lahore to the Shalamar Gardens. The immediate surroundings of the monument were partially enclosed by a high brick wall built some years ago by the North Western Railway authorities. To protect the monument and prevent the use of the precincts as a dumping ground for rubbish, this wall has now been completed and the protected area adequately enclosed.

During the conservation process the first work undertaken was the clearance and leveling of the compound. This has revealed fragments of the original brick pavement adjacent to the tomb and also a portion of the original steps giving access to the high octagonal plinth. Three sides of the plinth had been restored many years ago and the five remaining sides have now been given attention. During the operations it was observed that in the center of the plinth, opposite alternate entrance to the tomb; the brick pavement was entirely absent. This suggests the former

existence of small tanks resembling those recently discovered at Asif Khan's Tomb at Shahdara, and on excavation being made these tanks were brought to light and have now been completely cleared. Originally each tank had a fountain in the centre and several of the original qulabas (earthen water pipes) which fed the tank have also been discovered.



A View of Eastern Water Tank



View of Water Tank on Northern Side

The entire facing of the tomb had disappeared and was in all probability removed in Sikh times, but the monument was otherwise structurally sound and impressive even in the despoiled condition. Missing portions of the parapet of the roof had been restored, gaps in the dome filled, loose masonry secured, the interior of the dome cleared of rubbish, and *parnalas* provided for the drainage of the roof. Where necessary, plaster had been edged off with filleting both in the ceiling of the tomb and on the exterior of the monument. As the remains of the steps giving access to the plinth were sufficient to indicate their original form, the missing portions have been restored.



Repairs of Drum of main Tomb in 1923-24



Rain Water Disposal Spout

**Conservation during 1951-52**

During the period 1951-52, an expenditure of Rs.10, 631/- was incurred on the annual repairs to the monument including the pay of a Chowkidar. During this period, 1453sft kankar lime concrete flooring was strengthened with cement laid on the roof of the tomb to replace the old disintegrated material which allowed percolation of rain water. A hand pump was installed to provide water for the repairs and lying of a garden. The decayed northwest face of the platform of the tomb was restored which involved 373 cft brick work in kankar lime. Petty repairs such as edging off kankar lime plaster and replacing bricks and the clearance work were also carried out.

**Annual Repairs during 1989-90**

The menace of bat sticking to the ceiling of the tomb had increased to such an extent that it had become a problem to open doors for visitors to enter inside the tomb. The drops of bats also reflected badly on the cleanliness of monuments. During 1989-90, Angle iron frames with steel mesh painted with synthetic enamel paints were fixed in the Arch openings and ventilators to check the entry of bats.



View of arch with fixed Grill



Wooden Frame fixed to check the Entry of Bat

**Annual Repairs during 1996-97**

Undermined and shattered portions of the gateway were attended with brick tile masonry laid in kankar lime mortar. Kankar lime pointing to the open jointed masonry including re-fixing of the deteriorated tiles in masonry work was cried out. The deteriorated and damaged mosaic tile work of different patterns, due to weathered effects up to the height of 40 feet was taken in hand and repaired properly. The previously fixed expanded metal in the openings of the tomb of Ali Mardan Khan's tomb was painted with enamel paint to guard against rust etc.

The routine maintenance works have given strength to these historical monuments. The monument was subjected to vandalism by the Sikhs who deprived the building of all its stone facing and other decorations, traces of which still exist.

During the year 2005-06, and 2006-2007 an amount of Rs. 60,000/ and Rs. 200,000/ was allocated respectively in the Conservation Programme, of Northern Circle of Archaeology, but the Conservation work could not be carried out due to one or the reasons.

**Documentation of Present Condition**



The tomb sits within a modern rail yard. This photo shows the entrance.



To prevent trespassing into the yard, the authorities have constructed a 300 meter long walkway to access the tomb.



Interior of the passage, which is wide enough for Motorcycles / Rickshaws.



The main path bifurcates, leading to the Shrine of Hamid Qadri and Tomb of Ali Mardan Khan.



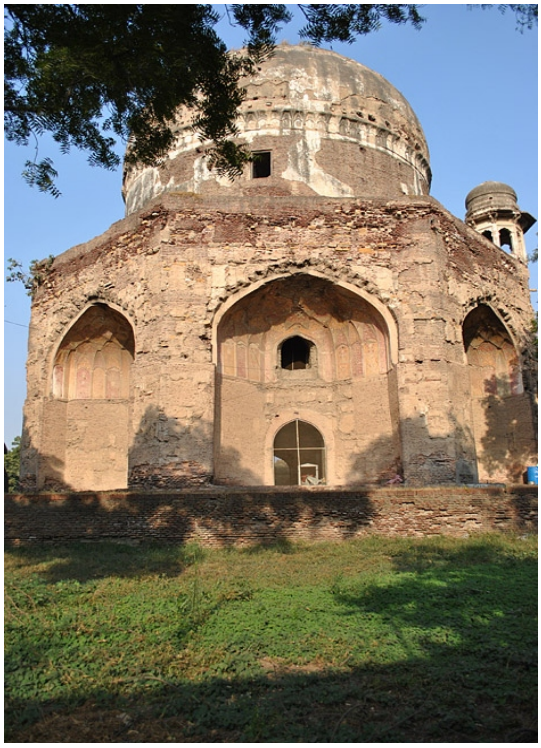
Detail of the Black marble inlay on dome of Ali Mardan's tomb.



The passage terminates on South of Ali Mardan Khan's tomb, visible here.



A view of Ali Mardan Khan's tomb from South. In the background is the gate to the garden that once surrounded the tomb.



Southwest facade.



Closer view of the dome from the South-west.



View of the damage wreaked by various environmental factors including acid rain.



Where masonry has fallen out.



Remnants of the black marble stone that was once used in the dome.



Southwest facade.



Upper portion of the southwest facade.



Detail of the muqarnas' in the main Arch decorated with fresco Painting.



West façade and water tank .



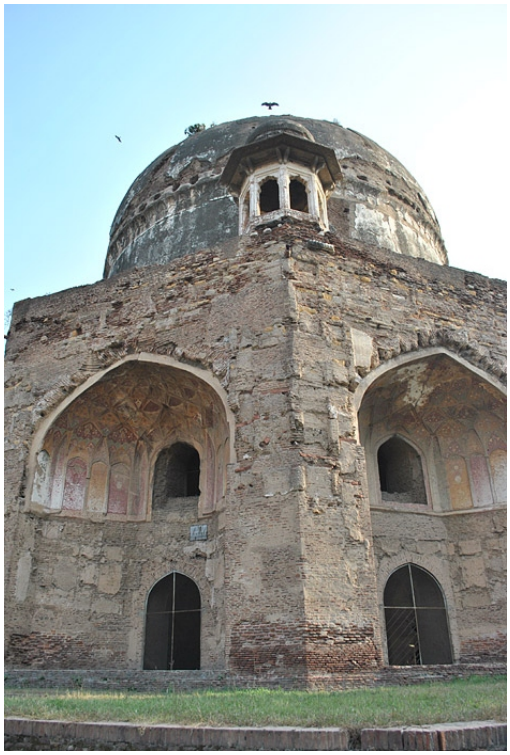
West facade.



Northwest facade.



North façade showing signs of deteriorated surface decoration.



Closer view of the north facade.



The tomb as viewed from the gateway. Originally eight kiosks surrounded the dome,



but only 2 have survived to the present.

The grounds of the tomb are surrounded by modern walls to prevent trespassing into the rail yard.



A view of garden gate on North side.



A view of Gateway showing the Mosaic tile work which has survived on the upper story.



Ornamentation on the Southwest side of the gate.



Signs of decay of mosaic tiles at Upper level of the south façade of the Gate.



Alcove above the main entrance.



Disintegration of tiles and fresco work in the main arch of gateway.



Right alcove.



A view of South façade of Gateway as seen from the roof.



View of parapet wall, and North-eastern



kiosk. The gate is also visible.



Kiosk on the Southeast side.



Passage leading to Ground floor.

View of the roof top and Corner Kiosk.



Passage leading downward.



Passage leading to Ground floor.



Passage leading to Basement Chamber.



The ceiling of the dome from ground level with a surviving patch of Stucco tracery. Virtually all of the decoration has fallen away.



View of the openings at ground and mezzanine floor.



The openings on the ground floor.



A view of the walls, opening and floor



Interior view showing the graves.



View of one of the light wells for ventilation and light to basement Chamber.



Another light well with wooden frame and steel bars.



A view of the Passage from the basement to Ground Floor.



A view of the ceiling dome of the basement decorated with fresco.



The ceiling has become blackened due to excessive use of *Oil lamps,* litted every Thursday by the visitors.



Damages to Decorated ceiling due to rusting of the iron clamps used in the original construction



One of the eight light wells from basement to ground floor.



An electric ceiling fan, installed to facilitate the pilgrimage after causing damage to the ceiling of main sepulchral chamber.

**SURROUNDING CONTEXT**



View of the Eastern side Boundary wall.



View of surrounding railway workshops.



A scene of overgrown vegetation in the surrounding of the tomb.



View of boundary wall and plantation.



The fumes from the railway workshops nearby are a great detriment to the surface decoration and structure of the tomb.



Neglect on the part of users by burning fires inside the monument grounds without caring for the effect it has on the environment.

**Causes of Decay**

Like the other important monuments of Pakistan, The Tomb of the Ali Mardan khan is one of the masterpieces of the Mughal architecture, was subjected to vandalism by the Sikhs who deprived the building of all its stone facing and other decorations, traces of which still exist. The ravaged condition of the tomb is attributed to the Sikh rule, when the tomb structure was used as a military magazine by Gulab Singh, one of Ranjit Singh's Generals, and the gateway as residence by Gurdit Singh, Colonel of the Sikh battalion Misranwali. It was considered appropriate to find out major causes of its decay. The main causes of decay, disintegration and destruction of this monument may be summarized as under:

a) Causes, related to geographical location of building, such as thermal movement, rain, wind storms and natural disasters Penetration of moisture from the roofs and ground, leading to deterioration of main materials & binders,.

b) Causes related to nature of ground and environment.

c) Causes related to materials and techniques used in original construction.

d) Man-made causes which include willful vandalism of the Sikhs and British after the decline of builders, neglect, atmospheric pollution, vibration, wear and tear by visitors and use of poor conservation techniques.

**Biological and Micro-biological causes**.

## 1. Causes Related to Geographical Location of Building

These mostly concern with climatic condition to which the building is subjected all the time, such as solar radiation, temperature, humidity, rain, wind speed, floods, earthquake etc. These are now discussed in detail in the following section.

### 1.1 Thermal Movement

City of Lahore falls within the zone of extreme climate. During summer the temperature rises up to 48°c and during winter it falls down to 0°c. The exposed parts of building expand more due to solar radiation, where as internal and shaded parts of building stay relatively cool. Thermal movements create stress in building material and components, which results in cracks in the material and structure. Different materials and even the same material of different colors have different thermal expansion, due to which cracks, between the joints of masonry, are developed.



Deteriorated Lime Terracing



Cracks & Signs of Decay Due to Thermal Movement

The monument of Nawab Ali Mardan Khan's tomb has massive masonry structure. The upward thermal expansion is controlled by compressive forces of dead load, but the horizontal movement has created vertical cracks on the upper portion of building. The roof, which is finished with lime terracing, has also developed minor cracks; through these cracks, the rainwater percolates and causes damage to the ceiling.

### 1.2 Rain and Moisture

In the city of Lahore, the average rainfall is 20 inches annually. Rain damages the masonry above the ground and penetration of rainwater through capillary action causes decay of structure internally. The rainwater picks up soluble materials along its path and destructive crystallization process occurs when water evaporates. Salt crystallization results in powdering of surface, cracking in material and sometimes even complete disintegration of stone masonry. Contour scaling also occurs due to repeated wetting and drying cycles of stone masonry.



Present Condition of the Facade



Disintegrated surface of the Tomb

The facade of Ali Mardan Khan's tomb which was once covered with inlaid red sandstone, which was ruthlessly removed by the conquerors after the decline of Mughal Dynasty and now the uneven surviving surface, is a porous material. Subterranean decay can be witnessed on the facade, where the cavities have developed. Scaling and contour scaling on brick surface has also taken place due to repeated wetting and drying cycle. At some places, salt crystallization has resulted in a form of fragmentation of surface as it exerts pressure on the pores of material.

### 1.3 Natural Disaster

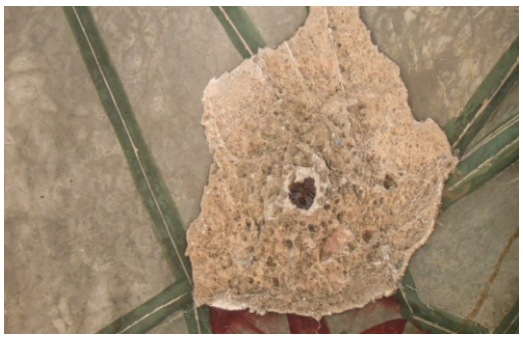
Ali Mardan khan's tomb, one of the Category-I monuments protected by Department of archaeology & Museums, which always remains under serious threat of natural disaster like earthquake, Heavy rain fall, and wind storm etc. the use of materials and building techniques of Mughals are absolutely wonderful and are best absorption of heat, sound and other seismic problems. Anyhow, the worst agent causing deterioration of this tomb and monuments is the rain storms.

**2. Causes Related to Nature of Ground**

The nature of the ground and stability of soil, on which the building is erected are of an utmost importance. Underground water-bed, salt, and nature of soil all determine the stability of the building. The podium surrounding the tomb as well as the surrounding wall shows a lot of efflorescence which might be an indication lack of proper drainage or the vulnerability of the structure to the ground moisture.

**3. Causes Related to Materials and Techniques Used in Original Construction**

At some places deterioration is due to bad quality of building material or due to improper building techniques, which was applied at the time of construction by original builders. It is found at many locations of the facades of Jahangir's tomb, where the stones are also fixed with iron dowels. Similarly a large number of iron dowels have been seen in the ceiling of basement chamber used either for reinforcement of kankar lime finish under the glaze plaster (pacca Qalai) and fresco painting. The shattering of surface is common at some places and chunks of plaster and surface decoration has been removed.



Poor selection of materials and techniques



Missing mosaic tiles due to poor binder

**4. Man Made Causes**

Man is a creative artist and a destructive agent at the same time. Man-made causes of decay are complicated and have wide spread implications. These are by-product of industrial activity, urbanization and population pressure.

### 4.1 Willful Destruction

The monument was subjected to vandalism by the Sikhs who deprived the building of all its stone facing and other decorations, traces of which still exist. The ravaged condition of the tomb is attributed to the Sikh rule, when the tomb structure was used as a military magazine by Gulab Singh, one of Ranjit Singh's Generals, and the gateway as residence by Gurdit Singh, Colonel of the Sikh battalion Misranwali. During British period the original character of the mausoleum complex was damage due to establishment of railway workshops on northern, southern and western side of the monument, which further contributed its decay.

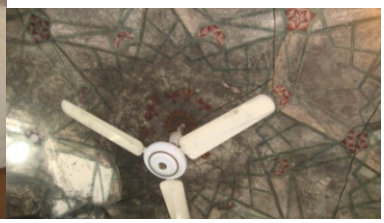
Although Ali Mardan Khan was a Mughal noble and not a saint, the spiritually-inclined locals call the tomb as ***Mardan Khan's durbar*** or shrine. The grave which is in the basement chamber, and accessed through a descending flight of steps, is decorated with green oil paint in the manner of a saint's shrine. Every Thursday hundreds of local people use to visit the tomb and damaged its original ornamentation by making fire and burning candles.



Graves painted with Enamel paint



Oil spots



Use of Electric fan in Chamber

### 4.2 Neglect:

Neglect and ignorance are possibly the major causes of destruction by Man. The monument is neglected due to meager financial and human resources. There is only watch and ward staff who has to look after three other monuments which are located far from each other. Since its protection a few minor repairs have carried out which are totally insufficient for such precious and huge monument.

### 4.3 Atmospheric Pollution

Air is polluted primarily by locomotive and automobile exhaust emission and industrial waste products. The tomb is located inside the locomotive / railway area and Grand Trunk road. The surface of stone has become roughened and pitted due to pollutants of air. Pollution has greatly affected the structure and its surface. Lime mortar and lime plaster is also affected by pollution, with the change of calcium carbonate into calcium sulphate, which is water-soluble. The

structure has become weak as the lime mortar is leached away due to acidic rain. The suspended particulates such as dust, fumes, soot etc. have also disfigured the surface of monuments, especially fresco work of recessed arches and basement chamber.



Smoke of Chimney in the Railway workshop

### 4.4 Vibration

Mechanical vibrations transmitted to the subsoil by heavy, railway traffic, have proved to be destructive for the historic building. The vibration can cause loss of foundation strength by affecting subsoil, and loss of structural strength in super structure. The railway workshops and lines were laid during the British period, which is at a distance of about 50-100 meters from tomb. The highway is also at about 1 km from Ali Mardan's tomb. Both provide vibrations to subsoil, which have produced structural cracks in the building, specifically foundations, Arches, dome, roof, floor of main building including kiosks.

### 4.5 Wear & Tear by Visitors

Due to inadequate number of guards, un-authorized visitors are very common due to existence of another Shrine and mosque in the immediate vicinity. The visitors damage the monuments by writing on walls, climbing with different elements of building.

### 4.6 Poor Conservation Techniques

Poor conservation is the result of lack of technical knowledge, regarding restoration work. Repairs are often done inexpertly or using unsuitable materials, which react un-favorably with the original material, causing further damage. Altering original design and detailing and unplanned conservation activities in wrong sequence also comes under poor conservation techniques. The monument also suffered due poor conservation techniques.

Consolidation and repair work carried out without proper investigations and any conservation strategy. It has damage the originality of monument. The use of cement is also evident for certain repairs i.e. lower portion of eastern façade and staircases. Whereas according to Bernard M. Fielden, "cement is number one enemy of historic buildings". As such cement is not compatible with lime mortar. A number of places are seen where a lot of touching has been done with cement, which has resulted in further cracks in the adjoining area.





The use of cement is also evident for certain repairs

### 5. Biological and Micro Biological Causes

Bio-deterioration means any adverse changes in the material properties due to growth of biological and micro-biological organisms. The bio-deterioration of material involves mechanism of different kind of disintegration and decomposition processes.



Wild growth on north-west corner of tomb



Deterioration of joints

**Management and Maintenance of the Tomb**

Pakistan is one of the oldest civilizations of the world with a variety of rich cultural heritage. The area has seen the rise and fall of ancient civilizations. This part of the subcontinent has, therefore, been continuously inhabited by diverse cultures and civilization. A score of historic monuments and rich archaeological sites from various civilizations now form the heritage of this region. Before the devolution in 2011, the management and administrative control of these scores of monuments was shared between the federal and provincial governments through their respective Departments of Archaeology. However, presently all monuments and sites are under the control of the provincial government. Thus for all practical purposes, the provincial government is responsible for management and maintenance of the tomb.

**Constraints and bottlenecks**

a) Shortage of qualified and trained conservationists as against the volume of conservation work on a large number of sites and monuments;

b) Lack of expertise in architecture of different periods from bronze age to colonial period;

c) Lack of scientific organs and facilities for material testing;

d) Inadequate funding for sites and monuments / Lack of financial resoures;

**Conclusion:**

Tomb of Nawab Ali Mardan khan is a unique standing monument of Mughal period. It needs the services of a large number of professionals of different fields i.e. conservators, architects, engineers, chemists, historians, archaeologists and many more. While there is certainly lack of professional expertise to be used whole giving holistic approach, another dilemma is that even the services of the available professionals are not appropriately used, nor consultants are hired from abroad for their advices and feed back. Under the present circumstances, iIt can easily be concluded that the general state of conservation and the maintenance of the tomb is far from satisfaction and there is an urgent need to attend to the deteriorating state of this precious jewel of art and architecture. Presently there is only one Chowkidar who has to look after this tomb and three other monuments which are located far from each other. Hence the proper upkeep is not possible.

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# Current Status of Management and Protection of Rani Ghat Buddhist Complex, Pakistan

**Muhammad Jazeb Ajmal***

**Abstract:**

*Rani Ghat Buddhist Complex is one of the most important Buddhist Site of Gandhara Civilization in Pakistan, which was inscribed on World heritage tentative list in December 2004. This Heritage Site is facing several problems resulting from various management issues and the current land use problems – very similar to the problems in almost all developing countries. This researcher has tried to identify current status and related issues for effective management and preservation of Rani Ghat Heritage Site. New management strategies and policies have to be determined based on these updated data. This research was conducted in January 2015 at the site and viable suggestions and recommendations have also been formulated keeping in view the present state of preservation of the important site. It is sincerely expected that the findings will greatly help the managers and conservationists to chalk out extensive conservation and management strategy for this site, which is constantly under threat both from nature and manmade hazards.*

**Key words:**

Rani Ghat, World heritage, Preservation, Buddhist, Heritage Management, UNESCO.

## Introduction

Cultural and natural heritage is among the priceless and irreplaceable assets, not only of each nation, but of humanity as a whole. The loss, through deterioration or disappearance, of any of these most prized assets constitutes an impoverishment of the heritage of all the people of the world. The Heritage sites and monuments present important landmarks in the progress of human civilization and represent invaluable heritage of mankind.

***Lecturer, Department of Archaeology, Hazara University Khyber Pakhtunkhwa**

The Convention Concerning the Protection of the World Cultural and Natural Heritage, signed in Paris on November 16, 1972, is an international agreement through which nations join together to conserve a collection of the world's timeless treasures. Each country or "State Party" to the Convention recognizes its primary duty to ensure the identification, protection, conservation and transmission to future generations of the cultural and natural heritage situated on its territory. To date, 186 States Parties have signed the World Heritage Convention making it one of the most powerful protection instruments in the world. It is the only international legal instrument for the protection of both cultural and natural sites encouraging cooperation among nations for safeguarding their heritage.

The World Heritage Convention has achieved a great deal during the last about 3.5 decades of its existence. Today, it is among the leading international tools of conservation, and certainly among the best known. The success of the Convention is demonstrated by the almost universal membership, as 186 out of 193 current Members States of the United Nations are signatories or 'States Parties' to the Convention. As many as 1052 cultural and natural heritage sites in 165 countries have so far been inscribed on the World Heritage List (http://whc.unesco.org/en/list/ - Accessed on 1.2.2017). 1704 sites in 176 countries have also been inscribed on the Tentative List of the World Heritage, which speak of the great efforts of UNESCO for protection of the heritage of the humanity (http://whc.unesco.org/en/tentativelists/ - Accessed on 1.2.2017). Beyond these numbers, the World Heritage Convention has been able to achieve an even greater success: it has entered into the hearts and minds of millions of people, providing a tangible demonstration of the power and effectiveness of international cooperation. As a result, its impact has grown over time, inspiring ever greater involvement by governments, communities, individuals, universities, foundations and private sector enterprises (UNESCO World Heritage Centre, 2010).

Heritage Sites have concrete and at the same time abstract but positive prospects. First of all, it appears positive and impressive for a country to be included in such a prestigious list of places. In addition development of various economic activities, based on these sites, (for example,

tourism, hostelling, and shopping, etc.), greatly facilitate enhancement of quality of life of the people and may also provide necessary financing for protection and management of these sites. Thus these sites may play an important role in making serious contribution to the economy of that country.

Pakistan has inherited a wide array of heritage sites of which six have already been inscribed on the world heritage list, while twenty-six sites are on the tentative list, which also include the site of Rani Gat (http://whc.unesco.org/en/statesparties/pk). In Pakistan Heritage Sites are facing several problems due to financial constraints, inadequate management, lack of planning and above all lack of expertise combined with rather poor conservation activities. Serious steps are needed to be taken to overcome these manageable difficulties for protection of these properties in a better way and in accordance with the best international practices. The extent of this study comprises Heritage Site of Rani Ghat in Pakistan. The purpose of this study is to assess and evaluate the current state of conservation for devising an effective management and conservation strategy. The study will certainly help those at the helms of affairs concerning the rich heritage of Pakistan in general and that of the Khyber Pakistan in particular, to evaluate the existing practices and formulate the policies and strategies for the heritage sites which are important for management of the protected areas (Rehman 2005:11)

**Methodology**

The methodology chosen for data collection was through personal visits to the site. During field work different research methods were used such as field observations, semi structured interviews and evaluation of available secondary resources. During the field work all important observations were carefully recorded made and photographs were taken to get updated information. Besides, face-to-face meetings and interviews were also conducted with different stakeholders such as staff members, facilitators, and local beneficiaries (local people and tourists). Moreover, literature and printed material regarding conservation and management of the site was also collected from the officials of the Directorate of Archaeology, Government of

Khyber Pakhtunkhwa, Peshawar. All collected data was evaluated and results were compiled. In a gist, present study aims to:

- Explore the management issues and threats to the sites.
- Assess the level of risks.
- Propose a management plan for conservation, preservation, protection and promotion of site.

**Status of world heritage tentative list sites in Pakistan**

As already stated above, we have twenty-six World Heritage tentative list sites in Pakistan as shown in Table 1. All of the Sites in Pakistan are of cultural heritage type (UNESCO World Heritage Center 2015c). World Heritage tentative list Sites (WHTS) in Pakistan experience a number of problems arising from lack of effective management and conservation issues like almost all developing countries of the World. Some heritage sites have specific problems of their own nature besides common issues like poor management and policy formulation. In general, for effective management of these areas, it is necessary to deal with various issues on priority basis such as lack of management plans, lack of awareness, deficiency of funding, limited foreign investment, insufficient social awareness and unsatisfactory promotion and advertisement. There are few basic factors that raise these problems such as inadequate data about present scenario of Heritage Sites, outdated information and statistics and absence of rehabilitation activities under a specific plan. It is compulsory to find out updated data regarding conditions of the areas to make practical decisions for effective management in future.

| S/# | Site name | Property | Inscription year |
|---|---|---|---|
| 1 | Archaeological Site of Rani Ghat, Buner | Cultural | 2004 |
| 2 | Archaeological Site of Harappa | Cultural | 2004 |
| 3 | Archaeological Site of Mehrgarh | Cultural | 2004 |
| 4 | Archaeological Site of Rehman Dheri | Cultural | 2004 |
| 5 | Badshahi Mosque, Lahore | Cultural | 1993 |
| 6 | Baltit Fort, Gilghit Baltistan | Cultural | 2004 |
| 7 | Chaukhandi Tombs, Karachi | Cultural | 1993 |
| 8 | Hiran Minar and Tank, Sheikhupura | Cultural | 1993 |
| 9 | Shahbazgarhi & Mansehra Rock Edicts | Cultural | 2004 |
| 10 | Port of Banbhore | Cultural | 2004 |
| 11 | Rani Kot Fort, Dadu | Cultural | 1993 |
| 12 | Shah Jahan Mosque, Thatta | Cultural | 1993 |
| 13 | Shahbazgarhi Rock Edicts | Cultural | 2004 |
| 14 | Mansehra Rock Edicts | Cultual | 2004 |
| 15 | Tomb of Bibi Jawindi, Baha'al-Halim and Ustead and the Tomb and Mosque of Jalaluddin Bukhari | Cultural | 2004 |
| 16 | Tomb of Hazrat Shah Rukn-e-Alam, Multan | Cultural | 1993 |
| 17 | Hingol Cultural Landscape | Cultural | 2016 |
| 18 | Tombs of Jahangir, Asif Khan and Akbari, Lahore | Cultural | 1993 |
| 19 | Wazir Khans Mosque, Lahore | Cultural | 1993 |
| 20 | Nagarparkar Cultural Landscape | Cultural | 2016 |
| 21 | Derawar and the Desert Forts of Cholistan | Cultural | 2016 |
| 22 | Karez System Cultural Landscape | Cultural | 2016 |
| 23 | Central Karakorum National Park | Natural | 2016 |
| 24 | Deosai National Park | Natural | 2016 |
| 25 | Ziarat Juniper Forest | Natural | 2016 |
| 26 | The Salt Range and Khewra Salt Mine | Natural | 2016 |

Table No: 1 World Heritage Tentative List sites in Pakistan (http://whc.unesco.org/en/statesparties/pk)

## Location and Background

### *Geographical location of Rani Ghat Buddhist Complex*

Rani Ghat is situated in Nogram area, district Buner, but it can be accessed way from Swabi district. It is situated about 20 km from main Swabi city on the top of a hill about 600 m above sea level and to the south of the famous standing stone —Rani Ghat¬ which gave this name to the site. There are three routes to site from Nogram. One way is to climb up the mountain from the south, which will take about half an hour. The second route is to climb straight up the mountain from Nogram and the third route is via a pass in the north. This site is divided into four

areas, eastern area, western area, the south-west area, and the south area. The areas on the east, west, and south-west areas are on a plateau surrounded by a seven metre high stone wall, made from granite stone (Nisikawa1994: 372)

***Background and extension of Site***

In historical literature Gandhara was first mentioned as a part Achaemenian empire in the time of Cyrus the great (558-528 B.C) in the Behistun inscription (528-519) of the king Darius. With the change of fortunes from time to time, it became a part of Mauryan Empire under Chandragupta. His successor Ashoka (272-237 B.C.) converted to Buddhism and is known to have sent missionaries to Gandhara to propagate Buddhism. It was due to his enthusiastic patronage that Buddhism became firmly rooted in Gandhara. He is credited with building hundreds of monasteries and stupas in length and bredth of his empire. With the passage of time, the original teachings of the Buddha followed by the Hinayana Buddhism, were modified and transformed into Mahayana Buddhism in the land of Gandhara. Buddha was never depicted in the human form in Hinayana but for the first time after Mahayana took roots, sculptures of the Buddha in human form started appearing.

This religion formed an unbreakable bond and artistic manifestations of the religion, as created in Gandhara, materially strengthened this bond. This art is primarily a religious art and was developed in the service of Buddhist faith. Sculptures and paintings on stupas and monasteries brought before the eyes of the worshippers those important tenets of the religion which lent them to pictorial representation. For the long time this unique phase of Pakistan's heritage has been threatened by the illicit trade of antiquities and even stupas, and monasteries have been robbed and priceless materials sold outside the country. The government is trying its level best to stop this illegal digging but such a stupendous task required huge resources which are not available at present. Due to lake of resources, professional and management plan it is difficult to deal with these threats. It is difficult to prepare management plan for all the site/monument; therefore, we have confined our research to one of the important sites known as Rani Ghat. (Rehman 2005:11)

Rani Ghat (Pl: 1) is one of the largest Buddhist complexes in ancient Gandhara. The site is known after the name of huge granite rock which is locally named as Rani Ghat meaning the Queen rock. The original name of this temple is unknown. According to local tradition, it is the place of queen; she used to come out from her palace and sit on the nearby huge standing rock during her evenings for leisure. The Buddhist complex is spread over an area measuring 300m east-west and 90m north-south. The southern area (Pl. 2) is measuring 130m east to west and 230m from north to the south. The site is a fusion of several different structures including 15 stupas, shrines and monasteries (Nisikawa 1994: 395-447)



Pl.1. Rani Ghat: General overview of site.

The site was placed on tentative list of UNESCO's World Heritage in 2004 on the basis of criteria (ii) and (iv). It exhibits an important interchange of human values and a span of time on development of architecture, monumental art, and landscape. Thus it is an outstanding example of a type of building and architectural ensemble which illustrates a significant stage of human

history. But in spite of its historical and architectural value, the site is losing its authenticity due to various management problems.

**Threats to Rani Ghat Buddhist Complex**

The major threats noted during the research at the site of Rani Gat included:

- **Heavy rain**

Rain is one of the most destructive elements that cause major damages to the site. The ancient being on top of the hill are exposed to many hazards during heavy rain, including washing away of the bonding material and falling of the building material. Besides, certain stucco sculptures *in situ* at the site have already greatly damaged and in some cases completely washed away many years ago. There is an urgent need to protect the fragile parts of the huge complex, particularly areas still containing stucco elements.

- **Temperature**

During the rain there is a dramatic decrease in temperature particularly during summer, but soon the temperature starts rising, which creates the process of heating and cooling creating thermal stress and adverse affects on the standing structures. The sudden increase and decrease in temperature causes irreparable damage to the open structure including paintings, plaster work etc.

- **Earthquake**

Seismic (those activity which is caused by Earthquake) activity threatens thousands of cultural heritage objects. Within and outside (Pl. 2) the plane of seismic activity, actions caused by an earthquake can severely affect the stability of historic buildings, causing cracks and damaging facades, corners, roofs and floors, leading to partial and total collapse. Earthquake is one of the

most destructive natural hazards causing irreparable damages to the site. We do have the examples that most of the heritage sites have been completely or partially destroyed by the earthquake. Impacts of earthquakes in the region in the past can be noticed at Rani Ghat in the form of cracks on the wall.



Plate No: 2 Damages caused by Earthquake

- **Hurricane and Winds, storms**

In Rani Ghat site wind primarily causes loading and mechanical damage to structures, but it can also increase or decrease the chemical action of water and gases on cultural heritage objects. The flow around structures has a substantial influence on the deposition of pollutants, biological corrosion, cycles of drying and wetting, as well as mechanical wear of the attached surfaces. Wind transports water, salts, dust and gases to the surfaces or can blow them away. We have witnessed wind effects at Rani Ghat site. Wind and weather affect building materials, and after long-term action the abrasive impact can lead to significant changes to all exterior parts of the structures. Preventive maintenance and monitoring of weather conditions and changes can considerably reduce threats and future financial costs. The second group of damages is when the

bearing capacity of the construction materials is considerably exceeded by the wind loading, especially in combination with rain, which is often the case. And the best example of this is main stupa at Rani Ghat which was conserved and then damaged (Drdacky 2007: 24).

- **Biological growth**

Biological growth means (Pl. 3) every kind of micro plants and animals which get birth in the site naturally and include plants, herbs, shrubs, and micro bacteriological animals such as, mold, fungi, pest and rodents, etc. Biological growth extremely dangerous for the heritage site and the historic site of Rani Ghat is no exception. These plants and shrubs are also encourage the local people to bring their herds to the site for grassing, thus damaging the structures. They also leave the waste behind thus facilitating further biological growths.



Plate No: 3 Biological growths on Rani Ghat Buddhist Complex.

- **Human vandalism and encroachments**

Vandalism means spoiling or destruction of an object or site by human beings. Though, being on top of the hill and away from the population, Rani Ghat does not fact the kind of encroachments as the sites close to the populations do face, but the local people do intrude into the site along

with their herds and do cause damages. Thus those accompanying their herds also cause irreparable losses to the standing structures, when they ascend and descend on the standing structures.

- **Inadequate Security Arrangements**

In the whole site there is no proper security system anywhere; due to lack of security the site is facing many threats like looting, misuse, encroachments in the vicinity, etc.

- **Looting and Theft of Materials**

In the past, many precious artefacts from the site were illegally removed and sold by the antique smugglers. It had been and still a common practice to remove the building materials from heritage sites and used them in new constructions by people of the adjoining localities. Presently, no such activities are though visible on the main site, but in the surrounding heritage sites on the slopes and below the hill containing this heritage sites, are being subject to plundering by the local people in connivance with antique smugglers and dealers. There should be an effective mechanism to stop such activities at all costs.

In the above scenario, we have to see as to what best possible could be done. In my humble opinion, the following should be our priorities for effective protection and preservation of the heritage sites:

**Administrative structure and Custodianship**

The Directorate of Archaeology and Museums, Government of Khyber Pukhtunkhwa is the custodian of the site and responsible for its management. While the Director of Archaeology as Head of the Directorate is responsible for the overall administration and management at the site,

the actual task of conservation, preservation and restoration rests with the Conservation Branch headed by an Assistant Archaeological Engineer and supported by Archaeological Conservators, Conservation Assistants, Masons and Attendants. Sports, Culture, Youth Affairs, Archaeology and Museums Department is the administrative Ministry under the Government of Khyber Pukhtunkhwa, responsible for monitors and management of all archaeological sites and historic monuments. However, the site is presently looked after by only two attendants. The District government of Buner has not been involved in the administration/management of this heritage site at any stage. This should be a matter of concern and also leads to an unsatisfactory situation. The District Government is responsible for the immediate environment of the site and illegal encroachment around it. After 18th amendment, the archaeological and heritage site and monument in the province were transferred to the provincial government along with the relevant staff and involvement of the lower tiers of the provincial government would greatly facilitate the protection and preservation of the sites.

**Management plan**

Exhaustive Management Plan for the Rani Ghat Buddhist site is an obligation under the UNESCO Convention. It is therefore imperative to create enabling environment for conservation, appropriate use and development of the site. The Plan should include efforts to formulate possible procedures to integrate cultural heritage into land-use plans and local development plans while involving all the key stakeholders including the district government of Buner. The Management Plan should integrate the planning process, procedures and objectives into a logical framework according to international requirements. The Management Plan should create a framework for an effective preservation and development of the site. For the purpose, it must first identify factors determining individual components forming the outstanding universal value and suggest effective measures for safeguarding and appropriate development of the site in compliance with international commitments. The Management Plan is supposed to be a flexible and dynamic, regulating management of the site and through measures and projects reacts to the changing needs and circumstances of the site. The Management Plan must have wide public support and must carry duties and responsibilities of all relevant agencies of the government and

they should be accountable for any lapse on their part. It should include both conservation strategies/planning and non-conservation aspects of the site such as tourism. It should address to the serious issues of finances, manpower, expertise and availability of materials without any loss of time. Monitoring of the whole process should be a priority in this planning regime.

**Creation of a talented and trained pool of professionals**

The existing conservation staff is professionally deficient, technically ill trained and lacking desired values necessarily required for conservation of a heritage site. Not only the conservationists, but the archaeologists whose professional responsibilities include preparation of conservation notes for guidance of the conservation staff to conceive and develop a conservation document are completely oblivious to this highly important and delicate responsibility requiring high standard of professional knowledge and expertise in the relevant period. In our case our archaeologists and conservationists are engaged in all trades though they are not masters of all trades. We need to promote specialization so that only relevant people could be posted on the relevant jobs as a principle policy of 'right man for the right job'.

**Conservation Plan as part of the overall Site Management**

A critical review of the records collected in the documentation of interventions shows that the remains of Rani Ghat were first explored by Cunningham who had visited the Rani Ghat in 1848. The first scientific excavation on the site were however, carried out by Kyoto University Mission, Japan from 1983-1992. The Japanese experts also undertook some important conservation works during this period, but since then no appreciable conservation works have been done on this site. With the result the site is facing severe conservation issues and there is a urgent need for assessment and prioritization of these grave problems to be addressed accordingly.

Timely conservation steps at the site would help in retaining the significance of the heritage site. Conservation strategy should be part of the Management Plan and an ongoing process, clearly

aimed at timely action with readily available resources in the shape of finances, manpower, expertise and material. Principles of conservation have already been exhaustively devised in the Operational Guidelines of the World Heritage Centre, while international best practices are also there, which should be the operating part of any conservation planning and strategy. Planning for conservation must involve locally available expertise from other sister organizations, universities of Engineering and Technology, professional bodies of engineers and architects, etc. Experienced retired archaeologists and conservationists can play very effective role in the whole process right from the conceptual to the planning and execution stages. Appraisal and monitoring system should be an integral part of the conservation planning.

**Financial resources and investments**

A focused approached to funding is needed to ensure that the custodians of Rani Ghat site have a flexible and diverse finding base to implement management decisions and carry out systematic conservation. There was no financial allocation from the government in previous years for this site. With the devolution process completed in 2011, we expected that the provincial government will allocate more funds for this world heritage tentative list site. However, it is important to explore other sources as well including funding by the international agencies and governments. Local governments can run fund raising programs for important heritage sites within their areas of jurisdiction.

**Tourism policy**

Cultural tourism is an important economic factor and Heritage sites with potential to attract tourists (both national and international) do play very effective role in development of the surrounding areas and empowering their people economically. It is the responsibility of concerned government bodies to ensure easy access to such sites, create secure and visitors' friendly environment, encourage investments, provide basic amenities at the sites such as safe drinking water, washrooms, resting places, etc. There should be arrangement for guided tours, as uncontrolled tourism can make greatly harm the Heritage sites. There is need for developing

strategies for sustainable use of the sites and surrounding lands. Development of necessary infrastructures at the sites and their surroundings should be a pre-requisite for cultural tourism.

**Scientific Research, Information, Education and awareness regarding Heritage Site**

World or National Heritage sites are centres of visual education. They tell and offer much than what could be available in literature to the visitors. As such, there should be an elaborate research undertaken by professionals of high caliber and integrity and the same shared with visitors at the site through movies, pictures and guided tours. Sharing first hand information about the site, its builder(s), purpose, peculiarities, functions, historic, social, religious and cultural importance and above all need for its preservation and sustenance would greatly help in creating awareness amongst the visitors, who will then carry on this message with them to share with those who never visited here and would be encouraged to come and see these sites.

The heritage sites have much for the architects, engineers, archaeologists, historians, anthropologists, chemists, geographers, geologists, artists, environmentalists, sometimes for linguists, etc. and thus offer much beyond our imagination to the wide array of people from different walks of life including the students of these disciplines. Thus simply making a site accessible would never fulfill the mandate to educate, inform and create awareness. For the purpose, the concerned authorities need to address the following questions during the course of developing a management plan:

(a) How can knowledge about the site be best communicated to all the stakeholders including the visitors, in the Heritage site itself?

(b) How can important target groups and multipliers be reached?

(c) How can knowledge pertaining to the requirements for protection and conservation best be communicated to all the stakeholders?

(d) How can enthusiasm for the topic, especially among young people, be triggered?

(e) How to create awareness about need for protection and preservation of the heritage sites and taking care of them during visits?

The communication strategy, therefore, should convey both the idea of the World Heritage programme and the outstanding universal value of the Heritage site as well as the resulting responsibilities and opportunities. The international dimension calls for a multilingual approach. The following means of communication, scientific research work, education and social awareness should be considered for Rani Ghat site:

- **Publications**

Publishing informative brochures, cards, pamphlets, newsletters and other publications on Rani.

- **Internet**

Acquiring information via the Internet is becoming increasingly important worldwide. It hence makes sense to create a multilingual internet presence and also to add information relevant to the site to existing websites of relevant national and international including Tourism Development Corporations (Federal and Provincial), the World Heritage Centre, ICOM, ICOMOS, etc. A separate Internet portal can also be created for the Rani Ghat Heritage site or a UNESCO World Heritage■ link providing further information can be placed on request can be made to UNESCO/World Heritage Centre to provide a window for placing relevant information.

- **Signboards**

Plaques carrying information about the site should be placed at appropriate places on and around the site for convenience and education of the visitors. The information should also highlight universal values of the site recognized by the international community. Presently the Rani Ghat site has no sign boards. No such signs are even available on the link roads leading to this site. It would be wonderful if the information signs are placed on individual monuments inside the complex, connecting one with another in the form of thematic walking tours, placing the monuments in a meaningful context. Sign boards highlighting importance of such sites should be

placed prominently on all major roads and particularly on the Motorways, which may greatly help in attracting tourists to these sites.

- **Heritage Sites as Centre of Visual Education**

All Heritage sites should be developed as centres of visual education. Young people, particularly students should constitute an important target group to attract them for the purpose of educating them through visual tours of the site. For the purpose, there should be very close and effective links and cooperation between the management of the sites and the educational institutions including universities, colleges and schools. Higher Education Commission at the federal level, Directorates of High Education, Colleges and Schools at the provincial levels need to be involved for effective implementation of this plan. The provincial government can be approached to make it mandatory for all schools and colleges to take their students to any important heritage site at least once a year. Facilities of guided tours for such visits with adequate number of qualified archaeologists or tourist guides need to be ensured. Archaeologists/Managers of the concerned heritage sites should also visit the educational institutions as part of awareness campaign and education program and deliver lectures to the students in close cooperation with the heads of the concerned institutions.

- **Publicity**

Pakistani media (both print and electronic) has failed in realizing its role in presenting and promoting our rich cultural heritage. Occasionally any program is aired or telecast or any article published about the heritage sites. Media has a important role in the publicity, presentation and promotion of Heritage sites. There is an urgent need to develop close linkages with all media houses and make it mandatory for all channels and newspapers to telecast/publish at least one program/article on any important heritage site once a week, spanning over an hour/half page. This practice would certainly create awareness about the heritage sites amongst all segments of the society. The professional bodies of the print and electronic media should be involved in this important task.

- **Training**

Broadly applied training and information programs for decision makers, technical experts, journalists, teachers, tourist guides and other multipliers should be initiated in cooperation with appropriate institutions. Experts from different disciplines of the multi-dimensional heritage should be called to deliver lectures and share their knowledge and experiences with the participants of such training workshops. The participants should be awarded certificates for attending such trainings and also tasked with undertaking awareness programs in given areas.

- **Exhibitions**

Mounting exhibitions based on selected themes and objects would serve very important role in creating awareness about the heritage and heritage sites, their projection and promotion. Exhibitions can be arranged through the country in all major cities at town halls or other appropriate places, by giving appropriate publicity to attract visitors. Alternatively, travelling exhibitions can also be arranged with availability of big containers and other facilities now. These travelling exhibitions can easily be taken to schools, colleges and universities for education the youngsters and creating awareness in them about their rich cultural heritage. All Museums apart from normal display, should also put on display any object as "object of the month" by giving wide publicity regarding importance of the object from any particular site. This would also create excitement and interest amongst visitors to the Museums for visiting the concerned heritage site. By mounting such exhibitions we can create additional opportunities of communicating information and mobilizing people for the sacred cause of preservation of the heritage. With active support of international institutions and governments we can also arrange special exhibitions abroad.

**Monitoring and maintenance**

A historic site is the one that gives us a sense of wonder and create curiosity about the cultures and people who produced it. This is only possible when the sites are properly maintained and monitored by professionals so that the authenticity of the site can be preserved and maintained. The site Rani Ghat is losing its authenticity due to lack of maintenance and monitoring.

**Buffer zones**

Specifications about buffer zones can be found in Paragraphs 103 to 107 of the Operational guidelines of the World Heritage Centre. According to these specifications buffer zones should include the immediate setting surrounding the inscribed property, important views and other areas or attributes that are functionally important as a support to the site and its protection. It is advisable to anchor buffer zones for Heritage sites in the framework of these existing legal instruments, in consonance with the provisions of the Khyber Pakhtunkhwa Antiquities Act 2016, which disallows any construction activities within 200 feet of the protected antiquities. Creation of proper Buffer Zones around the protected sites and monuments do help in effective protection and preservation of the heritage sites. No undesirable activities should be allowed to be carried out in the Buffer areas around the heritage sites unless it is completely in consonance with the character and spirit of the site.

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# The Prestige and Status of Women in Ancient Civiliztions- A Historical Perspective

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**Abstract:**

*Women empowerment is one of the cherished ideals of the international community to be achieved in the 21st century. This is evident from the United Nations mandated eight MDGs in which gender equality and women empowerment stands at no.3. Of course UN-member states are striving to achieve these goals together with the sub targets. In this perspective, women empowerment is the clarion of the day. This paper is an attempt to highlight the status of women in historical perspective. This will be a source of information for those who are interested in the field of gender studies and foe the young researchers in general. Some of the prominent ancient civilizations as well as the latest or modern developments in contemporary civilizations are explored and discussed. In this connection the very philosophy and line of thinking prevalent in some outstanding religions are also presented. The overall analysis reveals that in nearly every civilization the status of women, except for some very rare cases, remained extremely miserable, especially in the ancient ones, except the Islamic civilization which introduced tremendous reforms in this respect that paved way for women empowerment in times to come. The modern and post-modern philosophical outlooks especially feminism owe much to the initial input of the Islamic civilization.*

**Key Words:**

Gender Equality, WomenEmpowerment, Feminism, MDGs.

## Introduction

First emerged in Europe at around 18the C., the concept of 'civilization' later became very common in the beginning of the 19th C. as mentioned by Laffey, (1993) and Mazlish, (2004). The term 'civilization' attained more political explanation than ever before, as it was used for the

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political organization of a society where governance was carried out by civil law rather than dictatorship as expounded by Bowden, (2004); Gong, (1984) and Mazlish, (2004). Hence, a society characterized by supremacy of law and reason rather than the mere use force may be termed as 'civilized society.'

The very concept of civilization is a dynamic one covering a vast array of human life; it is more pluralistic in nature as exerted by Bowden, (2007a) and Mazlish, (2004). Mazlish (2004) believes that women have remained the standard and measure of civilization in any human society. They have an integral role and place in the growth or even decline of every known human civilization. During the 19th C. women exerted their identification as socializing agents and were thought as a transforming force for human behavior especially in the early stage of human growth. 'No universal agent of civilization exists but our mothers,' argued Louis-Aimé Martin (1834) in his enormously influential book, *The Education of Mothers; or, The Civilization of Mankind by Women* (http://www.mfhoum.com). The same thought is beautifully summarized by Quaid-e-Azam Mohammad Ali Jinnah in the following words:

> "No nation can rise to the height of glory unless their women are side by side with them…It is crime against humanity that our women are shut up with in the four walls of the houses as prisoners. There is no sanction anywhere for the deplorable condition in which our women have to live". (Bhattacharya).

It is pertinent to mention here that those societies that awarded least priority to women had to suffer in due course of time. In certain societies women were bereaved of their due rights as their freedom and recognition were denied. Except for some women of the aristocratic families, the rest of the human societies had low respect for women. They were dealt as personal property of men. Leave the rest, a woman was even not the owner of herself. She was always kept dependent on man.

This is especially true of the pre-Islamic Arab societies where woman was considered as an insignificant creature. Instances of immediate killing after birth for girls were rampant in the Arabian Peninsula. However, with the advent of Islamic civilization, women were granted a number of rights, ranging from personal to social, civic and economic rights. Islam gave top

priority to women regarding their social status and prestige. For the first time woman was raised to the status of humanity with reference to her equal existence with the opposite gender. She acquired unprecedented rights as compared to any other human civilization, (Mohammed bin Saleh 'Uthaymeen, 1414 AH). The tremendous impact of this reformation can be seen in the manifold contribution of women in the growth and development of Islamic civilization especially her role in upbringing and early childhood education of the youngsters, together with preserving the cultural heritage of the society.

**The role of Women in different civilizations:**

Despite their remarkable growth as a civilized cociety, the Greeks were also paying little heed to women as woman was considered the root cause of human sufferings. She was just used for procreation. Furthermore, they were compelled to do adultery even the same practice was applied to mothers as well. Sisters had no choice to marry as per their free will (Ibrahim al-Najjar, 1415 AH). Such a picture is drawn by Mustafa Sibai when he quotes Demosthenes who believed, "They had wives to produce children and girlfriend to enjoy their physical contact with them" (Mustafa Sibai, 1414 A.H).

**A panoramic view of the status of women in some ancient civilizations:**

The Persia: The Persian nation was basically a military nation. Man was considered a pillar of the fighting lot, i.e., they have much significance (Muhammad bin Abdal -Karim Al-Shahristani, 1413AH). Therefore, they preferred man to woman, because woman was thought to have been created for man. Hence, the status of women was miserable in the Persian civilization, (Samia Moneisi, 1416 A.H). Nearly the same situation prevailed in Rome where women were bereaved from their civil rights by law. Here woman was considered the cause of every evil and was thus, deprived of all forms of human rights (Bhi Khuli, 1414 AH). Of course, the Romans had some very cherished societal norms but their attitude towards remained still deplorable.

The Hindu civilization was not different from other civilizations in this respect. Here woman had such a status that was just equal to that of a slave. She was thought of a sort of personal property that was to be lost even in gambling and trifles. Woman was labeled as: hell, fire, a poisonous

snake or venom. She was prohibited by law to initiate or do something on her free Will. Like personal property she was transferred from father to her husband where the later had the status of God for her. She had no right to life after her husband's death and was to be burn alive with him (Abdalmtaal-Jabri,1408 A.H). such in human practices regarding women is still prevalent in Hindu culture even to this day.

Judaism considered women the fountain of Sin as mentioned in the Old Testament that she was instrumental in Adams' eviction from the Paradise. It is believed in the Jewish creed that Satan tricked Adam through Eve; hence the very existence of woman is temptation that led to disaster for man (Bible verse: 1-24). This was the basic philosophy in Jewish creed that made woman a property of man and was often sold like anything by her father especially when the father was poor. Similarly she was compelled to marry anybody who wanted to marry her in any stage of life. Even the dowry was offered to her father at the time of her marriage. The Old Testament declares, "Woman introduced the sin in the World and she is the cause of our destruction" (Exodus, verse: 7-12). This is further elaborated in Talmud—a sacred book of the Jews, "when a few praises a non-Jewish woman, they are not to be blamed, for his marriage with her is not valid. They consider a non-Jewish woman an animal and hence can't make any matrimonial contract with them" (Genesis, verse: 12). Such statements can be observed in the Jewish writings that simply indicate towards the inhuman approach of the Jewish thought.

Nearly the same situation prevailed in ancient China. Chinese abhorred girls. There were instances of selling the new-born girls among Chinese. Similarly if no one was ready to buy her, she was to be left there, or in a deserted area to parish in due course of time. On occasions she was either drowned or buried alive. This tradition of the Chinese people was reported by a Muslim explorer Ibn-e-Batuta in his travelogue in which he mentioned the selling of daughters was a common practice in the then Chinese culture (Lowell Durant). Woman was considered as foolish and stupid. It was believed among the Chinese people that woman possess no quality of resolving any issue on her own. Thus, the Chinese society also presented a miserable picture of women. However, after marriage she was labeled as 'Fu', meaning 'obedient' (Lowell Durant).

The Christian creed which is a sort of continuation of the Jewish one is not much different from its predecessor. The Christians believes in both the Old Testament and the New Testament. Of course, the Old Testament is very critical of women as earlier mentioned. The Old Testament proclaims that Eve was responsible for the heinous crime, while in Christianity, the New Testament repeats the same idea, "Adam did not go astray rather woman went astray and thus this incident happened" (Ecclesiastes, verse: 26 -29; Leviticus, verse: 19-24).

The Christian clergy looked down upon women and considered them as the root-cause of all sins; even her lawful matrimonial relation with others was disgusted and was labeled as unsacred. As a result of this line of thinking men usually preferred to remain single than to marry. The following quotation of Saul is worth mentioning: "one who marries one's daughter, does a wonderful job, and one who does not get one's daughter married, does a far better job" (Leviticus, verses: 3. 22.23). Such quotations from the sacred scriptures of Christianity are self evident for clarifying the point under discussion.

**Women in Islamic Civilization:**

Before the advent of Islam the *Jahiliyia* period in the Arabian Peninsula presented a very sad picture, except for some very rare instances of cherished women standing, regarding the social status of women. The situation was so deplorable that even the birth of a girl was considered ominous and a sort of disgrace. Therefore, some people went on to the extent of burying the girls alive because her birth was perceived a matter of humiliation (Shoukry Alusi, 1414 AH).

This is evident from the very text of the Holy Quran which highlights this inhuman line of thinking in the following manner, 'Whenever the news of a female child is announced to any one of them, his face darkens and he chokes with inward gloom'.

As a religion Islam introduced a number of social reforms which included some very basic and fundamental injunctions that, besides eradicating some other social evils elevated the status of women from that of an animal-like life to that of the real human position. Islam extended such rights to women that brought them at par with men in all walks of life. This is evident from the following excerpt of the Holy Quran which goes thus: "And for them (women) are rights similar to those (of men) against them", (The Holy Qur'an, 2: 228).

The Holy Quran rejuvenated the Psycho-moral and legal status of women which was the first ever incident extended by any religion or creed in human history. Specific injunctions included rights to: marriage, inheritance and even divorce. Islam strictly prohibited the prevalent un-human practices of the Arabs such as temporary marriage and polygamy etc. However, the maximum number of wives at a time was restricted to four only subject to the condition that each wife be treated fairly and justice be maintained among them by the husband otherwise the wrath of Allah will incur on the transgressor. This way monogamy was somewhat silently preferred. If you fear that you shall not be able to deal justly with the orphans, marry women of your choice, two, three or four. But if you fear that you shall not be able to deal justly (with them) then only one (The Holy Qur'an, 4: 3).

Further, women were granted social security when divorce was considered the least wanted measure by Islam as this practice was rampant among the Arabs. This is evident from the Sayings of the Holy Prophet (S.A.W): "…of all the permitted things, divorce is the most abominable with God" (Abu Dawud). Together with this, right to inheritance was granted to women that was another major breakthrough regarding women empowerment. In pre-Islamic Arabia, like any other civilization, inheritance was only for male relatives while women were totally bereaved from the right to inheritance.

**Women's rights in Islam:**

An impartial analysis of various civilizations of the world reveals that for the first time in human history the rights of women were safeguarded by Islam in both theoretical as well as practical arena. The distinction that prevailed men and women before Islam was altogether eradicated. Women enjoyed the same legal, spiritual, and socio-economic rights as did the men. Women had the right to purchase, sell, and earn their living by managing their own money and property. Thus women were endowed with full-fledge economic independence (Adeel 2010: 106). Furthermore, women were granted inheritance right regarding their movable and immovable property. It is due to the Islamic injunctions that woman is entitled to have some share in husband's property for child-rearing even after divorce (Omar, 2011).

The Holy Quran explicitly provided equal religious rights to women, as well as equality in spending virtuous and chaste life and even equality in the Hereafter. The following verse is self explanatory: "If any do deeds of righteousness…be they male or female and have faith, they will enter the Heaven, and not the least injustice will be done to them", (The Holy Qur'an, 4: 124). This was the impact of extended freedom for women that some of them rose to prominence during the peak of Islamic civilization such as Umul Momineen Hadhrat Ayesha (R.A), Hadhrat Fatma (R.A), Hadhrat Rabia Basri—to name a few. One such name is that of Shuhda bint al-Ibari, surnamed "The glory of women" in Baghdad, during the Abbasside caliphate who died in 574/1178. She had commanding expertise in religious science. Another towering woman scholar was Zaynab binte-Shari (D.615/1219) who studied with al-Zamakhshari and produced such a splendid scholar as Ibn Khalikan, who was her disciple (Nejlalzzedin,1953).

Such tremendous excellence on the part of women in Islamic civilization was due to the respectable status given to her in Islam. It is reported that the Holy Prophet (S.W) once said that the best among Muslims is the one who is relatively more compassionate to his family (Muhammad Rashid Rida, 1405AH). Woman in the form of a mother is the first training institute for a child. She is supposed to be the mentor of the child, hence the all-round development of a child is subservient to mother. She shoulders the responsibility of physical, mental, moral, and ethical training of the child. Regarding child-rearing the following text of a *Hadith* is worth mentioning: Command your children to pray when they become seven years old, and beat them for it (prayer) when they become ten years old; and arrange their beds (to sleep) separately (Abu Dawoud: 968). A mother is the most powerful influencing personality especially in the early five years of a child and this responsibility is assigned to mothers in a typical Islamic civilization (Ahmed Nagdy).

**A glimpse of the modern and post modern era:**

The modern era is roughly traced at the advent of industrialization in the West in the 18$^{th}$ century. Besides other remarkable progress, this period witnessed the growth and development regarding the social status of women. The later half of the 19$^{th}$ century and the beginning of the 20$^{th}$ century witnessed unprecedented growth in this respect. Women attained a relatively more vibrant position in the socio-economic development of human society. Many women rose to

prominence in various spheres of life. They took remarkable strides in matters related to statehood and governance, politics, economics, media, sports, social work, and humanitarian aid etc. This period was marked by the legal and constitutional provisions both at state level and at international level that were meant for bridging the gap between gender disparities in all respects.

The modern era was followed by postmodernism which paved way for a number of intellectual discourses, one being the philosophy of feminism. In the 1990s till 2000 some scholars started writing in a more feministic approach that afterwards strengthened the earlier feminist overtures into a more established one, and thus; feminism emerged a stronger intellectual movement among the academic circles. This new approach is known as feminism which is now-a-days a full-fledged philosophy. In nutshell, feminism is the philosophy that emphasizes a more proactive role and position for women. Even in academic writing gender-biased language is considered the most unwanted style.

**Summary and Conclusion:**

The analysis and discussion so far, reveals that woman was never given her due rights in almost all known human civilizations except some very rare examples where a few women had a relatively highly privileged position. Woman was always maltreated. In most cases she was lowered to the status of an animal or even below. In some creeds she was thought to be root-cause of perpetual sin. Her very existence was denied and her birth was considered a sort of defamation and humiliation, hence she was the most unwanted creature in humanity. She was even buried alive after immediately her birth or burnt alive when her husband died. In short woman had to suffer many atrocities at the hands of her counterpart. The history of the sufferings of women is as long as the very history of humanity, till the advent of Islam. It was in the Islamic civilization that women were endowed with full fledged rights as human beings. The evidences of such injunctions and practical demonstrations are numerous in the belief or creed system as well as in the social life in a typical Islamic civilization.

The above discussion leads one to conclude that till the advent of Islam women had to live in miserable condition in every part of the World. However, Islam extended manifold rights to

women that afterwards paved way for many other societies especially the modern developed societies to give respectable status to women in their social fabric. Today's developed societies owe much to the cherished ideals of Islamic civilization regarding the provision of fundamental human rights. It is pertinent to mention here that in today's globalized context there is a need of substantial efforts to ensure women empowerment. In this connection UN as well as other NGOs can play significant role in bringing about fraternity, equality, and equal human rights to women all over the world.

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# Depression through the Ages and its Role in Crimes: An Investigative Study of Contributing Factors Among University Students

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***Abstract***

*Depression has been identified as a major culprit for deviance and criminal behaviour. Students are not exception to it and they are increasingly at risk to develop depression and negative feelings. This study attempts to investigate factors that relate to educational environment and their role in triggering depression among students. The findings of the study are based on data generated from English linguistics and literature students enrolled at four universities in Islamabad, Pakistan. Quantitative data is collected through questionnaire from 300 students and the qualitative part of the study is based on short interviews from English teachers. The focus is to find a link between depression and factors like failure in education, parental pressure, weak financial background, poor health and wrong choice of subjects. The findings of the study reveal that the universities do not have an established mechanism to identify and treat such cases among students. The data further indicate that such cases are rarely reported and the factors are variously linked by the respondents to the incidence of depression and criminal tendencies. Further, it is concluded that timely intervention and due recognition of the existence of contributing factors to depression in educational environment may help reduce such cases to a considerable degree.*

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***Key Words: Depression; crime; English students; university; Pakistan***

## Introduction

Mental illness currently accounts for 11.5% of global disease burden, more than all cancers combined. Depression alone is now the fourth-leading cause of the global disease burden and the leading cause of disability worldwide. (Edward H. Hagen 2012). The rising depression in students is more alarming. This being the situation, we considered it appropriate to present a study conducted on students – the hopes of our future and let all the stakeholders know as to what are the potential causes and what remedies are available.

Ancient Greeks and Romans were divided in their thinking about the causes of melancholia. Literature of the time was filled with references to mental illness caused by spirits or demons. In the 5th century B.C., the Greek historian Herodotus wrote about a king who was driven mad by evil spirits. The early Babylonian, Chinese, and Egyptian civilizations also viewed mental illness as a form of demonic possession, and used exorcism techniques (such as beatings, restraint, and starvation) designed to drive demons out of the afflicted person's body as treatments. In contrast, early Roman and Greek doctors thought that depression was both a biological and psychological disease. Gymnastics, massage, special diets, music, and baths, as well as a concoction of poppy extract and donkey's milk were used to alleviate depressive symptoms (**www.mentalhelp.net** › *Disorders & Issues)*

Depression was previously known as melancholia and commonly referred to as major depressive disorder by many Health care professionals. It has a long history and in the known history going back at least as far back as classical times. It was generally believed in Ancient Greece that resulted due to an imbalance in the four basic bodily fluids (blood, black bile, yellow bile, and phlegm). Derived from the ancient Greek language *melas*, "black", and *kholé*, "bile" (Liddell, Henry and Robert Scott 1980). It was described as a disease with particular mental and physical symptoms by Hippocrates in his *Aphorisms*, where he characterized all "fears and despondencies, if they last a long time" as being symptomatic of the ailment (Hippocrates, *Aphorisms*, Section 6.23). Though this theory fell fell out of favor Greece but was revived in

Rome. Melancholia was a far broader concept than today's depression where importance was given to symptoms of sadness, dejection, and despondency, and often fear, anger, delusions and obsessions were included in it (Rodden, J 2003).

Muslim physicians had developed ideas about melancholia during the Golden period of Islam. Ishaq ibn Imran (d. 908) combined the concepts of melancholia and *phrenitis* i.e. inflammation of brain (Jacquart D, 1996; pp. 980). Avicenna, the great Persian physician of the 11th century had described melancholia as a depressive type of mood disorder in which the person may become suspicious and develop certain types of phobias *(*Haque, A. 2004; pp.357-377). Moral and spiritual theories also prevailed, and in the Christian environment of medieval Europe, a malaise called *acedia* (sloth or absence of caring) was identified, involving low spirits and lethargy typically linked to isolation *(*Daly, RW 2007; pp.30-51 and *Merkel, L. 2003)*. Robert Burton in 17$^{th}$ century suggested that melancholy could be combated with a healthy diet, sufficient sleep, music, and "meaningful work", along with talking about the problem with a friend (Kent 2003; p.55 and Burton, Robert 2004)

During the 18th century, the fluid theory of melancholia once again rejected and references to dark and gloomy states gave way to ideas of slowed circulation and depleted energy (Jackson, SW 1983; pp.298-319). German physician Johann Christian Heinroth has argued melancholia was a disturbance of the soul due to moral conflict within the patient. The term *depression* was derived from the Latin verb *deprimere*, "to press down" (Online Etymology Dictionary). From the 14th century, "to depress" meant to subjugate or to bring down in spirits. It was used in 1665 in English author Richard Baker's *Chronicle* to refer to someone having "a great depression of spirit", and by English author Samuel Johnson in a similar sense in 1753 (Wolpert, L. 2008). French psychiatrist Louis Delasiauve in 1856 referred to a psychiatric symptom and by the 1860s this term was appearing in medical dictionaries to refer to a physiological and metaphorical lowering of emotional function (Berrios, GE 1988; pp.298-304). German psychiatrist Eil Kraepelin was perhaps the first to use this overarching term, referring to different kinds of melancholia as *depressive states* (Division, K 2006; pp.115-118), while English psychiatrist Henry Maudsley proposed an overarching category of *affective disorder* (Lewis, AJ 1934; 1-42). The 20th century has been dubbed the 'age of anxiety'. By the 1950s one in every 20 Americans

was routinely swallowing a sedative over breakfast. In the mid-1990s Prozac had become the second best-selling drug in the world. It was billed as the magic bullet for depressives. Despite some evidence that anti-depressants are only marginally more effective than placebos more and more people turn to drugs to alleviate their sadness (Clark Lawlor 2012).

Depression is a frequent and severe mental illness generally identified by gloomy and anxious feeling. Many students are at times gloomy and anxious but these feelings exist for very short span and are over in couple of days. Depression lasts for a long time if it is severe that can affect day to day activities and the sufferer may feel 'a little down' (Krap, 2016). Depression is not only passing blue frame of mind, it is rather continuous feelings of worthlessness and lack of interest in pleasing activities. It is a pertinent issue in youth but due to lack of awareness and understanding of psychological disorders, it is not particularly recognized as a mental disorder especially in the third world countries like Pakistan. Students' performance is affected by many factors throughout their academic life but depression is seldom considered while enlisting the forces working behind the troubled attitudes and affected performance of students. According to a report, 8.1 per cent of 2 million adolescents ranging between the ages of 12-17 encounter minimum one major depressive episode in 2009. Further, around 15 million children fulfil the criteria of being the sufferers of mental health disorder (American Psychological Association, 2008).

**Literature Review**

Crime is closely related to this phenomenon of depression in student life and in some cases crime is a product of depression. However, depression is seldom taken into consideration while digging the root causes of crime in the third world countries. In the developed countries however, a lot of work has been done on this topic proving that depression can lead to delinquent behaviour in students. Some of these studies include the works of Broidy and Agnew (1997) and Piquero and Selock (2004). These studies show how depression can trigger criminal behaviour especially in adolescents.

Looking at the same phenomenon in a reverse approach, studies also show that people who are proven guilty of crimes and tested for psychological disorders prove that criminality and depression are linked in a very high percentage among cases under observation. Elbogen and Johnson (2009) finds that depressed individuals are observed to indulge actively in negative

activities and face higher arrest rates than normal ones. They are usually guilty of prior violence and are more expected to be the victims of misconduct and criminal attitude. These studies also show how depression and crime are directly related and how in adolescents, depression gives rise to criminal mentalities. This relationship however, is not explored in as much detail and depth as it should have been. The work that is already done also does not prove the link between depression and criminality pertinently as it is not focused specifically on depression but rather on general mental disorders. The ratio of depression is seriously high that it is affecting more than 350 million people worldwide. A study in England notes that "there is considerable concern about self-harm and suicide in depression. We express that the rates of violent crime are at least as high, but they don't receive the same level of attention in clinical guidelines or mainstream clinical practice" (Fazel, Bains & Doll, 2006).

The symptoms of depression are not particular to students' low self-esteem or poor family background. "Honor students, athletes, non-traditional students struggling to succeed are also the victims of depression (Mier, Boone, & Shropshire, 2008). Such students' do not come to mind when we think about at-risk students but recent studies have shown that these students are among the many students who are still struggling. Anxiety, mood and stress-related disorders among those are affecting student leaders. These students strive for perfection in every task they are assigned. Moreover, they always try hard to fulfil the expectations of their parents and teachers. Their track record of success reveals minimum experience with failure and disappointment. All these factors makes it difficult for them to set limits to their own desires and they often find themselves in downward spiral of over commitment of exhaustion and disappointment. A common response that come from bright students is that they either become careless in their task or they quit, they also cut themselves from peer support, hence goes into depression or psychological crisis.

The difference between depressed and relaxed people is quite clear. Depressed people remain gloomy, negative and pessimistic in explaining the happenings of the world and reasons of their failure, hence stress caused negative feelings which badly damage their health. On the other hand, happy people share their ideas and stay friendly and helpful with their mates. College and university students suffer from depression which badly affects their mood and academic

performance. Zivin, et al. (2007) states that depression is the main cause of suicide. Women are more depressed than men.

Bower & Gilbody (2003) reports that nearly "34 million folks in United States had at the same time suffered from major depression and according to a report, about 13.5 million people suffered from bouts of stern depression". The estimated calculation shows that around 23 % of the United States population suffers from depression. Although thisestimated number seems high, still many people who experienced mild depression or remained undiagnosed were not part of this calculation. It is important to notify institutes and authorities on the prevalence of depression in young adults as higher possibility of suicide is affiliated with untreated depression.

According to Elbogen and Johnson(2009),failure in educational attainment is discussed by many scholars as the major cause of depression. People have high arrest rates, criminal records and can be the victim of their own crime. Donnellan et al, (2005) concludes that students with low confidence are more probable to exhibit adverse, offending and criminal behaviour. On the other hand, it is also found that depression reduces humans' vigour and aspiration to enact (Mazerolle & Piquero, 1997) especially babyhood depression has considerable permanence into maturity. Another notable outcome of depression is that students who present a depressed mood are likely to lose academic inspiration and academic activity. Depressed students also have many troubles in academic assignments at university (Khawaja & Bryden, 2008). In qualitative research by Anderson (2003), it is observed that depression is one of the reasons of their academic dilemmas, including academic presentation. In general, studies in this area report a negative relationship between academic achievement or performance and depression. Students who live alone may face problems without social support, especially international students. Students dealing with social problems and psychological distress have a higher rate of the symptoms of depression compared to students living with their family. Students sometimes unintentionally indulge in wrong or illegal activities smoking, drinking etc.Interestingly, a very few studies show that the inclination of causality may be from crime to depression and depression may be less likely to persuade the negative behaviour because depression is likely to decrease individual's vigour and capacity/desire to act (Agnew, 1992).

It is necessary to conduct in-depth study on causes and effects of depression. People suffer from depression due to many reasons. On the surface, it is difficult to talk about the reasons of depression; it might be due to unrealistic expectations of themselves and others. Similarly, the relationship between low intellectual level and negative behaviour, ultimately criminal involvement is close concern of many researchers like Jolliffe & Farrington (2004) and Haldorsen*et al* (2014). Kroner and Forth's research opened the new dimensions of the study that people suffered from depression were also under alexithymia which resulted in absence and inability to share the feeling and reasons of depression (Kroner & Forth, 1995). Some socioeconomic factors also play a vital role in committing crimes like illiterate mother and low household income that are considered vital by many criminologists in child's development and effects badly in adulthood too. Moreover, criminal record of biological father also affects individual's attitude towards committing crime. Children with fathers who have been incarcerated are more likely to commit crime and these children have fair chance of suffering depression (Hjalmarsson and Lindquist, 2012).

Hawkes (as cited in Burke, 2017) concluded that people who suffer from depression are more likely to commit suicide and serious aggressive crimes. A team of Oxford University explored the link between depression and aggressive crime and that study was published in Lancet Psychiatry. The study showed that increase in depression resulted in increase of committing violent and aggressive crimes and around 3.7 % of depressed men and 0.5 percent of depressed women were prone to commit violent crime. According to Hawkes, "Violent crime was defined as a conviction for any of homicide or attempted homicide, aggravated or common assault, robbery, arson, sexual offences (including indecent exposure), and illegal threats or intimidation". This study reported 32000 violent crimes a year in England and Wales. Self-harming is a greater risk of depression than harming other people.

Widom, DuMont and Czaja (2007) stated that Major Depression Disorder (MDD) is common in grown-ups. According to their study child abuse and neglected behaviour towards children leads to MDD and this leads them to isolation and sometimes increased desire for violence and crime. Children suffering from physical abuse and multi stress situations were at verge of lifetime MDD.

There are many other factors which can cause depression among students. Internet addiction, sleep disorder and self-esteem can hinder students' academic progress and ultimately leads to depression (Younes, Halawi, Jabbour, El Osta, Karam, Hajj & Khabbaz, 2016). They also note that internet addiction is relatively high among young students which lead to segregation and isolation. Thus, students can go to negative side affecting themselves and their surroundings. Fergusson (2002) is of the view that depression leads to negativity and criminal and destructive activities that leadalso results in self-destruction. Bernal-Morales, Rodríguez-Landa & Pulido-Criollo (2015) states that emotional processes are also associated with depression among students and basic reasons of depression among students is unsatisfactory academic performance that leads to psychiatric disorders.

In the light of above discussion, it is evident that there really is a relationship between depression and crime in students whether it is explored in depth or not. However, as mentioned already, in Pakistan not much research has been conducted on this topic or on mental health in general owing to the lack of awareness. In Pakistani context, it is difficult to estimate the prevalence of depression; however, one systematic review cautiously cites prevalence of depression and anxiety at 34% in the overall population of Pakistan (Mirza & Jenkins 2004). Other studies about crime and mental disorders are conducted but they too do not focus specifically on students. Some studies have been conducted generally though exploring the relation between mental health and crime. For example, one study from Lahore, explored statistically the significant relationship between adolescence depression and social factors working at the background such as unemployment, early marriage, early child bearing, violence and sexual harassment (Afzal, Rana & Mehmood, 2008). However, this research only focuses on adolescent girls and not generally on students.

The above review of literature shows that the relation of crime and depression in students has not been explored on practical or on theoretical levels. Therefore, extensive research needs to be conducted specifically to identify the relationship between negative activities and depression. This research aims to fill this gap by exploring the relationship between depression and crime in students.

## Methodology

This cross-sectional study was conducted at four universities located in Islamabad, Pakistan. The study is based on a mix method approach in which data of both quantitative and qualitative nature is generated for analysis and discussion. A total of three hundred students were included in the study randomly selected to fill in the questionnaire. Each university was given equal representation with 75 participants from each. Only those students were included in the study who had spent a year or more in the selected universities. Further, the study was delimited to students enrolled in English linguistics and literature programs at BS level and above owing to the specialization of the researchers in the subject. Initially, the purpose of the study was not disclosed to the research participants because pre-briefing would have inculcated consciousness among students about the nature and purpose of the research and their responses may have been constructed and amended by themselves accordingly. Verbal consent was taken from the students and we assured the anonymity of their identity. Following the scheme of simple random sampling, every student had equal chances of being selected. For qualitative data, short interviews with English teachers were conducted in which information was gathered about the reasons of depressive feelings among students, the need for addressing the matter, the role of parents and universities and other authorities to minimize the chance of development of such feelings.

Keeping in view the purpose of the study, the questionnaire was divided into three parts. First part inquired demographic information, second part comprised of ten close-ended questions while third part comprised of two open-ended questions. Five likert-scale was utilized in second part which ranged from strongly agree to strongly disagree. The second part determined the causes of depression among students that may lead to criminal and negative activities with specific reference to failure in education, parental pressure, extracurricular activities, weak financial background, poor health and wrong choice of subjects.

## Theoretical Framework

The findings of the study are based on Differential Association theory (Sutherland, Cressey & Luckenbill, 1995). It proposes that individuals living in society learn attitudes, moral standards, techniques and motives. They develop criminal behaviour, if they find negative elements in their

surroundings. Based on the theory, this research study attempts to investigate major concerns of students that may trigger depressive thoughts and thus violent tendencies in them. For the purpose of the study, several factors are investigated that include failure in education, parental pressure, weak financial background, poor health condition and wrong choice of subjects and their relationship with depression.

**Results and Discussion**

In higher educational institutes of Pakistan, students are enrolled from different cultural, social, socioeconomic, religious and ethnic backgrounds. These variables may lead the students towards depression and criminal activities directly or indirectly. There are some major issues related to these variables covered in this study like failure in education, parental pressure, extracurricular activities, weak financial background, poor health and wrong choice of subjects. Although, there may be some other factors as well that may trigger depression and criminal activities, but they do not come under the preview of the data generated for this study.

**Table: Summary of the results of the questionnaire**

| No | Item description | **Strongly agree** | **Agree** | **Neutral** | **Disagree** | **Strongly disagree** |
|---|---|---|---|---|---|---|
| 1 | Constant failure in examination causes severe depression and hopelessness that may lead to criminal activities | 39% | 46% | 6% | 6% | 3% |
| 2 | Depression ultimately leads to crimes and illegal activities. | 18% | 36% | 28% | 9% | 9% |
| 3 | Parental pressure regarding academic progress results in depression that may lead to crimes and illegal activities. | 31% | 41% | 14% | 12% | 2% |
| 4 | Extracurricular activities in academic institutions can help curing depression and reduce negative bent of mind | 45% | 29% | 16% | 8% | 24% |
| 5 | Depression is commonly found in female students as compared to male students. | 18% | 26% | 24% | 29% | 3% |
| 6 | Weak financial background of students can also cause depression and distract the students from academic progress. | 21% | 30% | 22% | 20% | 7% |
| 7 | Poor health conditions of students can cause depression and leads to crime | 17% | 19% | 19% | 38% | 7% |
| 8 | When students fail to get admission in their favorite field of study causes depression and can initiate criminal activities | 50% | 5% | 2% | 40% | 3% |
| 9 | Parental pressure regarding subject/field | 19% | 50% | 14% | 10% | 7% |

| | | | | | | |
|---|---|---|---|---|---|---|
| | selection may cause depression and leads towards criminal/negative behavior | | | | | |
| 10 | Hostilities commit more crimes as compared to the students living in their own homes | 9% | 34% | 31% | 18% | 8% |

**Constant Failure in Examination**

Most of the participants (85%) strongly agree that Constant failure in examination causes severe depression and hopelessness that may lead to criminal activities. The responses of open-ended questions and the results of interview also second the idea that most of the students feel depressed when they score less marks in exam. One student from BS Electrical engineering views that, "students tried their best to get good marks in examinations and most of the times use unfair means like cheating and copying". Cheating and copying are also criminal activities.

The response of question number two shows that more than 50 % population believe that depression ultimately leads to crimes and illegal activities. Considerable numbers of participants are unsure (28%) as they are not certain about the answer. The results lead toward the idea that many Pakistani students do not have idea about the symptoms of depression. A very small number of people in Pakistan get the idea about the seriousness of the disease, consult doctor or psychiatrist, otherwise it remains neglected.

**Parental pressure**

Parental pressure regarding academic progress is another problem faced by many students that results in depression and leads to crimes and illegal activities. The results show that 72% students agree that parental pressure can create depression and finally leads towards committing crime. One instructor reports, "Parents usually visit to the university and talk about good academic results of their children in colleges and complain for bad results in university at the end of the semester. They should inquire their (students) performance after mid-term exam as students have chance to improve their grades after mid-term exam". The results of close-ended questions show that students feel parental pressure in selecting the desired subjects and getting good grades in exam. As many students say, "peer and parental pressure can hinder their progress". Some students argue that parental pressure sometimes lead to depression that may trigger criminal activities". One student even gives the example of his friend, how he got

depressed from annoying attitude of his parents and started doing criminal activities. Moreover, it is evident from the results that majority of the research participants (43%) agree that boarders commit more crimes as compared to the students living in their own homes.

**Weak Financial Background**

As a developing country, Pakistanis are facing many financial problems where parents face a lot of difficulties to educate their children in high ranked universities. When these students are enrolled in universities located in big cities, where inflation rate is very high, students find difficulty in making both ends meet. The statistical data shows that 51 % students agree that weak financial problems may lead the students towards depression and negative activities. The results of open-ended questions also second the view point that weak financial background sometimes hinder students' progress and one instructor said that even some brilliant students are not able to continue their studies due to financial crisis.

**Poor Health Conditions**

Poor health condition also effect students' academic performance. One instructor informs that in many higher educational institutes of Pakistan, 75%-80% attendance is mandatory to appear in final term exam, sometimes, students are not able to meet the attendance criteria due to poor health conditions. This leads to poor grades and even failure in the subject. The response of open-ended questions revealed that sometimes students were not able to concentrate due to poor health conditions, so poor health conditions may lead to depression. The results of the close-ended question number 7 shows that majority of the research participants disagree (45%) with the statement that poor health conditions of students can cause depression and leads to crime although we found a few instances in open-ended responses which second the idea that poor health conditions may lead to academic failure and depression.

**Choice of Subjects**

Students' selection of subjects plays notable role in their academic progress. The responses of open-ended questions show that some parents intend their children to select some specific subjects/field of study and students do not take interests in these subjects which results in failure and depression. The statistical results of open-ended question number 8 and 9 show that students

get depressed when they are either unable to get admission in their favourite subjects/fields or they feel parental pressure regarding subject/field selection.

There are some other factors which may cause depression like Time management, peer pressure, change in academic environment. Research Participants have mentioned many crimes that students may commit as a result of depression like stealing, murdering, drug addiction, bullying, quarrelling, beating, breaking objects and even commit suicide or leave their homes. Moreover, the statistical results show that most of the participants 44 % believe depression is more common among girls than boys.

**Remedial Measures**

Remedial measures need to be taken to avoid the factors that may lead to criminal attitudes. Some remedial measures, suggested by instructor and students are given below:

1. In educational institutes, seminars, workshops or sessions should be conducted to develop students' self-actualization and confidence.
2. Interpersonal relationship like Student-instructor relationship, student-student relationship and student-parents relationship is very important to minimize negative bent of mind. Instructors should do counseling of students to refrain from negative activities. Similarly, good company of students is also a blessing; students adopt good habits and positive ways of living in good company of friends. The students suffering from depression should socialize with friends and family, try to focus on aims, remain strong and leave negativity. Parental role cannot be neglected in this regard. Gottfredson and Hirschi (1990) say that parental rearing plays a vital role in building children attitude towards life. Parents should keep an eye on children attitude to recognize deviant behavior and try to guide them in positive direction. Instructors should meet the students' parents after regular intervals.
3. Rehabilitation centers should be built for the students' guidance to refrain from drug addiction or any other crimes.
4. Guidelines to avoid negativity can be provided in the light of religious quotes.
5. University/Higher education Commission should increase scholarships for needy students.

6. Extra/Co-curricular activities should be arranged by the university for the students. As the response of close-ended question 4 shows that extracurricular activities in academic institutions can help curing depression and reduce negative bent of mind.

**Conclusion**

Ratio of depression is much higher among university students than other people. This study shows that students studying in universities face depression during their academic career which consequently ends in suicidal thought, ill behaviour, hurting oneself or other people, stealing, murdering, drug addiction, bullying, quarrelling, beating, breaking objects and even commit suicide or leave their homes. This research focuses on the reasons upon which students extreme acts are based like constant failure in exam, parental pressure, weak financial background, poor health condition and selection of subjects. It is very much unfortunate to note that most of the institutes in which such cases occur where student either commit suicide or run into illicit crimes do not report the cases. There can be various reasons to it, either the parents of the victim want to keep it confidential or the institute doesnot want its name to be linked with any controversy. On the other hand, even if the institute gives medical care to its students regarding depression there are some students who donot seek help. The reason can be they donot recognise their symptoms or they hesitate because it can probably affect their future careers. Development intervention programs targeted at young people who suffer from mental disorders like depression must be introduced among institutes. Moreover, policies designed to reduce depression at young age may have real downstream benefits on criminal behaviours. Advisers and professional staff must be assigned to respond to student in crisis. They can also evaluate the environment and the factors in the organisation that have contributed to the mental state of students. The advisers must follow and respond to the two phases: intervention and postvention. Intervention begins with the immediate recognition of crisis: if the student wants a down time and missing classes or not responding properly then the adviser must call him for a conversation. Even if a student resist an adviser must consider the possibility that the student is in a seriously depressed state and need medical attention. In this case an adviser must lay a close eye upon student so that he may be prevented from worst situations. Postvention work assumes that the student has gone through some professional counselling and has made some appropriate changes in his life. Sometimes,

treatment usually involves either medication or psychotherapy, or a grouping of both. Parents should also pay attention to the behaviour and behavioural changes of their children.

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# Digitization of the Peshawar Museum - Decorative Motifs in Gandhara Art

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**Abstract:**

*Peshawar Museum is considered to be the centre of Gandhara sculptures and images, which overall enhances its significance. Since recent few years, Pakistan has being suffering from the terrorist attacks leading to the high alert security. Peshawar has become the home land of terrorist attacks which is negatively impacting the visitors and tourism of Peshawar Museum globally as well as nationally. Thus, several positive steps should be taken to restore the importance of the Peshawar Museum, especially Gandhara Art. The need of digitalizing of these Gandhara Sculptures into a form of catalogue so that it can be viewed by many of the people will gradually increase the interest and will overall help in the promotion of Gandhara Arts. Now days, entrance of advanced technology and digitalization environment has completely changed the perspectives of the people. The ever growing world of technology has entirely replaced the manual system by the digital system. The proposed technology is based on the web application platform, and can be accessed by anyone from anywhere with the help of internet connectivity.*

**Key Words:**

Web Application, Gandhara Arts, Sculptures, Digitalization Environment

## Introduction

Peshawar Museum is known for the displaying of highly significant and world's great collection of the architectural pieces with unique historical sculptural designs, reflecting history into reality (Aiyar, V Natesa; 1913). Gandhara Art sculpted in unique stones not only shed light on the artist's talent and competence, but also narrate life stories of Buddha from their birth to death of all the episodes with the integration of their miracles events (Sehrai, Fidaullah; 1978). Life stories of Buddha is exquisitely carved with number of deep details from the interpretation of dream of Queen Mayo, historic Buddha Siddhartta's birth, footsteps, recording lessons, matches of wrestling, lives in palaces, marriage events, renunciation, ascetic life, sermons, fasting, initial meditation, departures, stupas constructions and many others (Carson, Mike T. & Hsiao-chun Hung; 2014.

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Presently, Gandhara region comprises of Peshawar valley, Mardan, Swat, Dir, Malakand, and Bajuaur agencies in the North West Frontier Province (NWFP), Taxila in the province of Punjab, and up to Jalalabad in Afghanistan. The emergence of Gandhara civilization in this region and become one of the main foundation of the Buddhism. From here, Buddhism started its expansion and spread towards the countries like Japan as well as Korea. The fascinating and interesting Gandharan's civilization records discovered in twentieth century can be found in archaeological regions spread over the cities of Taxila, Swat and many other related parts of Khyber Pakhtunkhwa. Karakoram Highway provides the fascinated historical records of Gandhara arts from the rock carving to petroglyphs reflecting the historical previews of Buddhism lives. Main emphasis of Gandhara art is on the reflection of Buddha's life stories, individual images as well as previous and future Buddha (Spooner, David Brainerd; 1978).

Importance of Gandhara Art in Pakistan cannot be neglected at any instance as it makes Pakistan to be known all the around the globe. However, since recent years, Pakistan is highly suffering from terrorist attacks at number of sensitive and historical places, which clearly accounts for the need of securing and preserving the things, such as Gandhara arts sculptures. Local artists have being stimulated by Buddha's personality, taking benefit of motifs, advanced technology and contacts from Romans, Persians, and Greeks who provided information related to the eternal lives of Buddha (Spooner, David Brainerd; 1978). Gandhara art is oriented from the Gandhara land under the rule of Kashan, more dominant and dynamic in comparison to the India's Mathura Art. "The life stories of Buddha, depicted in Gandhara Art, are an authentic document of the Mahyana text composed during the time of Kanishka (1st Century CE)," said Prof Fidaullah Sehrai, renowned archaeologist and former director NWFP Department of Archaeology and Museums." (Anderson, Catherine L & Ritu Agarwal).

The earliest examples of Buddhist Art reflecting their aspects of life are not considered to be iconic rather are aniconic images and got high popularity in number of regions of Sub-continent even after Buddha died due to the aspect that Buddha's themselves did not

sanction their personal worship nor the creation of images (Aiyar, V Natesa; 1913). Siddhatha Guatama, Buddha was known for his characteristics such as self-perfected, highly enlightened human being, considered to be the role model who should be followed rather being idolized. In accordance to his view, "Buddha's only point the way." This is considered to be the main reasons of why the earliest artists highly tributed to Buddhas making their sculptures, abstract symbols indicting and reflecting number of major events as well as achievements in last phase of Buddha's life, as well as earliest phases of life. Earliest Buddha's representation includes Buddha's footprints, mostly created in those places where Buddha used to walk (Spooner, David Brainerd; 1978). These footprints can be easily found in the Swat and Peshawar Museum. One of the main Buddha's poses in Peshawar Museum are mediation pose, Reassurance Pose, pose of earth touching and turning the wheel. Main collection of Gandhara art in the Peshawar Museum originated from India Archaeological survey, Frontier circle comprising from the year of 1902 to 1942, and donations and purchases from the public sector (Sicilia, Miguel-Angel: 2012).

Thus, Gandhara arts need to be highly digitalized so that it can be preserved as well as viewed by number of people throughout the globe. Collection mainly includes various kinds of architectural and stucco sculptures, models of stupa, relic's caskets, along with the reflection of Buddha's statuses and life styles.

**Designing a Digitization Project Plan**

In the advance world of information and communication technologies (ICT), the digital revolution plays a major role in the improvement and creation of the information and communication technologies (ICT) for the human beings (Tegelberg, Riitta et el; 2014). A large number of the research projects have being conducted at different levels for the preservation of data relating to the different field throughout the globe (Wagner, David; 2014).

This research paper presents a digitization project plan for the Peshawar Museum focusing on the (Decorative Motifs in Gandhara Art). The main goal of the research is the digitization of the Decorative Motifs from timeline of 1950 to 2014. This research will help us in the preservation of the arts and the people can have a virtual visit of the Peshawar Museum.

The Digital Peshawar Museum application will be developed using the web based applications and mobile apps. The images will be stored in the database. The web application can be accessed from any location of the world. One of the critical challenges which are involved in this research is the collection of these images from the different perspective of the Gandhara Art and integrating the Meta data with them so that the exact information can be searched according to the user search criteria. Different social media tools such as Facebook, Twitter and other social media sites will be utilized for the data collection relating to these images as well.

This project of Digitization of the Peshawar Museum will not be acquiring any physical location. The project will be totally based on the virtual web. However, during the initial stages of the project, we will need some physical location to conduct a meeting relating to the software development and for the verification of the metadata which will be provided by the different users or communities. During the initial collection, the project will require number of volunteers. This will be helping us for the data collection of the Decorative Motifs in Gandhara Art. For the verification and validation (V&V) of the image received from the different volunteer, we will perform the survey based on the images including some of the main parameters such as “Date, Time, Symbolic Meaning, Features, Influence, Variations and many other parameters”. The survey questionnaire will be based on the “yes or No” scale and once the image is validated, the information will be entered in the database. The web application will hold an image and a complete metadata relating to these images.

**Digitization Process**

The digitization process contains number of phase. All the phases are as under (Table I)

| Step | Description | Dependence |
|---|---|---|
| Step I | The current painting, object, arts material will be in an analogy form. The first step is to convert the object into digital form. The image can be converted into digital form with the help of camera, scanned and much other analogy to digital converting devices. | High Resolution Camera or Scanner |
| Step II | The metadata information relating to the image will be added with the image. This information will also help in the search and provide support to the viewer relating to the image information. Some of the parameter includes "Title, Description, Collection of, Painted by, Summary text, Date and Time, Available Resolution, Reference, Keyword, Location, and many other" | Image, Metadata |
| Step III | The most important step is to verify the image and its information. So, the images will be provided by the volunteer user. It important to verify the image. The image will be verified with the help of the survey. The survey will be conducted on the social media networking sites. | Questionnaire |
| Step IV | Once the images are verified and then the information will be entered in the database. The database will contain two main components i.e. "Image and metadata". For best resolution the information will be stored in the "BMP" formatted. | Database, Image, Metadata |
| Step V | The web application interface will display the image and its parameters. The user can search the required painting with the help of the search functionally. The search functionally will be based on the metadata. The interface will also have the functionality to submit the image. The user can also submit its image but the image will be added to the database once it is verified. | Internet connection |
| Step VI | The payment method will be available in case if the visitor needs a high resolution of the image and the visitor can order. The payment method available for the website will be "PayPal, Credit card". These will be transfer Peshawar Museum<br>And will help to pay the hosting and other charges required for running the Digitization of the Peshawar Museum application. | |

**Table 1 Digitization Process**

### Components, Steps and Criteria of the process

To ensure the quality of the Image, we will be using specific criteria for the image which is to digitalize and enter in the database.

### Image Criteria

The digitized image should have a resolution of at least "500 x 500".

The digitized image should have minimum metadata information of “Painted By, Data and time”.
The digitized image should be verified by at least 10 users.
The digitized image should not have the copyright issues.
The image should be converted in the entire format (JPG, PNG and BMP).
The image should be least. The watermarked image will not be entered in the database of Peshawar Museum.

**Hosting Services**

The main hosting services criteria are as followed:

The hosting services should provide at least or more than 100 GB of database space;
The hosting service should have minimum downloading time;
The security should be provided;
The Microsoft SQL database should be provided by the hosting services;
The Windows services should be used as the application will be developed and designed by using the Microsoft technologies.

The criteria of the image and the hosting services are set in order to ensure the quality of the project. If the resolution is minimum, the visitor will not be able to view the image properly. The metadata should be available so that information relating to the image can be provided and the visitor can also search the image according to his need and requirements. The copyright images should not be displayed on the web as its illegal and against code of ethics. As the project has no specific physical location, then the project is totally online, so the hosting services should have minimum downloading time in order to provide the quality service to the visitor. The technical aspects are also presented in the criteria in order to provide quality service to the user.

There are number of issue which will be ignored during the digitization of the painting images. However, these issues will not directly affect the project but the project outcome may be affected due to these issues. When the painting image is digitization there may be an issue that some color may be affected during the digitization process. There may be some issue in the metadata as few parameters of the images may be missing in the metadata and on the web application the blank information will be appeared in the data field.

There are several advantage that why we will be uploading the fade color image and the images of the small size and images with incomplete data field. The main goal is to give share these images information with the visitors. The visitors will have the feedback facility on the web application of Digital Peshawar Museum application. The visitor can share information relating to the specific or group of images. Once the information is share from the visitor the information will be send back to the temporary database. The review team will be updating the information of the image once it is verified.

**Labour and Control phase**

The project will be requiring the hands-on labour and will also help in increasing the sense of realism in the volunteers. The control phase will be involved in the verification and validation (V&V) of the image. The entire image collected for the volunteers will be verified. However, this project is based on the digitization so there will be a logical control phase.

**Risk Analysis**

There are number of risks which are linked with the design, development, implementation and execution of the project (Waterson, Patrick; 2014). During the execution of the project, there could be some negative impact. Firstly, as this project is dealing with the Decorative Motifs in Gandhara Art images, so there are many chances of colour changes in the images during analogy to digital conversation. There is a high risk of affecting the colour of the real object or subject which may different in the theme of the overall image.

There is a risk that during the up gradation and during the copying of the new information the download of the application may be increased. The technical reason behind is that during the initial phases of the project a large amount of the data will be entered in the database. So to interpret the application and database the application will be kept offline. There is no security module installed on the database and application so there will be a high level security issue but with the passage of time as the project will be having good

income the security module will be instated on the application and database cluster. These are online the few general risk which are involved in the online application so a strategy can help us to resolve most of these common issue.

**Digitization Workflow Process**

The workflow processes are presented in the figure workflow. The analogy image of the painting is enhancing with the help of the digital device (I.e. Camera). There are number of ways to send the image Digitization Workflow Process. There are number of ways to send the image to the temporary image centre designed and developed for Digital Peshawar Museum application. The images can also be sent with the help of the emails. The image can also be shared through the social media networking sites. Once the images are reached to the temporary image centre, the process of the verification and validation (V&V) of the image will be started. The questionnaires are distributed through different social media network site.

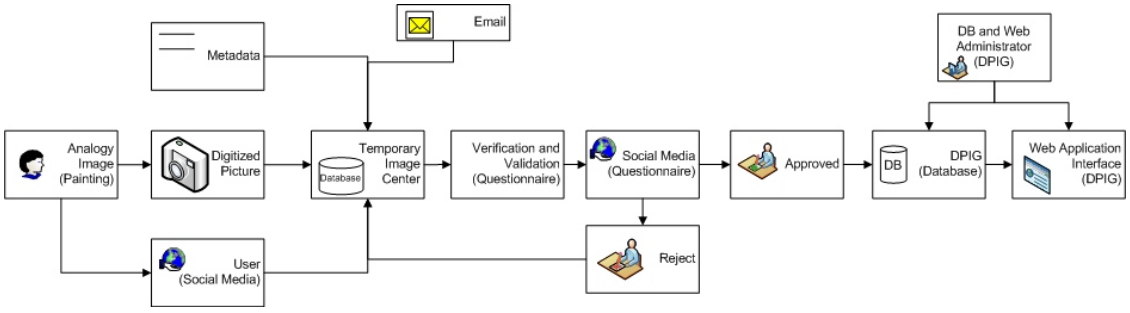



**Fig. 1 Digitization Process Workflow**

**Verification Process**

The verification process may take long time depending upon the respond of the user (Sinamai, Ashton: 2014). Once the verification and validation process is completed, the review team will either accept or reject the image. The image selection criteria are mentioned in the above section. Once the image is approved, the image and its metadata

will be entered in the database and would be visible to the entire visitor linked to the web application. The email notification will also be sent on weekly or monthly basis to the visitor to notify them about the new images. All the approved images are handled by the web administrator. In case of rejection of the image by the reviewer team, the image and its metadata will be sent back to the temporary image. In future, the update information of the image will again pass to the reviewer team.

**Conclusion**

Digitalization has completely changed the views of interacting and approaching the things. Peshawar Museum displays one of the unique contributions of the artists to the Gandhara Arts as well as reflects collection of the other components of history. It is concluded that Gandhara arts needs to be digitalized through the integration of the advanced information technology. The digitalization of the Gandhara arts and sculptural images will not only preserve the collection but will also provide artists to easily view the images any time they want sitting at any place. This research paper has provided the view of the automation through the integration of various applications and tools.

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# Prehistoric Economy of Balochistan: The Development and Evolution of Trade and Crafts in Pre-Indus Period

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**Abstract:**

*The emergence of first settlements in prehistoric times has been a long debated issue among the Scholars. The causes and processes of adopting settled life and forgoing hunting-gathering cultures have been the most important topic among archaeologists, historians and anthropologists. There are several schools of thought, who have advocated different causes and processes of early settlements and cultural change, starting from prehistoric life to the rise of civilizations. The present paper is an effort to understand this process in South Asian context in general and first settlements in the Balochistan in particular. The paper is aimed to discuss that how first settlers (from hunting-gathering societies) merged in Balochistan and which kind of interaction they had developed among themselves which resulted into a mosaic of cultural tradition. Here the main focus has been on the economic and technological aspect of the people and their culture. The basic theme of the paper has been taken by the idea of V.G Childe and it's applied in South Asian perspective of "Neolithic Revolution". The paper discusses two economic and cultural themes in pre-Indus tradition which developed in Balochistan i.e. Neolithic and Chalcolithic periods. The methodology here applied is a mix method of exploratory and interpretative. The themes have been critically analyzed and it has been taken care of that how economic aspect played its role in the overall development of socio-cultural lives of not only people from individual sites but overall region. These cultural interactions had provided a thriving ground for the birth of magnificent civilization on the banks of Indus River.*

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**Introduction**

The emergence of first settlements in prehistoric times has been a long debated issue among the Scholars. The causes and processes of adopting settled life and forgoing hunting-gathering cultures have been the most important topic among archaeologists, historians and anthropologists. There are several schools of thought, who have advocated different causes and processes of early settlements and cultural change, starting from prehistoric life to the rise of civilizations. The functionalist school of thought, championed by Emile Durkheim, advocates that the societies are composed of abstract institutions and these institutions or systems play fundamental roles or functions in the keeping intact the societies (Trigger 1989). Durkheim further elaborates this system of social functionalism by employing two concepts of *organic solidarity* and *mechanical solidarity*; the organic solidarity is based upon norms and values of a social setup while mechanical solidarity is based on division of labor, social stratification and interdependency of social groups or individuals (Trigger 1989). This system/approach of social functionalism was applied on prehistoric to modern societies. The functionalists (especially Durkheim) are of opinion that human societies have undergone through different stages of social or cultural evolution and this cultural evolution gave birth to different institutions, technological advancement and development of complex social, political, religious and economic systems. Functionalists further elaborate the process of social change happening across the society and their main focus is on the contemporary, complex societies and the prehistoric, primitive societies are mentioned only as base or running references so that the complete picture of cultural evolution should have a base back in prehistoric times.

One of the major works about the prehistoric societies and the factors of cultural change have been presented by V.B Childe in his celebrated book *Man made himself*. In this book V.G Childe highlights major stages or steps of social change and he attributes these turning points as "the revolutions". V.B Childe specifically discusses two major revolutions during prehistoric societies i.e. *Neolithic* and *Urban Revolutions* (Childe 1951). Child points out that the abandoning of nomadic life and adopting of settled life was due to environmental changes at a global level and he further describes that the environment was changing, either during glacial or post-glacial period, men started interaction with environment, slowly and gradually men learnt controlling of environment and there was a major shift from complete dependence on environment for subsistence to production of food by man himself (Childe 1951). This process of shifting from dependency to control of food production was a long period of time but once men was able to domesticate plants and animals, further process of social change followed with much pace.

Childe gives a materialistic and technological explanation, instead of functionalist approach of organic and mechanical consolidation, for social change. This approach advocates that once man invented the trick of taming wild animals and cultivation, storage and manipulation of plants, he was soon able to produce the systems of other modes of economic subsistence and this also helped in archaic division of labors as all family members were engaged in means of production i.e. the women would help in cultivation, pottery production, tools making and storage while grown up children would look after the flocks in nearby grazing areas or fields (Childe 1951).

Balochistan in Prehistory

The archeological studies in South Asia suggest that the emergence of settlements had originated in the border lands of Indian and Iranian territories which geographically make the present day Balochistan. There are cluster of archeological sites, scattered throughout Balochistan and these sites clearly depict that there was a cultural and economic interaction of people among themselves. Although Balochistan is very much rich in terms of archeological data but there have been very limited excavations and mostly sites have been documented only that is why there is very limited information about the pre-Indus sites in Balochistan. But the limited information on Balochistan provides enough data to understand the nature of cultural and economic activities prevailing there. The emergence of cultural activities in Balochistan goes back to Paleolithic Age and Dr Fazaldad Kakar has documented the cave paintings in northern Balochistan. The next step in the journey of cultural evolution takes place in the change of means of life of the then people as they adopted sedentary life and gave away the nomadic life of hunter-gatherers. The shift in the life and culture of the people was not an abrupt process rather it was a complex and slow process of evolution constituting over a long period of time and space. The settled life in pre-Indus period has been discovered in Bolan at Mehrgarh. This was the birth of *Neolithic Revolution* in South Asia. The Neolithic settlement in Balochistan was multifacet and has been studied from number of cultural angles but here we would confined ourselves only to the economic aspect and it would be endeavored that economic and technological development in pre-Indus period would be explained with especial reference to cultural interactions among people living at multiple archaeological sites.

Childe's approach of economic and technological interpretation of primitive societies and their historical development can be applied on Neolithic Balochistan as the cultural evolution in Balochistan has started from hunter-gatherer societies/groups up to archaic-urbanism (early township). The emergence of Neolithic societies in Balochistan can be studied at Mehrgarh and other sites as we find first settlements there. This cultural development (Neolithic and chalcolithic cultures) can be studied in terms of subsistence economy which is discussed as follow:

**Balochistan Tradition: the emergence of archaic economy**

The emergence of settlements and forgoing of hunter-gatherer societies has not been an abrupt process rather this has happened over a long period of time. The environmental changes have force man to change his subsistence strategies as after the end of Pleistocene period, the supply of food was becoming scarce and there were limited water resources for all organisms and this resulted into more close interaction of human beings with its subsistence sources i.e. plants and animals (Childe 1951). The Neolithic revolution is all about the process of controlling and increasing the food production by cultivation of wild plants and breading of wild animals (Singh 2002). This process of domestication of plants and animal in South Asia is attested at Mehrgarh in Kahchi/Bolan area and the process started in post-Pleistocene era. The subsistence strategy in Mehrgarh, at an early stage, was based upon a mix approach of hunting-gathering and domestication of wild plants and animals. After c. 7000 BCE, there emerged an archaic economy of domestication. The system of domestication of plants and animal were in process side by side and it cannot be claimed that which process preceded the other one.

In terms of agriculture, the wild wheat and barley were being sowed and the naked barley was the main grain to be cultivated in early periods of time. The other agricultural products would include jujube (Zizyphus), dates and cotton at Mehrgarh IIB (Kenoyer 1998). Since farming needs moist areas for cultivation so early farming was practiced near the rivers but at later stages, there is some indirect evidence for irrigation, possibly by flooding the field with diverted waters. This gave the concept of proper irrigation as man learnt that additional water can be saved by constructing the artificial dams and by constructing canals water can be brought to fields; there are evidences in Mehrgarh about such archaic techniques of irrigation and dams (Jarrige, C.J. 1991). The natural landscape of the area between two sites i.e. Mehrgarh and K.G.M (Kili Gul Muhammad) is made in such a way that it helps in seasonal migrations. The Kahchi/Bolan area is mainly hot and during summer season it becomes unbearably hot while the Quetta valley during the same season is much pleasant. Similarly during winter season, temperature falls to a freezing level in Quetta valley while it is time for lower lands to have temperate weather. This climatic change would have helped the people of Neolithic times to migrate between the lower and upper lands. This seasonal migration also brought the skill of seasonal harvest. The people

of Mehrgarh and K.G.M learnt with the passage of time that which crops should be harvested in particular seasons in the given areas. The production of multiple grains also helped in the increase of settlement areas and population size. The construction of store house and the impressions of grains on the mud-bricks show that there were communal store houses at Mehrgarh (Jarrige 1991).

The second major source of subsistence economy in Balochistan Tradition was based upon the domestication of animals or pastoralism. Pastoralism is the system of breeding, raising and managing flocks by human beings for food production and dairy purposes (Meadow 2003). The evidences of transition from hunting to domestication of animals are not much clear but the early pastoralism got its roots in Mehrgarh I and the evidence suggests that pastoralism was second major source of subsistence. There were twelve principle animals, also called the "wild big games", comprising of sheep, goats, cattle, swamp and spotted deer, gazelle, nilgai, blackbuck, onager, water buffalo, pigs and probably elephant (Meadow 2003)(Possehl 2006). The principle animals among this "Big Games of twelve" were four i.e. cattle, goats, sheep and water buffalo. The domestication of animal brought a biological change in the games physical features, the physical size and shape slowly started to change (body size shrined) as the size of herds increased and this interesting change was observed by R. Meadow in his studies and he also suggested that this physical changes in games suggests that all the domesticated animals were tamed from wild to domestic form and these games were locally available (Meadow 2003). The physical size diminishing in goats completed probably during period I, in cattle during period II but in sheep it was not completed until period III (Possehl 2006). In the early stages the animals were hunted and domesticated purely for the meat purpose but as time elapsed, the animal husbandry became a complete system and pastoralism as a profession. The animals which could help in agriculture (especially cattle plowing fields) became much more important as compared to other animals and now these were "cultural wealth", since the process of breeding and raising was laborious and time taking so people would not use them for sacrifices rather these were kept as means of production for dairy purpose and plowing (Shaffer, J. 1992).

Another aspect of archaic economy of Balochistan Traditions can be studied in the invention of pottery and stone tools. The emergence of pottery is documented around 6500 BCE (MR II) and

the pottery was basket-marked (Jarrige, C. J. 1995). The pottery invention is related with storing and carrying water and other food items. At early stages the pottery was made only for daily usage and there was no commercial production. The pottery was rough, crude and mostly with simple shape having finger and basket marks on it. The pottery became an important item as it was also produced for ritual purpose of burials and this would accompany the dead body in graves as grave goods along with other items.

The lithic industry has got much remote history as compared to any other industry. During the Paleolithic age, the stone tools were made with rough and crude shapes, the evidence for this period is found throughout Northern parts of Subcontinent. The Paleolithic age in Balochistan is only found in Zhob valley and as far as Neolithic sites of Mehrgarh and K.G.M are concerned, the excavations does not reveal the presence of preceding Paleolithic age on the or near to the sites and its suggested that such Paleolithic assemblages might have been buried beneath silt brought by annual floods of Bolan river (Jarrige 1991). The lithic industry was developed because of stone tools were needed for early agriculture (garden forming) for sowing and sharp edged stones would help in slaughtering, cutting into pieces and skinning the games (Childe 1951). As the man progressed, man learnt the art of more polished stone tools and these could be used for multiple purpose. In Balochistan Traditions we find a large number of stone tools and other stone crafts in occupied sites and in cemeteries. The tools consisted of cherts, grinding stones and stone axes and along these daily usable stone tools, there was a number of ornaments and beads, discovered in graves, which were made with precious and semi-precious stones of sea shell, lapis lazuli, carnelian, steatites and copper (Jarrige, C. J. 1995). This availability of precious and exotic stones at sites cemetery suggests that the people were in process of long distance trade as these materials (precious and semi-precious stones) are not locally available rather these were being brought from distant places. But this trade was not on commercial bases as no crafts workshops have found at this stage and the quantity of these precious stones is not much high (Jarrige, C. J. 1995 & Kenoyer 1998).

**Emergence of Village Economy**

The next stage in the economy of Balochistan Traditions can be observed during the emergence of villages almost throughout Balochistan. Chronologically this period is from 5500 BCE to

3300 BCE and technologically this is called chalcolithic period. The cultural sites of this economic system can be grouped into two parts and in firs group, the sites were MR III, KGM III, Ajira II, SD I and MQ I and the second group includes MR IV–VI, KGM IV, DS I–II, Anjira II–III, SD I–II, MQ IIIa[4]. For making our discussion simple and more interactive, here both phases of village economy across the Balochistan will be presented so that the overall economic picture will be clearer and understandable.

The village system emerged with increase in population which resulted in mushrooming of new sites. The economic structure was still based on agriculture and pastoralism. The increase in the production of grains (because of better irrigation system, farming and plowing) resulted into construction of multi-storey rooms where surplus food was stored for feeding the larger population. This architectural system is found in Mehrgarh where rectangular buildings with no doors have been excavated and these building were being used for storage rather than living (Jarrige, C. J. 1995). The communal storage system shows that there was a centralized system of storage and distribution of food. This shows there was a social hierarchical structure where food items storage and distributions was being control by some people who might be the tribal or religious heads of the community. The social hierarchy can also be observed in the crafts industry where exotic good were being used only by few people as these exotic items (beads, ornaments and seals) were the symbol of honor and there price was high so common people could not afford to buy (Kenoyer 2000).

The pottery production at this time also increased and there were some technological innovations too. The pottery industry saw a multiple production centers and there emerged some specific traditions of pottery which were distinct from each other on the bases of texture and designing. Among these the most famous are Quetta Ware, Kechi Beg Ware, Togua Ware and Nal Ware (Pearsall 2008). These all wares would make the mosaic of Balochistan Tradition as pottery is the most common craft found and studied in Balochistan Tradition by archaeologist. There are evidences that there was rapid distribution of these vessels throughout Balochistan because of kind of pottery is found on the long distance sites of its production. This shows that there was a constant interaction among inhabitants of these sites. The pottery brought on the sites of other

[4] MR (Mehrgarh), KGM (Kili Gul Muhammad), DS (Damb Sadat), MQ (Miri Qalat).

than there origin can be explained in two ways i.e. either there was a trade of pottery between these two sites (site of origin and site were these pots were found) or the idea might have been borrowed by local people and then they have started production of similar vessels by their own. Whatever the case might be, this pottery distribution shows that there was a strong communication among the people of these cultural sites and this could help in the sharing of idea pertinent to crafts production, social realities and ideological beliefs which would result in the development of common socio-cultural life of the people who were living over long area of given geography and hence resulting in common traditions in entire Balochistan.

**Crafts and Production Technology**

Man is by nature innovative and this quality has helped him in the evolution of culture and made him different from other hominids. Since beginning man has tried different experiments and has learnt from his mistakes and whatever knowledge man has obtained, he has transferred it to his offspring. The common experiences, innovative techniques and sharing of personal experience with fellow beings have help man in the development of strong cultures and system of knowledge based on ideas and experiments. This journey of cultural and experimental innovations can be studied in the prehistoric time when technology was a magic and sources of raw material, a myth. During the time period of "Early Food production" and "Regionalization Era" Balochistan had a number of sites where crafts industry was going through a revolution and there was well established industry which was producing large quantities of goods with local and exotic material for a commercial purpose. This complex system of crafts manufacture and the provision of raw materials can be explained by an economic model given by Dr J.M Kenoyer. He presents his model of crafts production on the bases of availability of raw material and technique of production in his four-steps strategy i.e. crafts with local material and simple technology, crafts with foreign or exotic material and simple technology, the products with local material and complex or advance technology and crafts with exotic material and complex or advance technology (Kenoyer 1998 & 2000).

This model can be applied on Balochistan as the nature of raw material and technology applied on crafts production can be observed in artifacts found in almost all sites. The first method of crafts production (local raw material and simple technique) was employed on the crafts made up

of simple terracotta bangles, beads, baskets, pottery, buildings and other perishable products like textiles. These products are found throughout Balochistan Traditions with local variations in designs, texture and technology. The second method of crafts comprises of (foreign material with comparatively complex technique) stone tools, grinding stones and chopped stone (Kenoyer 2000). Since Balochistan Tradition is based on Neolithic and Chalcolithic period so this was one of the basic craft traditions in Balochistan where we find a large number of stone tools and stone products. The technology of dental morphology was at very high level as evidence from Mehrgarh suggests that the people had developed a system of dental treatment where individuals were being treated with stone tools and their teeth were drilled, filled and caped with stone material (Lukacs 1989). The sources of such stones which could be used for dental morphology and other items were not locally available. The nearest possible source of stone can be either Suleiman Range or Rohri hills near Indus River in present day Sindh province (Jarrige, J.F. 1991). The third method of production in this model (local material with complex technology) is employed in the production of stoneware bangles, woodworks, decorative and painted pottery production (Kenoyer 2000). This model can be studied in Balochistan especially as we have a variety of pottery tradition here. The already mentioned wares of Balochistan remained a special source of prehistorians and archaeologists working on South Asian cultures. The presence of variety of pottery suggests that the products were being in a state of competition and every designed pottery had its own market value because as suggested by Professor Mark Kenoyer this was a symbol of social status that people were using foreign goods for differentiating themselves from common people (Kenoyer 1998). The fourth strategy of economic production of this model (complex technology with exotic materials) would comprise of copper smelting and copper tools, stone carving, bronze tools, seals and beads made up of agate, steatite, lapis lazuli, turquoise and sea shells (Kenoyer 2000). This model is found in Balochistan Traditions during last phase of chalcolithic period when a large number of beads making and faience making workshops were there in Mehrgarh IV, V KGM IV, Ajira II, III and Miri Qalat III (Pearsall 2008) and the evidences of such beads production is found in the grave of Mehrgarh and Miri Qalat. The raw materials were brought from long distances to local workshops where the finished goods were produced; these good were locally used and traded with other people. The source of raw materials, especially of precious and semiprecious stones (agate, steatite and lapis lazuli) are not locally available at Mehrgarh, rather the source sites are in Helmand region and Nushki district,

so raw materials were brought from such long distance areas and then at local workshops of Mehrgarh the finished goods were produced (Jarrige, C. J. 1995 & Kenoyer 1998).

**Conclusions**

The economic and technological development in Balochistan Traditions makes it clear that during this long process of development, the people of entire region were in constant interactions which resulted in the similar development of economic, technological and trade strategies. At early stages of this economic development, raw materials especially from long distance areas were rare but as time elapsed there emerged skill crafts men who were well verse in making of crafts and the source of its raw material. This shows there emerged a new social group who were neither pastoralists nor agriculturalists rather this new group gave birth to new social entity called merchants and professionals. This group was purely working on the basis of raw material trading, crafts production and then trading of finished goods among the sites. Balochistan Tradition cannot be studied without a comprehensive study of this complex system of trade andproduction which resulted into the prehistoric social stratification. This process also shows that how latter social and economic developments emerged at a grand scheme at cities of Indus Valley. There are evidences that these cities were more economically and culturally integrated rather than politically and militarily controlled by a specific institution, personality or capital city. The studies in the socio-economic aspect of pre-Indus period can help in the understanding of the process of latter cultural development in the Indus Traditions which shows that here might was not probably right and there was rather a system of socio-cultural and economic based unity which would create an overall image of Indus Tradition and this complex process had its roots in the mountainous and barren lands of present day Balochistan.

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# The Political Economy of Reproductive Healthcare: Changing Cultural Beliefs and Practices in Balochistan

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**ABSTRACT:**
*Anthropological research techniques were used to collect empirical data for this article. Field data were collected in the Zandra village of district Ziarat in the province of Balochistan. In this article an effort has been made to understand the natives' cultural beliefs and practices in reproductive health care. The main focus of this research was to understand the nature of development, internal and external factors responsible for the changes and its impact on natives' lives. An effort has also been made to find out the reproductive health care systems working in the village which included both the traditional and modern medical systems. Initially the natives were using traditional methods of childbirth and postnatal care, but now, as their economic condition and literacy rate is increasing they are more inclined towards the modern methods including gynecologists and technologically advanced clinics. During the last 3 decades many changes have been witnessed. Awareness through media and the shift from subsistence to market economy has increased the use of allopathic modes and medicines due to which the natives have started opting for secondary sources of income. Besides, researcher's endeavor to explore the shift from traditional to modern reproductive healthcare and the disparity between natives' health related beliefs and practices, the impact of these changes has been analyzed in light of world system theory at micro level.*

**Keywords:**
Reproductive Health, Traditional Birth Attendants, Gynecologist, Allopathic Medicine, Pharmaceutical Industry

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**Introduction:**

Traditional medical practitioners and birth attendants are found in most societies. They are often part of the local community, culture and traditions, and continue to have high social standing in many places, exerting considerable influence on local health practices. With the support of the formal health system, these indigenous practitioners can become important allies in organizing efforts to improve the health of the community. Some communities may select them as community health workers and engaging them in primary health care after training them accordingly.

In the village, the pregnant women were normally healthy, but the women having a lot of children were weak and looked older than their actual age because of less birth spacing. Pregnant women continued to do work till their $9^{th}$ month. Because of this irresponsible attitude, many of the women went through abortions from carrying weighty things. The rate of stillbirths and miscarriages is high due to carelessness.

Pregnant women of economically sound families go to doctors. The ratio of these women was low but increasing. Most of the newly married women of rich and educated families were going to doctors for consultancy during pregnancy, but for delivery they were calling out either midwives/*dai* or elderly women who were experienced in the field. The most common term used to refer to the midwife is traditional birth attendants (TBA). During the last decade upper class women started delivering their children at modern gynecology clinics in Quetta.

**Research Methodology**

The qualitative anthropological methodology was used for this research. The fieldwork was conducted in Village Zandra, District Ziarat, in Baluchistan, Pakistan. Zandra Village is situated 108 km southeast of Quetta just 12 km short of Ziarat town. The total population of the village is 3,234 consisting of 295 houses. The majority of them is *Paxton, Kaker Panizai* by tribe. The methods used for this research include socio-economic survey, participant observation, key informant interviews, indepth interviews, case studies and focus group discussions. For socio-economic survey 100 households were selected through simple random sample. We choose two key informants in the village on our personal judgment basis, which knew most of the people in

the village and their socio-economic conditions. The stratified random sampling technique was used. Target population was divided into economic classes and 50 couples were selected randomly from each class. Participant observation was used in order to get a first hand and accurate information about the respondents. In-depth interviews were conducted with the elder members of society to get detailed information. Case studies were conducted to get a detailed presentation of data related to different events. This research was a longitudinal study. First of all a 4 month visit was conducted in 1987, then a couple of month long visits in 1990s and finally in 2010.

**Theoretical Framework**

The world systems theory or the development-of-underdevelopment school would be used to analyze the "under-development of health" in the peripheral region. It will focus on the unequal relationship between core and periphery on health care systems. Theoretical concept has been borrowed from the works of Immanuel Wallerstein, A. G. Frank, and Walter Rodney, who logically believe that the development of capitalism in core countries requires a continuous and conscious underdevelopment of peripheral countries for regular supply of raw materials and cheap labour.

Some of the scholars were very enthusiastic and started analyzing social and health consequences of capitalist expansion at global level. World system theory became popular among the medical anthropologists like Onoge (Onoge, O. F. 1975; 219-232), Morsy (Morsy, S. 1979; 349-363), Baer (Baer, H. A. 1982; 13-17 &, 1986b; 129-131) and Singer (Singer, M. 1986a; 113-130), who were trying develop a relationship between political economy and medical anthropology. Some other medical anthropologists including Wasserstrom (Wasserstrom, R 1979; 1-4), Ferguson (Ferguson, A.1980) Nash and Kirsch (Nash, J. & Kirsch, M. 1986; 131-138) while discussing about exploitative corporations and industries, have pointed out some harmful effects of development of capitalism on health care systems in peripheral regions. Their approach also supports the world system theory. Davison (Davison, L. H. 1983) and Heggenhougen (Heggenhougen, H. K.1984; 217-224) in their discussion about the relationship between socio-political configurations and health policies and DeWalt (DeWalt, B. 1983) and Whiteford

(Whiteford, M. B. 1985; 241-250) while talking about harmful nutritional impact of rapidly growing capitalist ventures have also highlighted the same issues.

Interest in political economy of health revived in 1970s when dependency theory was put forward by Doyal and Pennell (Doyal, L. & Pennell, I. 1976; 152-172), Elling (Elling, R. H. 1976; 144-155, 1977; 209-235, 1978; 107-115), Frankenberg and Leeson (Frankenberg, R., & Leeson, J. 1973; 255-278), Kelman (Kelman, S. 1971; 30-38, 1975; 625-642), Lichtman (Lichtman, R. 1971; 265-290), Rossdale (Rossdale, M. 1965: 82-90) and Waitzkin (Waitzkin, H. 1978; 264-278). Works of A. G. Frank (Frank, G. 1969 &, 1972; 3-17), W. Rodney (Rodney, W. 1974) and Wallerstein's world systems theory (Wallerstein, I. 1974) were an advanced version of the same theoretical concept, where underdevelopment means the transfer of wealth by exploiting periphery and semi-periphery by core countries which encourages rapid scientific development so that Western medicine and other scientific institutions could surpass underdeveloped countries of the world (Gish, O.1979; 203-211).

Some political economists of health (Turshen M. 1977a); 7-35 and Doyal L. 1979) argue that the prevailing situation of poor health and health care systems in peripheral countries is due to the development of underdevelopment by creating technological and economic dependency on the international capitalist system. While explaining health, they borrowed the basic idea from Walter Rodney (Rodney, W. 1974) who was influenced by Frank and Wallerstein. They borrowed these concepts because medical imperialism follows the same path as capitalist expansion. Main features of medical imperialism as pointed out by Doyal and Pennell (Doyal, L. & Pennell, I. 1976; 155-172), J. Paul (Paul, J. A. 1978; 271-286), Waitzkin (Waitzkin, H. 1978; 264-278), Elling (Elling, R. H. 1981a; 21-51) and Franco-Agudelo (1Franco, A. S. 1983; 411-427) are as under:

(1) It extracts human resource from the peripheral countries in the form of trained health workers who migrate to the core countries as part of the brain drain.
(2) It helps to find out and maintain cheap labor for capitalist industries.

(3) It creates new markets for medicines, pesticides, medical equipment, and technical assistance.
(4) It strengthens the class relations of core countries through the medical division of labor.
(5) It provides covers for counter insurgency and other military efforts.

Berliner (Berliner, H. S. 1982; 162-173) and Kelman (Kelman, S. 1975; 625-642.) say that capitalism and biomedicine support each other in their ideological constructs and share the same goals to create ambiguity for socio-economic reasons of health and economic underdevelopment. World system theorists and political economists of health (Brown, E.R. 1979, Waitzkin, H. & Waterman, B. 1974, and Elling R.H. 1981a) propose the same solution to the problems related to dependency and underdevelopment, and that is to put an end to capitalism.

Elling (1981a, 1981c) has pointed out an important issue in relationship of capitalism with health care systems. The goal of profit maximizing does not always match the goal of maintaining health. The desire for maximum profit leads the employers to pay the minimal remunerations and benefits to the workers due to which they cannot maintain their health. They cannot even purchase commodities and services like food, housing, and education. Often profit maximization does not allow the employer to provide technically safe working environment and the industrial waste causes environmental pollution. A worker lining and working in such conditions cannot be a productive worker and the industrialist cannot risk low productivity.

Most of the world system theorists have analyzed its implementation at the macro level. The exploitative relation between core and periphery has been studied at the state level. In this research this model will be put to test at the micro level to confirm, revise or drastically change the reasoning built into this. Its impact would be observed on village economy, education and health care systems. During the last couple of years the researcher is trying to examine how this development of underdevelopment influences the masses at grass root level, especially in the field of economy, education and health (Mohyuddin, A. & Ambreen, A 2012a); (Mohyuddin, A., Chaudhry, H.R. & Ambreen,

A. 2012b; 322-225), (Mohyuddin, A., Chaudhry, H.R. & Ambreen, A 2012c: 40-44), (Mohyuddin, A., Chaudhry, H.R. & Ambreen, A. 2012d: 66-79), (Mohyuddin, A., Chaudhry, H.R. & Ambreen, A. 2012e), (Mohyuddin, A., Chaudhry, H.R. & Ambreen, A.2012f), (Mohyuddin, A. & Chaudhry, H.R. 2012g: 127-138), (Mohyuddin, A., Chaudhry, H.R. & Ambreen, A. 2013a: 39-43), (Mohyuddin, A., Khan, S., Chaudhry, W. & Ambreen, A. 2013b: 2-19). Husain (Husain, M. 1976) sees the impact of development at micro level. In the field of education Di Bona (1977; 615) and Keith (Keith, S.1978) have studied the implementation of world system analysis at the micro level. Arnove (Arnove R. F. 1980; 48-62) has emphasized the need of further research at micro level.

**Results and Discussions**

The natives followed the traditional remedy system, especially for reproductive health, believing the modem medicines as unreliable. They were scared of the medical systems used in the hospitals. It was because the mother in law and the other elderly women in the family were authoritative and believed to be more knowledgeable and experienced than a doctor. They forced the younger women to follow them. Regarding the fear of medical doctors the question was asked from 100 couples each from 3 different age groups. The elderly women were more scared the medical systems used in the hospitals whereas the younger ones were less afraid of doctors. Among the males trend was similar but the percentage was slightly lesser than the females (see Table 1).

Table 1: Fear of Medical Doctor

| Age groups | Male | | Female | |
|---|---|---|---|---|
| | Frequency | Percentage | Frequency | Percentage |
| 21-40 | 21 | 21% | 27 | 27% |
| 41-60 | 33 | 33% | 39 | 39% |
| 60 Plus | 40 | 40% | 43 | 43% |

(Source: Field data)

Secondly a woman was a symbol of honor for the men in the societies; hence they wanted their wives to stay in the home. They did and not even allow them to go to doctors and to use modern medical facilities. Only the high risk pregnancies after being referred by TBA

were taken to the hospitals in Quetta, where the services of gynecologist were available. When the position of the baby was not getting normal, even in the late stages were considered as high risk pregnancies.

There are three types of women in the village providing reproductive health care services, including traditional birth attendants, midwives and lady health workers. Traditional birth attendants (TBA) are also known as a traditional midwives or community midwives. They provide health care during pregnancy and childbirth. They provide the majority of primary maternity care, including basic health care, support and advice during and after pregnancy and childbirth, based primarily on experience and knowledge acquired informally through the traditions and practices of the communities where they belong to. They usually work in the villages. Normally they do not receive formal education and training in the field of health care, and do not have any certification or license to practice. They are mostly self-taught; one of the criteria for being accepted by clients as a traditional birth attendant is their experience as a mother. Traditional birth attendants are often older women, respected in their communities. They consider themselves as private health care practitioners. They are normally herbalists and use traditional healing systems.

On the other hand, midwives are specialists in childbirth, postpartum, and well-woman health care. They are educated and trained to recognize the variations of normal progress of labor and deal with deviations from normal to discern and intervene in high risk situations. In many developing nations, midwifery is the front-line of maternal health services and provides necessary care in a safe and cost effective manner, where it is available. Well trained midwives can reduce the demand for the more highly trained doctors.

Lady Health Workers (LHWs) deliver primary health care services to women and children in the rural areas where the doctors are not available. The LHWs are the first contact with the health care system for the rural women The LHWs cure, care, teach, and

train traditional birth attendants. In addition, they perform health promotion and document their findings. To provide their maternal and child health services, the LHWs travel by foot through miles of rough terrain to settlements and villages. Prenatal and postnatal care, anemia, diarrhea, and malnutrition are among the major health care problems of these rural women and their children under 5 years of age.

There were 4 elderly women working as TBAs, 7 midwives and 5 lady health workers in the village. They were normally consulted during the complex delivery cases otherwise elderly women of the family could handle the cases. TBAs were prescribing herbal as well as allopathic medicines to the patients and sometimes giving injections too. They were relying more on herbal medicines. They used a variety of herbs and plants to make a mixture, which could help a mother healing after the delivery of a baby. These herbs and plants were used with poultry and dairy products by the majority of the people in the village not mattering their economic condition. The recipe for cure included ghee, *panjeeri, cheeri, khashkhash,* Chicken, milk, coconut powder, brain, grounded pistachio, almonds and dry dates. On the other hand, midwives and LHWs were using allopathic medicines. They advised massage and precautions during and after the pregnancy. Their fee varied from Rs.1000-3000. They charge more when son was born (see Table 2). Most of the respondents said that they preferred TBAs or the midwives because they belonged to that area and understood their problems better. It was not just the allopathic medicines what they avoided; it was also the behavior of doctors and nurses in the hospitals and clinics. They treated them like their clients not the patients. They always demand for money. They do not show any sympathy with them. They cannot even feel the pain of the patient. Some of them could not even understand what they said. The person who could pay more could get a better treatment. Most of the doctors in big hospitals could not understand their language. So even if they needed allopathic treatment they preferred the midwife.

Table 2: Reproductive Health Services available in the village

| Service Provider | Frequency | Nature of Treatment | Fee |
|---|---|---|---|
| TBA | 4 | Herbal/allopathic medicines<br>Massage<br>Advise precautions | Rs.1000-2000 |

| | | | |
|---|---|---|---|
| Midwives | 7 | Allopathic medicines<br>Massage<br>Advise precautions | Rs.2000-3000 |
| LHW | 5 | Allopathic medicines<br>Massage<br>Advise precautions | Rs.2000-3000 |

(Source: Field data)

**Case Study:** Kaneeze Fatima started her profession as a midwife at the age of 22. She had been serving in the village from last 30 years. None of her relatives was involved in reproductive health before her. Her husband died when she was 20 years old. According to her, midwifery was the only way of earning a better living for herself & her children. She got 1 year training in Quetta for reproductive health. She had dealt about 600 cases until then. Women came to her house for medical assistance during pregnancy. But for delivery, she used to go to the patient's house. She took normal delivery cases and did not operate. She charged Rs.2000 for a normal delivery case. For complicated deliveries, however she charged more. She believed that the work could only be done through experience. She could understand the patient's problems better because she belonged to the same community. She sent complicated delivery casas to Quetta.

**Case Study of Self-Delivery:** Hamida had 8 children – 7 of them were born through self-deliveries. Her mother and mother in law came to help her during her first delivery. After the birth, they tried to make her realize what they had done for her. She was very disappointed and could not tolerate their behaviour, so she decided to do her deliveries by herself. She could not afford a midwife or doctor because she was a poor woman.

She said that she never had any fear before any of her deliveries; if she ever had she could have gone to the doctor. She would start the preparations 2 days before the delivery because she always knew the time of her delivery. She prepared a bag of clothes for her unborn child. She kept eggs, oil spices and milk near her. She did not lie down on the bed. She kept a stool on the floor and sat on it. She put plastic sheet under it to ensure cleanliness of the room. She had the contractions and delivered the baby. She cut her cord with a knife. She then boiled the water and washed up her baby and wrapped her in a

cloth. This way she delivered all her 8 children by herself. She also conducted delivery of a child of her husband's brother's wife.

**Status of Midwives**

A midwife provided necessary supervision, care and advice to women during the pregnancy. She conducted deliveries and took care of the newborn baby. That care included preventative measures, the detection of abnormal conditions in mother and child, the procurement of medical supplies and the execution of emergency measures in the absence of medical help. She had an important task in health counseling and education, not only for the women, but also within the family and the community.

Assistance in birthing was a problematic issue in Zandra. Middle class families generally employed a TBA for conducting deliveries. However, some lower class families could not afford it. Hence some family members, such as the mother, mother-in-law, sister-in-law, and so on, could assist them. Sometimes, a neighbor was called in.

When expert opinion was needed (and could be afforded), lower and lower-middle class families called a TBA, who received payment, amounting to Rs.1000 to 1500 after the delivery. This depended on the sex of the baby. In olden days, there was no set fee in cash or kind for them. Even at the time of research researchers found some TBAs *who* did not charge money. They did it for God-Sake to get spiritual benefit. In fact, however, they usually said that they did the job for *sawab* (spiritual benefit). They said it because they felt it was the right thing to say, especially when speaking to other women. Most of the TBAs performed the deliveries in expectation of some payment, even though they said that they were not paid. In fact they were paid in shape of gifts or money for gifts. It was clear that these women were in a bind. They needed the money, and once a woman became acknowledged as an experienced TBA, she was always ready and willing to assist a family in delivery and charged a certain fee. According to Gallagher,

“Health care is not a commodity from the premodern standpoint of the midwife in the village or urban neighborhood where she provides her services. Delivering babies is an activity that, in addition to meeting a human need, validates her worth in an important

social role, and brings her into sociable contact with clients already known to her (Sukkary, S 1981: 26-34). The midwife's work may well provide income in cash or in kind, but it is not a commodity in the sense of consuming calculable resources or constituting a stream of economic value in an ongoing system of production. If the women of the village lowered their rate of pregnancy, the midwife might be less occupied, but would she worry about "the impending midwife surplus"? Her casual economic posture can be contrasted with that of the contemporary obstetrician (or other physician) whose offering has a far more systematic character and tangible monetary value." (Gallagher, E. B. 1988: 59-87)

**NGO's Interventions**

Provincial Rural Support Programme (PRSP) was working with the communities to address the root-causes of poverty and deprivation in the province by presenting alternative approaches to development. The organization addressed community health needs by establishing local mechanisms of health and hygiene service facilitators. Those programs were designed with the realization that physical health and mental wellbeing of men, women, children and family contribute to sound attitudes and behaviors in a society.

PRSP did a lot of work on health issues. They trained women and check their progress on a monthly basis. They trained them in reproductive health. They followed the Midwives Model of Care 1996-2001 developed by Midwifery Task Force. This model was based on the fact that pregnancy and birth were normal life events. The Midwives Model of Care includes:

(a) Monitoring the physical, psychological and social well-being of the mother throughout the childbearing cycle
(b) Providing the mother with individualized education, counseling, and prenatal care, continuous hands-on assistance during labor and delivery, and postpartum support
(c) Minimizing technological interventions; and
(d) Identifying and referring women who require obstetrical attention

The application of this model had been proven to reduce the incidences of birth injury, trauma, and cesarean section.

**Trainings of Lady Health Workers**

PRSP gave trainings to the Lady Health Workers. These women were selected from the village aging 35-45 years. The training courses were about 15 days each. They were given trainings on proper and safer methods of deliveries. Following were the important features in the training.

(1) Family planning education.
(2) Education about women's health problems.
(3) A delivery kit provided to the LHW.
(4) Vaccination referral cases.
(5) Injection doses to pregnant woman.
(6) Providing iron supplements during pregnancy.
(7) A delivery kit provided to the LHW.
(8) Checking of contractions before delivery.
(9) Sterilization of equipment for delivery.
(10) Drip before delivery.
(11) After delivering cutting of the cord in a technical way with a sterilized scissors.
(12) Childcare immediately after delivery.
(13) Immunization of child.

**Gender Difference in Treatment Seeking Behaviour**

There was a gender difference in health seeking behaviour in Zandra. Male patients preferred to go to the doctor at the initial stage of their illness as compared to females who usually used home remedies at the first stage of their illness. And the reason the males gave for this disparity was that usually they remained out of their homes for the purpose of their jobs and therefore whenever they felt any health problem, they directly went to clinic or hospitals. Contrary to that, females remained at home. To consult any doctor they had to leave all their tasks incomplete and did not have money in hand to buy the prescribed medicine. Thus, factors of physical mobility, nature of work and economic position of male and females affected their health seeking behaviours.

This point confirms that at the individual level economic position affects the health seeking behaviours, such as, males having better economic position can easily avail allopathic mode of treatment. Thus, it shows that economic uplift leads towards adoption of an allopathic mode of treatment. On the other hand, females had to get permission

from their husbands or male guardians, for which they had to wait. On the contrary, males decided for themselves and consulted the doctors before their illness got severe. It shows that differences in decision-making power lead towards difference in health seeking behaviour also. There was no lady-doctor in the village. Mostly females responded were not comfortable while check-up by a male doctor. So they were relying on home remedies. Now a lady-doctor is available in a private clinic in Ziarat and the women have started visiting her.

**Changes during the Recent Past**

During this research two different modes of treatment regarding reproductive health were found prevailing in Zandra, which could be placed under two main categories: traditional mode and modern mode of treatment. Traditional modes consisted of home remedies and *dai* (TBA). Modern modes of treatment include gynecologists and allopathic medicines. Traditional birth attendants were present in the village but most of the newly married women of rich and educated families were going to doctors for consultancy during pregnancy and having regular ultrasounds during the pregnancies. The use of ultrasounds and other medical technologies got popular during the last two decades. Though these facilities were not available in the village people travel to Quetta for that purpose. NGOs were playing very important role in this regard. They were working with the community in the health sector. They were providing training facilities to the midwives and lady health workers. They were also creating awareness among the natives to use allopathic treatment.

In Zandra allopathic treatment was getting popular among the young generation. Sixty five percent of the young respondents use allopathic medicine and consult doctors, whereas it was just twenty four percent among the senior citizens. Awareness and improved literacy rate were two major causes for this shift. Educated families were motivating the illiterates also for the use of allopathic medicines. The mass media also had an impact on the natives' attitudes regarding reproductive health care in particular and health care systems in general. The people were also attracted towards allopathic

treatment due to it's availability and affordability. So education, economic conditions and availability of health facilities had an impact on natives' health-seeking behaviour. Gradually, it became a status symbol for the people. Visiting expansive private clinics added to their prestige.

In Quetta like other big cities like other big cities the number of gynecology clinics was increasing very rapidly. According to Health Department 73% of the total registered gynecology clinics were established during the last two decades. The old clinics had improved their standard by providing ultrasound technology and other modern facilities for postnatal mother and child care. In 1980s the doctors were advising ultrasound only to those patients who had some complications during their pregnancies. In 1990s, almost all the doctors were asking the patients to have at least three routine ultrasounds during nine months. In 2010 the modern clinics were not accepting anything less than an ultrasound every month. This growth of clinics and the gynecologists was attracting the people to migrate to the urban areas. Some of them did not migrate permanently, but at least to earn something extra to meet these expenditures.

The natives had started migrating towards the cities, mainly for two reasons, one is the better health facilities, especially the reproductive health and the other is higher education for their children. There were 81 families that have migrated from the village to Quetta and some other cities, which resulted into the breakup of joint families in nuclear families and in some cases distribution of property also. Eight families of these 81 were living in Quetta to enjoy a better lifestyle, having better educational and health facilities, but the heads of the households were still working in the village. They, however, were visiting their families once a week. Some of the families in the village had constructed their houses in Quetta but had not moved there. They had sent any male member of the family to Quetta, who worked there and took care of the house. The other family members could go and live there whenever needed. The children lived there for their education and females for better health care and treatment facilities, especially during their pregnancies and childbirth. About 32 men had been living out of the village for their work and their

families were living in the village. So urban migration from the village could be categorized into three types, i.e. all members of the family migrated, male migrated and in some cases female and children migrated leaving the male in the village.

For the survival in the cities and to meet the expenditure on modern health care people need some additional source of income and for that matter they have to work and serve the industry. In cities they were mainly involved in the employment sector, businesses and wage labor. To keep up their living standard in the cities they have to invest on different type of services and luxuries like, housing, schooling, marketed commodities, entertainment sources like television, musical devices, cinema etc. Youth migrated to cities starts wearing Western dresses.

**Theoretical Discourse**

Some of the issues are further explained in the theoretical perspective.

In Zandra people were using multi-mode treatments for their reproductive health issues. The main reliance was on the traditional modes which included *dai* and TBAs, but in the recent past allopathic medicine and doctors have become their first choice in most of the cases. This shift from traditional to the modern treatment supports the pharmaceutical industry of the core countries as it creates a market for their medical products and assistance.

The modern medical system is more of an economic transaction than the treatment, as many of my respondents said that the doctors treat them like their clients not the patients. They always demand for the money first and if they can't pay their fee they do not admit them in the hospitals. This clientage becomes permanent as the allopathic medicine provides temporary relief and leaves many side effects. This medico-economic transaction always supports the industry as the doctors and the allopathic medicines are the products of industrialization.

- NGOs are providing awareness to the masses to use allopathic treatment for reproductive health in particular. These campaigns create new markets for medicines, medical

equipment, and technical assistance. During these campaigns harmful effects of pesticides and chemical fertilizers have never been highlighted as these are imported from the core to the periphery.

- Trainings provided by the NGOs strengthen the class relations of core countries through the medical division of labor. They are providing training facilities to the midwives and lady health workers, which mean they are preparing a force of medical assistants. These trained health workers have the potential to migrate to the core countries as part of the brain drain. No NGO has been producing high level medical professional in Pakistan. It maintains the dependency of peripheral countries on core regions for medical professionals and assistance, and a continuous supply of medical workers to the core countries.

- Male patients prefer to go to the doctor at the initial stage of their illness as compared to females who usually use home remedies at the first stage of their illness. It is because the males have better economic position and can easily avail allopathic mode of treatment. Thus, it shows that economic uplift leads towards adoption of an allopathic mode of treatment. Same is the case with education. Educated people prefer allopathic medicines. Somehow or the other economy, education and health complement each other and ultimately benefits the capitalist industry of the core countries.

- Females have to get permission from their husbands or male guardians for their treatment, for which they have to wait. On the contrary, males decide for themselves and consult the doctors before their illness got severe. It shows that difference in decision-making power leads towards difference in health seeking behaviour. So investing on women empowerment in peripheral countries also creates a market for pharmaceuticals.

The migration from villages to cities proves beneficial for the industry because the industrialist can have cheap labour. By having extra workforce available in the market, they can easily exploit the poor villagers offering them low remuneration. Some of the industrialists enjoy this situation as the workforce belonging to rural areas does not have an awareness of its rights. According to the world system theorists, this situation does not prevail for a long time as the workforce becomes aware of their rights with the passage of time. Until then core countries are benefited as many of them have their industry in the periphery.

Migration leaves different effects on family structures. In some cases, the males move to the urban areas with their families which create a nuclear family in the city, but the joint family in the village stays intact. However, if the immigrant needs his share of property to invest in the city, then normally property is distributed and the joint families break into nuclear families. Sometimes, only male members of the family move to cities to earn money, which strengthens the joint families in the village as their dependents have to stay back with them and the joint families have to support them. This male migration also leads to some serious social problem within the family. Children have to live without their fathers, wives without their husbands and the old parents without their sons. A wife without husband often becomes the victim of emotional disturbance, depression and other such problems.

As a result of male migration, man living away from his wife may go to sex workers for satisfaction of his sexual desire from where he may carry different types of diseases, which further transfer to his wife also. This again increases the medical bill, which becomes a source of profit for the pharmaceutical industry owned by the core countries.

This lust for money stimulates the people to migrate to cities. This migration proves beneficial for the industry because the industrialist can have cheap labour. By having extra workforce available in the market, they can easily exploit the poor and unaware villagers offering them low remuneration. A person living in cities uses more consumer products which benefits the industry. Edible products do not match the nutritional level of the homemade items and thus cause malnutrition leading to health problems. The people striving for more money often work more than normal and takes less care for their diet, causing malnutrition. In case of male migration, men may visit sex workers and carry diseases, which further transfer to their wives also. This malnutrition and health problems increase medical bill of the consumer which again goes to the industry. Poor health automatically creates a vicious circle which starts from poor health leads to more expenditure, which becomes a cause of poverty and poverty causes malnutrition, and this malnutrition reflects as poor health. This vicious circle creates a dependency on core countries.

- Through medical imperialism they can invade any peripheral country without sending their forces. They can implement their policies in the peripheral territories. They are controlling the labour through doctors and economic resources through pharmaceutical market. People are living in their bodies and their bodies are actually governed and controlled by the doctors in favour of core countries.

The above discussion supports the argument of world system theorists. Main features of medical imperialism as pointed out by Doyal and Pennell (Doyal, L. & Pennell, I. 1976: 155-172), J. Paul (Paul, J. A. 1978; 271-286), Waitzkin (Waitzkin, H. 1978: 264-278), Elling (Elling, R. H. 1981a: 21-51) and Franco-Agudelo (Franco, A. S. 1983: 411-427) seems valid.

**Conclusion**

Since the Industrial Revolution development was treated as an economic phenomenon only with industrialization as its pre-requisite. During last couple of decades the pace of the development has really been increased. Even the economically poor peripheral countries are giving great importance to people's income resources, health and education. The data reveals that this pace of progress has also affected the village which has gone through some major structural changes during recent past. The natives are economically well off which they consider as development. This development has increased their choices. They have a better access to education and health facilities. Their perception about biomedical healthcare has changed which reduced the clientele of the ethnic healthcare systems and increased the people's expenditures on health care.

According to world system theory core countries have an interest in the growth of the peripheral countries, because such a growth increases demand for the goods produced by the capitalist industry. This, in turn, will promote growth in the core countries. The reverse is also postulated to apply, that is the developing countries can sell more of their products in the industrial countries when the economies in these countries grow. The main point here is that it is not only the peripheral countries that depend upon the core countries, the core countries are in many areas dependent upon the periphery. So interdependence exists, for periphery, it is for finished

products and for core it is for raw materials and human resource. This interdependence supports the core countries as the consumer products used in peripheral countries become a source of profit and inexpensive raw material and cheap labour provide them savings. So they are becoming richer and richer at the cost of the peripheral economies.

The world's capitalist economies determine the route for development of the large part of the world's population in their own favour. Industrialization is a precondition for aggregate growth and economic development of backward societies. Distorted production structure in the peripheral countries and their dependence is a result of the dominance of the core countries. The economically backward countries have to pledge considerable resources to set in motion an industrial development process. Technological development brings positive changes all over the world. Some impulsive changes are brought in peripheral or semi-peripheral countries, but the core countries get the most advantage.

In the end the researcher is in full agreement with the views of world system theorists (Doyal, Waitzkin, Elling and Franco-Agudelo) who have been working in the field of biomedical hegemony and political economy of health, following the concept of Wallerstein, Samir Amin, A. G. Frank, Meyer, Arnove and Ramirez). In the light of empirical data world system theory is found valid and accepted.

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# Political History of Khyber Pakhtunkhwa (KPK) Province with Special Reference to the Rise of Gandhara and its Geographical Division

**Nighat Aslam***

## Abstract

*The present paper provides a comprehensive political history of Khyber Pakhtunkhwa starting with the sixth century B.C. Effort has been made to trace out important political events that took place in the ancient Gandhara country (predominantly synonym with the greater Peshawar) in the 6th century BCEs. The ancient land of Khyber Pakhtunkhwa remained focus of attention and of paramount importance throughout the history. All invaders from Europe, Central Asia and Iran made serious efforts to take control of this strategic land before forcing their onward conquests. It remained the seat of power of many dynasties and thus witnessed hectic political activities. This paper gives a broader overview of the important developments in the political arena that took place here during the earliest historic period going back to the sixth century BCE.*

**Key words:**

Khyber Pakhtunkhwa, Gandhara, ancient, Culture, Kushan, Pushkalavati

The Khyber Pakhtunkhwa is one of the most ancient lands that witnessed countless important events and ups and downs in its long period of known history. Situated in North and North West of Pakistan, it played key role as the first and major battle field for all invaders who came here via Afghanistan for control and political supremacy of the mainland India. It remained the meeting place for knowledge, culture and ideas since time immemorial and a place where Central Asia and the Indian Sub-Continent met in the mountainous of Hindu Kush region. Through it passed many routes of the ancient Silk Road and thus it played highly important role in promotion of trade between different parts of the world. While it linked China, Afghanistan, Central Asia, Iran and Europe on one hand, it linked all important cities of ancient India.

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Khyber Pakhtunkhwa has been the abode of many ancient civilizations and cultures with a long history of successive invasions from different directions. Its history goes back to the Stone Age as has been attested with the discovery of Sanghao Cave near Mardan. In the Sanghao cave, Mardan, early Stone Age implements, flakes, core tools, blade flakes, awls, hammer tools and scrapers of various shapes with a sharpened edge for scraping materials such as hide or wood have been discovered. Similarly in Lewan, Bannu district, core tools, blade flakes, end scrapers, pebble tools, hand-axes, knife blades of hard stone give evidence of a culture that thrived between 3,500 B.C.-3,000 B.C. Remains from the later Stone Age or Neolithic period, when animals were first domesticated and agriculture introduced, have been found at Jhandi Balar in the Dera Ismail Khan district. These consist of terracotta toys, human and animal figures, painted pottery shards and beads (http://aboutkp.kp.gov.pk/page/history_march_of_time). Important sites of the Harappan culture (2,700 B.C.-2,000 B.C.) have been found at Rehman Dheri, Dera Ismail Khan, linking it to the better known sites of Moenjodaro in Sindh and Harappa in Punjab.

The Aryan invasion of this region from southern Central Asia and their occupation of almost the entire Khyber Pakhtunkhwa have been substantiated with the discovery of the "Gandhara grave culture". Though it is still a debatable question as to when the Aryans came to this region, but most probably their arrival could be dated somewhere in the 2nd millennium BC and this Vedic Culture probably survived till mid first millennium BC. Prof. Ahmad Hassan Dani was the first archaeologist to have discovered Gandhara Grave Culture in the Dir (Dani: 1967;1-40) . Subsequently the traces of this culture were found in most parts of Khyber Pakhtunkhwa including in Swat (Antonini, C. Silvi & Stacul, G 197; Tusa, Sebastiano: 1977) and Buner by the Italian Archaeological Mission and by the Federal Department of Archaeology and Museums in Peshawar Valley (Khan, Gulzar M 1973). Thus Khyber Pakhtunkhwa must have played an important role in the epic of Ramayana and Mahabharata.

The sixth century B.C was very important historical period. This considered as a real starting point of the political history of ancient India in general and the Khyber Pakhtunkhwa in particular. From that time, it has been possible to put up an incessant account of India's

political history. Buddhist text, Anguttara Nikaya, describe political history of India at the time of the rise of Buddhism. There were sixteen great states or the 'Sodasha Malianjanapada' at that time extending over the land from the Kabul Valley to the banks of the river Godavari (Fig.1). That historical period is very significant for this Province. At that time, the Khyber Pakhtunkhwa was divided into many independent states like Gandhara and Kamboja. Gandhara was one of the most important and great state among the sixteen Malianjanapada' (Majumdar: 1953;1)

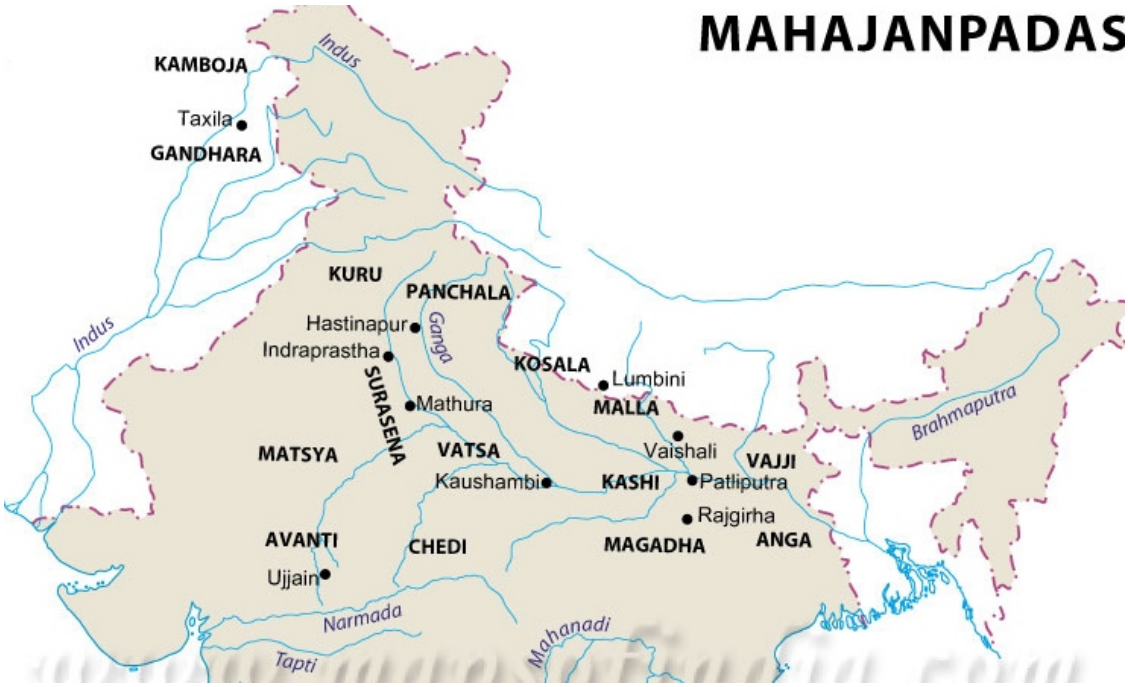



Fig.1 Map of sixteen Mahanapada of North India

Geographically, Gandhara was a distant region surrounded by mountains in the Hindu Kush range. Gandhara including Taxila was conquered by Achaemenid Empire in 518 BC (Marshal, John 1975; Vol.1, p.83). Gandhara was being ruled by King Pushkarasakti, who was contemporary of King Bimbisara of Magadha Empire (558-491 BC). Pushkarasakti was at that time struggling against his local rivals to save his power and control over the region. Achaemenids under Darius penetrated to the region and annexed other parts of Punjab and Sindh. Gandhara is mentioned in the list of *satrapies* (provinces) of the Achaemenids in the inscription on Darius' tomb at Naqsh-i-Rustam

near the ancient city of Persepolis. The upper Indus region, comprising Gandhara and Kamboja states then formed the 7th province of the Achaemenid Empire. Gandhara was obviously a monarchy ruled by a king with absolute power. It was a flourishing and prosperous state.

The name "Gandharidum" initially come out in Rig-Veda (1.126.7), translated it "an awe of Gandharis" (Macdonell & Keith: 1958; 2191). This statement pointed out of Gandhari as an ancient clan occupying the surrounding region of north western frontier of India. The Atharvaveda (V.22.14) also refers to Gandhari tribe. The Vedic texts do not provide exact intimation to the geographical location of the region. Mahabharata mentions the Gandhari people as living in the Uttarapatha or the northern most region of India, in conjunction with Yauna- Kamboja:

*Uttarapatha- janmanah kirtyishyami tan api*
*Yauna- Kamboja-Gandharah Kirata Barbaraih saha*
(Mbh 8.40.42, X11.207.43, 8.44.43, 8.44.47)

Ramayana (20, 42, V11) remembers Gandhara with its position and affirms a region on both banks of Indus River and separated into two regions Gandharva Desa and Gandhara Visaya.

*Gandhara-Vishaya Siddhe, Tayoh Puryau Mahatmanoh*
*Takshasya Dikshu Vikhyata Ramaya Takshasila Puri*
Pushkarasyapi Virasya Vikhyata Pushkaravati (V11.114.11)

Gandharva Desa was identified with a region across the Indus on the east with *Takshasila* (Taxila) as its capital and Gandhara Visaya was identified with Peshawar Valley with its capital at *Pushkalavati* or *Pushkaravati* (modern Charsadda). Both these cities were established by Bharata sons, Taksa and Puskala (Divyavadana: pp 407, 474,476). The remains of the first historic city of Taxila were unearthed at Bhir Mound on the south of Taxila Museum by Marshall (Marshal, John 1975). *Pushkaravati* or *Pushkalivati* has been identified with modern Charsadda near Peshawar on the north-east. According to Prasara Verahamihara (ch .XXXV11) *Pushkalavati* and Takshasila two different constituent regions. Prof H.C. Raychaudhuri (1938; 50) agreed with Ramayana describing location on both sides of Indus. According to Nando Lal Dey (2005; 61) "Gandhara which was evidently a corruption of Gandharva–Desha was divided by the

Indus into the Purva and the Apara Gandhara. These two were connected by the Uttarapatha (the northern highway) which crossed the Indus by a pontoon bridge at Udbhandapura (mod Ohind) about four miles above its confluence with the Kabul River. Takshasila sixty miles east of Udbhandapura, was the capital of the eastern of Purva Gandhara and Pushkalivati as far as west that of the western or Apara Gandhara .modern Charsadda, near the confluence of the Kabul and swat rivers mark the site where Pushkalivati stood."

The Indian Hiranyakesirs Shrauta Sutra (XV11,6, 18.) and Baudhayana Srauta Sutra(11`,5,XX1.13) pointed out Gandharis peoples at the Vedic times and the people of Gandhara were established their community on the southern bank of the river Kubha up to its mouth of Indus and for some distance down the eastern side of Indus itself. The Mistaya and Vahu Purana (11, 36.107.) regarded Gandhara an Indian territory and Chhandogya Upanishad (V1, 14) also mentions Gandhara and call it as centre of knowledge. The passage as follow:

*Yatha somya purushain Gandharebhyo, bhinaddhaksham*
*Aniya tam tato, tijane visrijet, sayatha tatra pran*
*va udan vadharan va pratyan va pradhmayita .abhinad –*
*Dhaksha anito, bhinaddhaksho visrishtah. Tasya yatha-*
*Bhinahanam pramuchya prabruyad etam disam Gandhara*
*Etam disam vrajeti. Sa gramad gramam prichchhan*
*pandito medhavi Gandharan evopasampadyeta, evam eveh- .*

Panini's *Astadhyayi* (IV, 2.133.) gives a complete picture of Gandhara. According to him "Gandhara is situated on both banks of the Indus. On the South East it touches the district Jhelum - the ancient *Kekaya* and on the north-west the river Kunar or Kashkar. It comprised the districts Takshasila, Pushkaravati, Tryakshayana, (Tarkhan) Triravatika, Atakataka, Urasa and Uddigana or Aurdagani or Uddiyana". Buddhist Anguttara Nikaya (AN, 1,213; IV, 252,255,260) of Pali Sutta Pitaka mentions Gandhara with Kamboja and to be found in the Uttarapatha.

In the middle of sixth century B.C Gandhara became a great and mighty state under the king of Pukkusati and the boundaries of the kingdom were more extended. Jataka story described the territory of Kashmir which was formed part of Gandhara kingdom (V.

Fausboll, Michael Viggo:1980; p.406). The region between the Chenab and the Ravi, formerly occupied by the Madras, passed under the domination of the kings of Gandhara. Hecataeus of Miletus (549-486 B.C) a Greek Historian and Geographer refers to Kaspapyros as a Gandaric city. A.Foucher (1911) has identified this Kaspapyros or Kasyapapura with Multan. This reference is testified by Buddha Prakash (1976;14) as he writes, "It is clear that the kingdom of Gandhara expanded eastward up to Ravi and southward up to Multan and included the territory of Kashmir" V.D. Mahajan (2005; 233) also points out the same boundaries of Gandhara roughly corresponding to modern Kashmir and Taxila.

Indian literature showed Gandhara as a mighty state but in the first historical record Behistan inscription (Deydier:1950;1-50) of Achaemenian kings Darius 516 B.C and Xerxes (c. 484-465B.C) refer to Gadara (Gandhara) as the twentieth satrapy of their vast empire and the soldiers of this Gandarioi or Gandarae fought against Greeks on the side of Xerxes. Greek historian Herodotus ("Historica": 111,590-93) was the first foreigner that described Gandarioi in 450 B.C. He informed about the nations, which were under the rule of Darius1, Gandhari nation was one of them. Gandhara became the part of Asoka kingdom and his rock edict V and XII mentioned Gandhara janapada with Yonas and Kamboja, named Gandharana or Gandharanam and after Asoka it seems that Agathocles conquered this country and expelled the Mauryans (Dey, Nando Lal: 2005;61)

Alexander's historians have scantly referred to the otherwise well known region of Gandhara. The description of Arrian, Strabo and Ptolemy may well get the only name of this region. Strabo (Geog, lib .xv.1,26 ) account tells us about a tribe named Gandaris, living there at the time of Alexander's invasion. He mentions "Gandharitis living along the river Kophes between the Choaspes and the Indus". In the same position Ptolemy (Geog, lib, vi, c. 1,7 , vii, 1,44) marks place of Gandarae, and states, "that country included both banks of the Kophes immediately above its junction with the Indus. It's covered the area of river Koa around both banks touching a bit forward to Indus and it junction". Arrian (Majumdar: 1960; 10) did not mention Gandhara, yet he refers to Asakenoi or Assakenoi and its tribe, who dwelled with the lower section of river Kophes

known as Kabul River", the region where the Kabul flows into the swat and hence into the Indus River is now a part of the Peshawar province. ( Lal : 2005;60)

The Chinese pilgrims visited this state and they called it Kien-to-lo., lying at the west of the Indus and capital name was Po-lu-sha-pu -lo to be three or four days journey from the Indus and near the south bank of a large river.( Watters:1904;46,198). This is an exact description of the position of Peshawar. They all described the geographical location of Gandhara together with its topographical situation, extension and limitations. But the Hiuen Tsang (Ibd;97-99 )reference is very clear about it and for the first time established a detailed definition for it. He states "The places Gandhara 500, li, to the east of Hilo, a town of Nagara". In his opinion Gandhara's Eastern border touches the Indus River. Uddyana (Swat) and Fa-lo-no forms it's northern and southern border respectively. Gandhara is 1000 li or 166, miles from east to west and 800, li or 133, miles from north to south. During the traveling of Hiuen Tsang, Gandhara was not a sovereign state; it was under Kapsia and Taxila was a part of Kashmir. (Sharma.2004;45). Cunningham (1924; 48) agreed to the description, limits and measurements of Gandhara by Hiuen Tsang. In addition to it he has further elaborated and identified Gandhara with that part of land in north western India, which lay between Jalalabad on the west and Indus on the east and hills of Swat and Buner on the north and hills of Kalabagh on the south."

"Gandhara not only comprised the modern district of Peshawar and Rawalpindi but also swat and Hoti Mardan or what is called the Eusofzai country, is bounded on the north by Chitral and Yasin, on the west by Bajor and the Swat river, on the east by the Indus and on the south by the Kabul river, that is the country between the Indus and the Panjkora, where at Ranigat, Sanghao and Nuttu, discoveries of were made of excellent Buddhist architecture and sculptures of the time of Kanishaka." (Dey, Nando Lal: 2005;61).

Majority of scholars have opined geographically the name Gandhara was used for the Peshawar Valley in ancient times i.e. the large part between the Suleiman Mountains along the Afghanistan border in the west and the Indus River in the east, western Punjab and Kabul valley. However, the term Gandhara was also used in a boarder sense and its cultural boundaries extended to the neighboring regions, particularly the swat and other

river valleys to the north, Dir district, Buner District, Malakand and Bajaur agencies and the region around the great city of Taxila to the east, parts of the Punjab and the eastern edge of Afghanistan to the west. Its limits extend from river Swat to river Jhelum (Gazetteer of North West Frontier Province, 1979 L; 124.)

Gandhara art is said to have originated in the last centuries of the first millennium BC, while it developed and reached perfection in the first few centuries CE (Salomon:1999;3) The area in which Gandhara art can be found is bordered on the east by the great stupa of Manikyala on east of Rawalpindi, By the Dir and Swat valley on the north, by Bannu on the south, and by Bagram plains in the southern Hindu Kush Mountains of Afghanistan (Higuchi: 1984; 210). Dr. Saifur Rahman Dar also fixed the eastern most boundary of Gandhara art at Manikayala and rather shifted the eastern limit of cultural boundary of Gandhara to the banks of the river Jhelum"( Dar: 2008;1). In this perspective R.C. Sharmaha (2004; 45) innovated a terminology "Core Area" and 'Greater Gandhara" by dividing Gandhara into two components. He states that "the core area and heartland is somewhat triangular piece of rocky region surrounded by the hills between the present day Afghanistan and the northern Pakistan and roughly measures 100 km from east to west, and about 70 km from north to south. The greater Gandhara however commanded a vast land as it influenced the production in the periphery of several hundred kilometers". In the words of S.P.Gupta (2004;75) "the Gandhara region lay on both sides of the Khyber Pass, in all probability, confined to Kabul valley, Peshawar valley and Swat valley. However, when we are adding a new concept that of greater Gandhara which extends from the Oxus basin to Taxila. The areas involved are ( i) The Oxus basin in Bactria, comprising of southern Uzbekistan and northern Afghanistan, broadly north of Hindukush mountains, (ii)The Kabul basin, from the upper reaches till it meets the Indus and beyond including Peshawar and Swat highlands, and (iii) Taxila valley. Kashmir is also included in great Gandhara. Gandhara comprised the whole lower valley of Kabul river Kohat range on the south to the borders of the Swat valley on the north. It thus included the modern districts of Peshawar, Charsadda, Mardan with part of Kohat, the Mohmand, Bajaur, and Malakand agencies, once its borders embraced within limits the great city of Taxila, east of the Indus".

V.K. Sharma (2004;45) states "that the kingdom of Gandhara occupied the area, now covered by the name Peshawar valley, including the hilly district of Swat and Buner to the north and extending on the east to the Indus River. On the side of Afghanistan it went perhaps as for as Jalalabad .Apparently the territory thus delimited forms the core of the Gandhara regions ,and its influence or cultural affiliations extended far beyond these boundaries , for instance, to the Taxila on the south-east."

In the light of the many accounts, the Gandhara region may be said to have embraced the Khyber Pakhtunkhwa province of Pakistan, parts of the Punjab province (west Punjab) and parts of eastern Afghanistan. T. P. Verma (2004; 3) extends its limits between two river lands and declare that "Gandhara to be the region from swat river to Jhelum. Thus the region of western Punjab and eastern Afghanistan are included in it. Gandhara extend to the North, the east and the west, Gandhara is hemmed in by tall mountains, but to the south, the flat Indus valley spreads out for some seven hundred miles until it reach the Indian ocean".

One should, therefore, be careful to distinguish the geographical limits of Gandhara from the political when Cyrus the great held sway over proper Gandhara, the name designated the extensive political unit of Parapamisadae governed by his representative residing at Kapisi in Afghanistan but in the time of the Indian emperor Asoka the name was applied to the province comprising the Kabul valley together with north-west India which was governed by Asoka's viceroy from his headquarters at Taxila. The boundaries of this political unit then shifted from west to east and from east to west in accordance with the temporary preponderance of either Iran or India, but the borders of geographical unit have remained constant through the centuries (Verma, T. P. 2004: 120,177). The loose delimitation made it difficult to describe clear boundaries of Gandhara mainly because the boundaries of various kingdoms changed time to time and that there was no clear and detailed definition of the term Gandhara in the various texts (Sharma, V.K. 2004: 45).

Speaking from political point of view for the period in the middle of the 6th century B.C., Gandhara was an extensive state with its capital at Taxila. According to Upinder Singh, "the kingdom of Gandhara comprised modern Peshawar and Rawalpindi districts of Pakistan and the Kashmir Valley. Its capital Takshashila (Taxila) was a major centre of trade and learning. King Pukkusati or pushkarasarin ruled over Gandhara in the mid-6th century BCE. … The Behistun inscription of the Achaemenid emperor Darius indicates that Gandhara was conquered by the Persians in the later part of the 6th century BCE (Singh, Upinder 2008:p.264). According to the same author, "ancient texts and inscriptions usually associate the Kingdom of Kamboja with Gandhara. Kamboja included the area around Rajaori, including the Hazara disctict of the North-West Frontier Province, and probably extended up to Kafiristan (Singh, Upinder 2008:p.264). According to Kosambi, "a Gandharan king Pukkusati of Taxila exchanged gifts of costly trade goods with Bimbisara of Magadha, and travelled on foot to see the Buddha (Kosambi, Damodar Dharmanand 2008: p.150). Dr. Dani has also confirmed this statement (Dani, Ahmad Hassan: 2007; 81). According to Romila Thapar King Pukkusati belonged to Khasteryia (the warrior class of the Hindus) caste (Thapar, Romila: 1966). Pukkusati was a great and mighty king and Gandhara became a great state under him. Hecataeus of Miletus (549-468 .B.C) refers to Kaspapyros as a Gandaric city. This Kaspapyros or Kasyapapura has been identified by Foucher with Multan. "Thus it is clear that the kingdom of Gandhara expanded eastward up to Ravi and southward up to Multan and included the territory of Kashmir' (Parkash.:1964; 140).

A significant result of the rise of Gandhara was the growth of its capital Takshasila, as a great seat of learning, a centre of culture activities and exchange/amalgam of ideas, and hub of commerce. The students of Magadha pass through the vast distance of northern India in order to join the great centres of learning at Takshasila. We learn from Pali texts that Brahmans youths, Khattiya princes and sons of the elites from Rajagriha used to visit Taxila for learning the Vedas and eighteen sciences and arts (Cittasambhutta Jataka, no.498). Jotipala, son of the Purohita of the king of Benares, returned from Takshasila with great proficiency in archery or military science and was later appointed commander-in-chief of Benares.( Jataka V;127 ) Likewise Jivaka, the famous physician of Bimbisara and Buddha, learnt the science of medicine under a far-famed teacher at

Takshasila and on his return was appointed court-physician of Magadha.( Mahavagga V111, 1,3,6 ). Another illustrious product of Takshasila was the enlightened ruler of Kosala Prasenajit, who is closely associated with the events the age of Buddha.(Dhammapada Atthakatha:1; 331-338). Panini and Kautilya, the two masterminds of ancient times were also brought up in the academic traditions of Takshasila. King Pukkusati was a contemporary of the Buddha and took keen interest in Buddhism through the efforts of Bimbisara, the king of Magadha. He is even said to have visited the Buddha by travelling all the way from Taxila to Magadha on foot. As such, there is every probability that the king must have adopted the new faith and officially patronize it to be spread throughout his kingdom. According to Dani, he was the last local ruler of Gandhara and after his death, Gandhara became part of the Achaemenid empire of Persia (Dani, Ahmad Hassan, 2007: p.81).

**Conclusion**

The history of KPK is very glorious and enjoyed a significant position in all historical periods. The region has a very rich cultural and historical background since earliest times to-date but the sixth century B.C is very important for this region because of the rise of Gandhara as the ancient state of Khyber Pakhtunkhwa. There was a monarchy, but its king had a great political wisdom that he utilized for maintaining cordial relations with the contemporary powers on one hand and expanding and securing the limits of his state on the other hand. He paid serious attention to education and turned his capital to a great seat of learning traditional knowledge and modern sciences of the time including medicines, art, architecture, engineering, languages, warfare, etc. Though generally the efforts of Ashoka the Great are considered to be instrumental in spreading Buddhism to the far-off lands, but frankly speaking the real foundation for introduction of the new faith was laid down by King Pukkusati in the $6^{th}$ century BCE.

Gandhara witnessed independence, progress and prosperity under its own local monarch, who unlike oppressor rulers was a visionary who provided maximum opportunities of education and health to his people by building educational institutions with all possible facilities and the best of teachers. By introducing medicine in these state of the art institutions of the time, he produced medical practitioners to take care of health of the masses. By introducing all possible science subjects, he laid foundation of progress and

prosperity in his state. He kept open the doors of knowledge for students coming from other adjoining states and thus established strong diplomatic contacts with his neighbours. Though after his death, the state of Gandhara could not maintain its independent status and sovereignty after its occupation by the forces of Darius of Persia, yet the great spirit of freedom and prosperity cultivated and nurtured by King Pukkusati never died and Gandhara subsequently once again came to limelight when once again the local rulers took control and kept the state on path of continuous progress and stability for almost a millennia.

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political organization of a society where governance was carried out by civil law rather than dictatorship as expounded by Bowden, (2004); Gong, (1984) and Mazlish, (2004). Hence, a society characterized by supremacy of law and reason rather than the mere use force may be termed as 'civilized society.'

The very concept of civilization is a dynamic one covering a vast array of human life; it is more pluralistic in nature as exerted by Bowden, (2007a) and Mazlish, (2004). Mazlish (2004) believes that women have remained the standard and measure of civilization in any human society. They have an integral role and place in the growth or even decline of every known human civilization. During the 19th C. women exerted their identification as socializing agents and were thought as a transforming force for human behavior especially in the early stage of human growth. 'No universal agent of civilization exists but our mothers,' argued Louis-Aimé Martin (1834) in his enormously influential book, *The Education of Mothers; or, The Civilization of Mankind by Women* (http://www.mfhoum.com). The same thought is beautifully summarized by Quaid-e-Azam Mohammad Ali Jinnah in the following words:

> "No nation can rise to the height of glory unless their women are side by side with them…It is crime against humanity that our women are shut up with in the four walls of the houses as prisoners. There is no sanction anywhere for the deplorable condition in which our women have to live". (Bhattacharya).

It is pertinent to mention here that those societies that awarded least priority to women had to suffer in due course of time. In certain societies women were bereaved of their due rights as their freedom and recognition were denied. Except for some women of the aristocratic families, the rest of the human societies had low respect for women. They were dealt as personal property of men. Leave the rest, a woman was even not the owner of herself. She was always kept dependent on man.

This is especially true of the pre-Islamic Arab societies where woman was considered as an insignificant creature. Instances of immediate killing after birth for girls were rampant in the Arabian Peninsula. However, with the advent of Islamic civilization, women were granted a number of rights, ranging from personal to social, civic and economic rights. Islam gave top

priority to women regarding their social status and prestige. For the first time woman was raised to the status of humanity with reference to her equal existence with the opposite gender. She acquired unprecedented rights as compared to any other human civilization, (Mohammed bin Saleh 'Uthaymeen, 1414 AH). The tremendous impact of this reformation can be seen in the manifold contribution of women in the growth and development of Islamic civilization especially her role in upbringing and early childhood education of the youngsters, together with preserving the cultural heritage of the society.

**The role of Women in different civilizations:**

Despite their remarkable growth as a civilized cociety, the Greeks were also paying little heed to women as woman was considered the root cause of human sufferings. She was just used for procreation. Furthermore, they were compelled to do adultery even the same practice was applied to mothers as well. Sisters had no choice to marry as per their free will (Ibrahim al-Najjar, 1415 AH). Such a picture is drawn by Mustafa Sibai when he quotes Demosthenes who believed, "They had wives to produce children and girlfriend to enjoy their physical contact with them" (Mustafa Sibai, 1414 A.H).

**A panoramic view of the status of women in some ancient civilizations:**

The Persia: The Persian nation was basically a military nation. Man was considered a pillar of the fighting lot, i.e., they have much significance (Muhammad bin Abdal -Karim Al-Shahristani, 1413AH). Therefore, they preferred man to woman, because woman was thought to have been created for man. Hence, the status of women was miserable in the Persian civilization, (Samia Moneisi, 1416 A.H). Nearly the same situation prevailed in Rome where women were bereaved from their civil rights by law. Here woman was considered the cause of every evil and was thus, deprived of all forms of human rights (Bhi Khuli, 1414 AH). Of course, the Romans had some very cherished societal norms but their attitude towards remained still deplorable.

The Hindu civilization was not different from other civilizations in this respect. Here woman had such a status that was just equal to that of a slave. She was thought of a sort of personal property that was to be lost even in gambling and trifles. Woman was labeled as: hell, fire, a poisonous

snake or venom. She was prohibited by law to initiate or do something on her free Will. Like personal property she was transferred from father to her husband where the later had the status of God for her. She had no right to life after her husband's death and was to be burn alive with him (Abdalmtaal-Jabri,1408 A.H). such in human practices regarding women is still prevalent in Hindu culture even to this day.

Judaism considered women the fountain of Sin as mentioned in the Old Testament that she was instrumental in Adams' eviction from the Paradise. It is believed in the Jewish creed that Satan tricked Adam through Eve; hence the very existence of woman is temptation that led to disaster for man (Bible verse: 1-24). This was the basic philosophy in Jewish creed that made woman a property of man and was often sold like anything by her father especially when the father was poor. Similarly she was compelled to marry anybody who wanted to marry her in any stage of life. Even the dowry was offered to her father at the time of her marriage. The Old Testament declares, "Woman introduced the sin in the World and she is the cause of our destruction" (Exodus, verse: 7-12). This is further elaborated in Talmud—a sacred book of the Jews, "when a few praises a non-Jewish woman, they are not to be blamed, for his marriage with her is not valid. They consider a non-Jewish woman an animal and hence can't make any matrimonial contract with them" (Genesis, verse: 12). Such statements can be observed in the Jewish writings that simply indicate towards the inhuman approach of the Jewish thought.

Nearly the same situation prevailed in ancient China. Chinese abhorred girls. There were instances of selling the new-born girls among Chinese. Similarly if no one was ready to buy her, she was to be left there, or in a deserted area to parish in due course of time. On occasions she was either drowned or buried alive. This tradition of the Chinese people was reported by a Muslim explorer Ibn-e-Batuta in his travelogue in which he mentioned the selling of daughters was a common practice in the then Chinese culture (Lowell Durant). Woman was considered as foolish and stupid. It was believed among the Chinese people that woman possess no quality of resolving any issue on her own. Thus, the Chinese society also presented a miserable picture of women. However, after marriage she was labeled as 'Fu', meaning 'obedient' (Lowell Durant).

The Christian creed which is a sort of continuation of the Jewish one is not much different from its predecessor. The Christians believes in both the Old Testament and the New Testament. Of course, the Old Testament is very critical of women as earlier mentioned. The Old Testament proclaims that Eve was responsible for the heinous crime, while in Christianity, the New Testament repeats the same idea, "Adam did not go astray rather woman went astray and thus this incident happened" (Ecclesiastes, verse: 26 -29; Leviticus, verse: 19-24).

The Christian clergy looked down upon women and considered them as the root-cause of all sins; even her lawful matrimonial relation with others was disgusted and was labeled as unsacred. As a result of this line of thinking men usually preferred to remain single than to marry. The following quotation of Saul is worth mentioning: "one who marries one's daughter, does a wonderful job, and one who does not get one's daughter married, does a far better job" (Leviticus, verses: 3. 22.23). Such quotations from the sacred scriptures of Christianity are self evident for clarifying the point under discussion.

**Women in Islamic Civilization:**

Before the advent of Islam the *Jahiliyia* period in the Arabian Peninsula presented a very sad picture, except for some very rare instances of cherished women standing, regarding the social status of women. The situation was so deplorable that even the birth of a girl was considered ominous and a sort of disgrace. Therefore, some people went on to the extent of burying the girls alive because her birth was perceived a matter of humiliation (Shoukry Alusi, 1414 AH).

This is evident from the very text of the Holy Quran which highlights this inhuman line of thinking in the following manner, 'Whenever the news of a female child is announced to any one of them, his face darkens and he chokes with inward gloom'.

As a religion Islam introduced a number of social reforms which included some very basic and fundamental injunctions that, besides eradicating some other social evils elevated the status of women from that of an animal-like life to that of the real human position. Islam extended such rights to women that brought them at par with men in all walks of life. This is evident from the following excerpt of the Holy Quran which goes thus: "And for them (women) are rights similar to those (of men) against them", (The Holy Qur'an, 2: 228).

The Holy Quran rejuvenated the Psycho-moral and legal status of women which was the first ever incident extended by any religion or creed in human history. Specific injunctions included rights to: marriage, inheritance and even divorce. Islam strictly prohibited the prevalent un-human practices of the Arabs such as temporary marriage and polygamy etc. However, the maximum number of wives at a time was restricted to four only subject to the condition that each wife be treated fairly and justice be maintained among them by the husband otherwise the wrath of Allah will incur on the transgressor. This way monogamy was somewhat silently preferred. If you fear that you shall not be able to deal justly with the orphans, marry women of your choice, two, three or four. But if you fear that you shall not be able to deal justly (with them) then only one (The Holy Qur'an, 4: 3).

Further, women were granted social security when divorce was considered the least wanted measure by Islam as this practice was rampant among the Arabs. This is evident from the Sayings of the Holy Prophet (S.A.W): "…of all the permitted things, divorce is the most abominable with God" (Abu Dawud). Together with this, right to inheritance was granted to women that was another major breakthrough regarding women empowerment. In pre-Islamic Arabia, like any other civilization, inheritance was only for male relatives while women were totally bereaved from the right to inheritance.

**Women's rights in Islam:**

An impartial analysis of various civilizations of the world reveals that for the first time in human history the rights of women were safeguarded by Islam in both theoretical as well as practical arena. The distinction that prevailed men and women before Islam was altogether eradicated. Women enjoyed the same legal, spiritual, and socio-economic rights as did the men. Women had the right to purchase, sell, and earn their living by managing their own money and property. Thus women were endowed with full-fledge economic independence (Adeel 2010: 106). Furthermore, women were granted inheritance right regarding their movable and immovable property. It is due to the Islamic injunctions that woman is entitled to have some share in husband's property for child-rearing even after divorce (Omar, 2011).

The Holy Quran explicitly provided equal religious rights to women, as well as equality in spending virtuous and chaste life and even equality in the Hereafter. The following verse is self explanatory: "If any do deeds of righteousness…be they male or female and have faith, they will enter the Heaven, and not the least injustice will be done to them", (The Holy Qur'an, 4: 124). This was the impact of extended freedom for women that some of them rose to prominence during the peak of Islamic civilization such as Umul Momineen Hadhrat Ayesha (R.A), Hadhrat Fatma (R.A), Hadhrat Rabia Basri—to name a few. One such name is that of Shuhda bint al-Ibari, surnamed "The glory of women" in Baghdad, during the Abbasside caliphate who died in 574/1178. She had commanding expertise in religious science. Another towering woman scholar was Zaynab binte-Shari (D.615/1219) who studied with al-Zamakhshari and produced such a splendid scholar as Ibn Khalikan, who was her disciple (Nejlalzzedin,1953).

Such tremendous excellence on the part of women in Islamic civilization was due to the respectable status given to her in Islam. It is reported that the Holy Prophet (S.W) once said that the best among Muslims is the one who is relatively more compassionate to his family (Muhammad Rashid Rida, 1405AH). Woman in the form of a mother is the first training institute for a child. She is supposed to be the mentor of the child, hence the all-round development of a child is subservient to mother. She shoulders the responsibility of physical, mental, moral, and ethical training of the child. Regarding child-rearing the following text of a *Hadith* is worth mentioning: Command your children to pray when they become seven years old, and beat them for it (prayer) when they become ten years old; and arrange their beds (to sleep) separately (Abu Dawoud: 968). A mother is the most powerful influencing personality especially in the early five years of a child and this responsibility is assigned to mothers in a typical Islamic civilization (Ahmed Nagdy).

**A glimpse of the modern and post modern era:**

The modern era is roughly traced at the advent of industrialization in the West in the 18$^{th}$ century. Besides other remarkable progress, this period witnessed the growth and development regarding the social status of women. The later half of the 19$^{th}$ century and the beginning of the 20$^{th}$ century witnessed unprecedented growth in this respect. Women attained a relatively more vibrant position in the socio-economic development of human society. Many women rose to

prominence in various spheres of life. They took remarkable strides in matters related to statehood and governance, politics, economics, media, sports, social work, and humanitarian aid etc. This period was marked by the legal and constitutional provisions both at state level and at international level that were meant for bridging the gap between gender disparities in all respects.

The modern era was followed by postmodernism which paved way for a number of intellectual discourses, one being the philosophy of feminism. In the 1990s till 2000 some scholars started writing in a more feministic approach that afterwards strengthened the earlier feminist overtures into a more established one, and thus; feminism emerged a stronger intellectual movement among the academic circles. This new approach is known as feminism which is now-a-days a full-fledged philosophy. In nutshell, feminism is the philosophy that emphasizes a more proactive role and position for women. Even in academic writing gender-biased language is considered the most unwanted style.

**Summary and Conclusion:**

The analysis and discussion so far, reveals that woman was never given her due rights in almost all known human civilizations except some very rare examples where a few women had a relatively highly privileged position. Woman was always maltreated. In most cases she was lowered to the status of an animal or even below. In some creeds she was thought to be root-cause of perpetual sin. Her very existence was denied and her birth was considered a sort of defamation and humiliation, hence she was the most unwanted creature in humanity. She was even buried alive after immediately her birth or burnt alive when her husband died. In short woman had to suffer many atrocities at the hands of her counterpart. The history of the sufferings of women is as long as the very history of humanity, till the advent of Islam. It was in the Islamic civilization that women were endowed with full fledged rights as human beings. The evidences of such injunctions and practical demonstrations are numerous in the belief or creed system as well as in the social life in a typical Islamic civilization.

The above discussion leads one to conclude that till the advent of Islam women had to live in miserable condition in every part of the World. However, Islam extended manifold rights to

women that afterwards paved way for many other societies especially the modern developed societies to give respectable status to women in their social fabric. Today's developed societies owe much to the cherished ideals of Islamic civilization regarding the provision of fundamental human rights. It is pertinent to mention here that in today's globalized context there is a need of substantial efforts to ensure women empowerment. In this connection UN as well as other NGOs can play significant role in bringing about fraternity, equality, and equal human rights to women all over the world.

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# Depression through the Ages and its Role in Crimes: An Investigative Study of Contributing Factors Among University Students

**Tehseen Zahra***
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**Arab Naz *****

***Abstract***

*Depression has been identified as a major culprit for deviance and criminal behaviour. Students are not exception to it and they are increasingly at risk to develop depression and negative feelings. This study attempts to investigate factors that relate to educational environment and their role in triggering depression among students. The findings of the study are based on data generated from English linguistics and literature students enrolled at four universities in Islamabad, Pakistan. Quantitative data is collected through questionnaire from 300 students and the qualitative part of the study is based on short interviews from English teachers. The focus is to find a link between depression and factors like failure in education, parental pressure, weak financial background, poor health and wrong choice of subjects. The findings of the study reveal that the universities do not have an established mechanism to identify and treat such cases among students. The data further indicate that such cases are rarely reported and the factors are variously linked by the respondents to the incidence of depression and criminal tendencies. Further, it is concluded that timely intervention and due recognition of the existence of contributing factors to depression in educational environment may help reduce such cases to a considerable degree.*

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***Key Words: Depression; crime; English students; university; Pakistan***

## Introduction

Mental illness currently accounts for 11.5% of global disease burden, more than all cancers combined. Depression alone is now the fourth-leading cause of the global disease burden and the leading cause of disability worldwide. (Edward H. Hagen 2012). The rising depression in students is more alarming. This being the situation, we considered it appropriate to present a study conducted on students – the hopes of our future and let all the stakeholders know as to what are the potential causes and what remedies are available.

Ancient Greeks and Romans were divided in their thinking about the causes of melancholia. Literature of the time was filled with references to mental illness caused by spirits or demons. In the 5th century B.C., the Greek historian Herodotus wrote about a king who was driven mad by evil spirits. The early Babylonian, Chinese, and Egyptian civilizations also viewed mental illness as a form of demonic possession, and used exorcism techniques (such as beatings, restraint, and starvation) designed to drive demons out of the afflicted person's body as treatments. In contrast, early Roman and Greek doctors thought that depression was both a biological and psychological disease. Gymnastics, massage, special diets, music, and baths, as well as a concoction of poppy extract and donkey's milk were used to alleviate depressive symptoms (**www.mentalhelp.net** › *Disorders & Issues)*

Depression was previously known as melancholia and commonly referred to as major depressive disorder by many Health care professionals. It has a long history and in the known history going back at least as far back as classical times. It was generally believed in Ancient Greece that resulted due to an imbalance in the four basic bodily fluids (blood, black bile, yellow bile, and phlegm). Derived from the ancient Greek language *melas*, "black", and *kholé*, "bile" (Liddell, Henry and Robert Scott 1980). It was described as a disease with particular mental and physical symptoms by Hippocrates in his *Aphorisms*, where he characterized all "fears and despondencies, if they last a long time" as being symptomatic of the ailment (Hippocrates, *Aphorisms*, Section 6.23). Though this theory fell fell out of favor Greece but was revived in

Rome. Melancholia was a far broader concept than today's depression where importance was given to symptoms of sadness, dejection, and despondency, and often fear, anger, delusions and obsessions were included in it (Rodden, J 2003).

Muslim physicians had developed ideas about melancholia during the Golden period of Islam. Ishaq ibn Imran (d. 908) combined the concepts of melancholia and *phrenitis* i.e. inflammation of brain (Jacquart D, 1996; pp. 980). Avicenna, the great Persian physician of the 11th century had described melancholia as a depressive type of mood disorder in which the person may become suspicious and develop certain types of phobias *(*Haque, A. 2004; pp.357-377). Moral and spiritual theories also prevailed, and in the Christian environment of medieval Europe, a malaise called *acedia* (sloth or absence of caring) was identified, involving low spirits and lethargy typically linked to isolation *(*Daly, RW 2007; pp.30-51 and *Merkel, L. 2003)*. Robert Burton in 17$^{th}$ century suggested that melancholy could be combated with a healthy diet, sufficient sleep, music, and "meaningful work", along with talking about the problem with a friend (Kent 2003; p.55 and Burton, Robert 2004)

During the 18th century, the fluid theory of melancholia once again rejected and references to dark and gloomy states gave way to ideas of slowed circulation and depleted energy (Jackson, SW 1983; pp.298-319). German physician Johann Christian Heinroth has argued melancholia was a disturbance of the soul due to moral conflict within the patient. The term *depression* was derived from the Latin verb *deprimere*, "to press down" (Online Etymology Dictionary). From the 14th century, "to depress" meant to subjugate or to bring down in spirits. It was used in 1665 in English author Richard Baker's *Chronicle* to refer to someone having "a great depression of spirit", and by English author Samuel Johnson in a similar sense in 1753 (Wolpert, L. 2008). French psychiatrist Louis Delasiauve in 1856 referred to a psychiatric symptom and by the 1860s this term was appearing in medical dictionaries to refer to a physiological and metaphorical lowering of emotional function (Berrios, GE 1988; pp.298-304). German psychiatrist Eil Kraepelin was perhaps the first to use this overarching term, referring to different kinds of melancholia as *depressive states* (Division, K 2006; pp.115-118), while English psychiatrist Henry Maudsley proposed an overarching category of *affective disorder* (Lewis, AJ 1934; 1-42). The 20th century has been dubbed the 'age of anxiety'. By the 1950s one in every 20 Americans

was routinely swallowing a sedative over breakfast. In the mid-1990s Prozac had become the second best-selling drug in the world. It was billed as the magic bullet for depressives. Despite some evidence that anti-depressants are only marginally more effective than placebos more and more people turn to drugs to alleviate their sadness (Clark Lawlor 2012).

Depression is a frequent and severe mental illness generally identified by gloomy and anxious feeling. Many students are at times gloomy and anxious but these feelings exist for very short span and are over in couple of days. Depression lasts for a long time if it is severe that can affect day to day activities and the sufferer may feel 'a little down' (Krap, 2016). Depression is not only passing blue frame of mind, it is rather continuous feelings of worthlessness and lack of interest in pleasing activities. It is a pertinent issue in youth but due to lack of awareness and understanding of psychological disorders, it is not particularly recognized as a mental disorder especially in the third world countries like Pakistan. Students' performance is affected by many factors throughout their academic life but depression is seldom considered while enlisting the forces working behind the troubled attitudes and affected performance of students. According to a report, 8.1 per cent of 2 million adolescents ranging between the ages of 12-17 encounter minimum one major depressive episode in 2009. Further, around 15 million children fulfil the criteria of being the sufferers of mental health disorder (American Psychological Association, 2008).

**Literature Review**

Crime is closely related to this phenomenon of depression in student life and in some cases crime is a product of depression. However, depression is seldom taken into consideration while digging the root causes of crime in the third world countries. In the developed countries however, a lot of work has been done on this topic proving that depression can lead to delinquent behaviour in students. Some of these studies include the works of Broidy and Agnew (1997) and Piquero and Selock (2004). These studies show how depression can trigger criminal behaviour especially in adolescents.

Looking at the same phenomenon in a reverse approach, studies also show that people who are proven guilty of crimes and tested for psychological disorders prove that criminality and depression are linked in a very high percentage among cases under observation. Elbogen and Johnson (2009) finds that depressed individuals are observed to indulge actively in negative

activities and face higher arrest rates than normal ones. They are usually guilty of prior violence and are more expected to be the victims of misconduct and criminal attitude. These studies also show how depression and crime are directly related and how in adolescents, depression gives rise to criminal mentalities. This relationship however, is not explored in as much detail and depth as it should have been. The work that is already done also does not prove the link between depression and criminality pertinently as it is not focused specifically on depression but rather on general mental disorders. The ratio of depression is seriously high that it is affecting more than 350 million people worldwide. A study in England notes that "there is considerable concern about self-harm and suicide in depression. We express that the rates of violent crime are at least as high, but they don't receive the same level of attention in clinical guidelines or mainstream clinical practice" (Fazel, Bains & Doll, 2006).

The symptoms of depression are not particular to students' low self-esteem or poor family background. "Honor students, athletes, non-traditional students struggling to succeed are also the victims of depression (Mier, Boone, & Shropshire, 2008). Such students' do not come to mind when we think about at-risk students but recent studies have shown that these students are among the many students who are still struggling. Anxiety, mood and stress-related disorders among those are affecting student leaders. These students strive for perfection in every task they are assigned. Moreover, they always try hard to fulfil the expectations of their parents and teachers. Their track record of success reveals minimum experience with failure and disappointment. All these factors makes it difficult for them to set limits to their own desires and they often find themselves in downward spiral of over commitment of exhaustion and disappointment. A common response that come from bright students is that they either become careless in their task or they quit, they also cut themselves from peer support, hence goes into depression or psychological crisis.

The difference between depressed and relaxed people is quite clear. Depressed people remain gloomy, negative and pessimistic in explaining the happenings of the world and reasons of their failure, hence stress caused negative feelings which badly damage their health. On the other hand, happy people share their ideas and stay friendly and helpful with their mates. College and university students suffer from depression which badly affects their mood and academic

performance. Zivin, et al. (2007) states that depression is the main cause of suicide. Women are more depressed than men.

Bower & Gilbody (2003) reports that nearly "34 million folks in United States had at the same time suffered from major depression and according to a report, about 13.5 million people suffered from bouts of stern depression". The estimated calculation shows that around 23 % of the United States population suffers from depression. Although thisestimated number seems high, still many people who experienced mild depression or remained undiagnosed were not part of this calculation. It is important to notify institutes and authorities on the prevalence of depression in young adults as higher possibility of suicide is affiliated with untreated depression.

According to Elbogen and Johnson(2009),failure in educational attainment is discussed by many scholars as the major cause of depression. People have high arrest rates, criminal records and can be the victim of their own crime. Donnellan et al, (2005) concludes that students with low confidence are more probable to exhibit adverse, offending and criminal behaviour. On the other hand, it is also found that depression reduces humans' vigour and aspiration to enact (Mazerolle & Piquero, 1997) especially babyhood depression has considerable permanence into maturity. Another notable outcome of depression is that students who present a depressed mood are likely to lose academic inspiration and academic activity. Depressed students also have many troubles in academic assignments at university (Khawaja & Bryden, 2008). In qualitative research by Anderson (2003), it is observed that depression is one of the reasons of their academic dilemmas, including academic presentation. In general, studies in this area report a negative relationship between academic achievement or performance and depression. Students who live alone may face problems without social support, especially international students. Students dealing with social problems and psychological distress have a higher rate of the symptoms of depression compared to students living with their family. Students sometimes unintentionally indulge in wrong or illegal activities smoking, drinking etc.Interestingly, a very few studies show that the inclination of causality may be from crime to depression and depression may be less likely to persuade the negative behaviour because depression is likely to decrease individual's vigour and capacity/desire to act (Agnew, 1992).

It is necessary to conduct in-depth study on causes and effects of depression. People suffer from depression due to many reasons. On the surface, it is difficult to talk about the reasons of depression; it might be due to unrealistic expectations of themselves and others. Similarly, the relationship between low intellectual level and negative behaviour, ultimately criminal involvement is close concern of many researchers like Jolliffe & Farrington (2004) and Haldorsen*et al* (2014). Kroner and Forth's research opened the new dimensions of the study that people suffered from depression were also under alexithymia which resulted in absence and inability to share the feeling and reasons of depression (Kroner & Forth, 1995). Some socioeconomic factors also play a vital role in committing crimes like illiterate mother and low household income that are considered vital by many criminologists in child's development and effects badly in adulthood too. Moreover, criminal record of biological father also affects individual's attitude towards committing crime. Children with fathers who have been incarcerated are more likely to commit crime and these children have fair chance of suffering depression (Hjalmarsson and Lindquist, 2012).

Hawkes (as cited in Burke, 2017) concluded that people who suffer from depression are more likely to commit suicide and serious aggressive crimes. A team of Oxford University explored the link between depression and aggressive crime and that study was published in Lancet Psychiatry. The study showed that increase in depression resulted in increase of committing violent and aggressive crimes and around 3.7 % of depressed men and 0.5 percent of depressed women were prone to commit violent crime. According to Hawkes, "Violent crime was defined as a conviction for any of homicide or attempted homicide, aggravated or common assault, robbery, arson, sexual offences (including indecent exposure), and illegal threats or intimidation". This study reported 32000 violent crimes a year in England and Wales. Self-harming is a greater risk of depression than harming other people.

Widom, DuMont and Czaja (2007) stated that Major Depression Disorder (MDD) is common in grown-ups. According to their study child abuse and neglected behaviour towards children leads to MDD and this leads them to isolation and sometimes increased desire for violence and crime. Children suffering from physical abuse and multi stress situations were at verge of lifetime MDD.

There are many other factors which can cause depression among students. Internet addiction, sleep disorder and self-esteem can hinder students' academic progress and ultimately leads to depression (Younes, Halawi, Jabbour, El Osta, Karam, Hajj & Khabbaz, 2016). They also note that internet addiction is relatively high among young students which lead to segregation and isolation. Thus, students can go to negative side affecting themselves and their surroundings. Fergusson (2002) is of the view that depression leads to negativity and criminal and destructive activities that leadalso results in self-destruction. Bernal-Morales, Rodríguez-Landa & Pulido-Criollo (2015) states that emotional processes are also associated with depression among students and basic reasons of depression among students is unsatisfactory academic performance that leads to psychiatric disorders.

In the light of above discussion, it is evident that there really is a relationship between depression and crime in students whether it is explored in depth or not. However, as mentioned already, in Pakistan not much research has been conducted on this topic or on mental health in general owing to the lack of awareness. In Pakistani context, it is difficult to estimate the prevalence of depression; however, one systematic review cautiously cites prevalence of depression and anxiety at 34% in the overall population of Pakistan (Mirza & Jenkins 2004). Other studies about crime and mental disorders are conducted but they too do not focus specifically on students. Some studies have been conducted generally though exploring the relation between mental health and crime. For example, one study from Lahore, explored statistically the significant relationship between adolescence depression and social factors working at the background such as unemployment, early marriage, early child bearing, violence and sexual harassment (Afzal, Rana & Mehmood, 2008). However, this research only focuses on adolescent girls and not generally on students.

The above review of literature shows that the relation of crime and depression in students has not been explored on practical or on theoretical levels. Therefore, extensive research needs to be conducted specifically to identify the relationship between negative activities and depression. This research aims to fill this gap by exploring the relationship between depression and crime in students.

## Methodology

This cross-sectional study was conducted at four universities located in Islamabad, Pakistan. The study is based on a mix method approach in which data of both quantitative and qualitative nature is generated for analysis and discussion. A total of three hundred students were included in the study randomly selected to fill in the questionnaire. Each university was given equal representation with 75 participants from each. Only those students were included in the study who had spent a year or more in the selected universities. Further, the study was delimited to students enrolled in English linguistics and literature programs at BS level and above owing to the specialization of the researchers in the subject. Initially, the purpose of the study was not disclosed to the research participants because pre-briefing would have inculcated consciousness among students about the nature and purpose of the research and their responses may have been constructed and amended by themselves accordingly. Verbal consent was taken from the students and we assured the anonymity of their identity. Following the scheme of simple random sampling, every student had equal chances of being selected. For qualitative data, short interviews with English teachers were conducted in which information was gathered about the reasons of depressive feelings among students, the need for addressing the matter, the role of parents and universities and other authorities to minimize the chance of development of such feelings.

Keeping in view the purpose of the study, the questionnaire was divided into three parts. First part inquired demographic information, second part comprised of ten close-ended questions while third part comprised of two open-ended questions. Five likert-scale was utilized in second part which ranged from strongly agree to strongly disagree. The second part determined the causes of depression among students that may lead to criminal and negative activities with specific reference to failure in education, parental pressure, extracurricular activities, weak financial background, poor health and wrong choice of subjects.

## Theoretical Framework

The findings of the study are based on Differential Association theory (Sutherland, Cressey & Luckenbill, 1995). It proposes that individuals living in society learn attitudes, moral standards, techniques and motives. They develop criminal behaviour, if they find negative elements in their

surroundings. Based on the theory, this research study attempts to investigate major concerns of students that may trigger depressive thoughts and thus violent tendencies in them. For the purpose of the study, several factors are investigated that include failure in education, parental pressure, weak financial background, poor health condition and wrong choice of subjects and their relationship with depression.

**Results and Discussion**

In higher educational institutes of Pakistan, students are enrolled from different cultural, social, socioeconomic, religious and ethnic backgrounds. These variables may lead the students towards depression and criminal activities directly or indirectly. There are some major issues related to these variables covered in this study like failure in education, parental pressure, extracurricular activities, weak financial background, poor health and wrong choice of subjects. Although, there may be some other factors as well that may trigger depression and criminal activities, but they do not come under the preview of the data generated for this study.

**Table: Summary of the results of the questionnaire**

| No | Item description | **Strongly agree** | **Agree** | **Neutral** | **Disagree** | **Strongly disagree** |
|---|---|---|---|---|---|---|
| 1 | Constant failure in examination causes severe depression and hopelessness that may lead to criminal activities | 39% | 46% | 6% | 6% | 3% |
| 2 | Depression ultimately leads to crimes and illegal activities. | 18% | 36% | 28% | 9% | 9% |
| 3 | Parental pressure regarding academic progress results in depression that may lead to crimes and illegal activities. | 31% | 41% | 14% | 12% | 2% |
| 4 | Extracurricular activities in academic institutions can help curing depression and reduce negative bent of mind | 45% | 29% | 16% | 8% | 24% |
| 5 | Depression is commonly found in female students as compared to male students. | 18% | 26% | 24% | 29% | 3% |
| 6 | Weak financial background of students can also cause depression and distract the students from academic progress. | 21% | 30% | 22% | 20% | 7% |
| 7 | Poor health conditions of students can cause depression and leads to crime | 17% | 19% | 19% | 38% | 7% |
| 8 | When students fail to get admission in their favorite field of study causes depression and can initiate criminal activities | 50% | 5% | 2% | 40% | 3% |
| 9 | Parental pressure regarding subject/field | 19% | 50% | 14% | 10% | 7% |

| | | | | | | |
|---|---|---|---|---|---|---|
| | selection may cause depression and leads towards criminal/negative behavior | | | | | |
| 10 | Hostilities commit more crimes as compared to the students living in their own homes | 9% | 34% | 31% | 18% | 8% |

**Constant Failure in Examination**

Most of the participants (85%) strongly agree that Constant failure in examination causes severe depression and hopelessness that may lead to criminal activities. The responses of open-ended questions and the results of interview also second the idea that most of the students feel depressed when they score less marks in exam. One student from BS Electrical engineering views that, "students tried their best to get good marks in examinations and most of the times use unfair means like cheating and copying". Cheating and copying are also criminal activities.

The response of question number two shows that more than 50 % population believe that depression ultimately leads to crimes and illegal activities. Considerable numbers of participants are unsure (28%) as they are not certain about the answer. The results lead toward the idea that many Pakistani students do not have idea about the symptoms of depression. A very small number of people in Pakistan get the idea about the seriousness of the disease, consult doctor or psychiatrist, otherwise it remains neglected.

**Parental pressure**

Parental pressure regarding academic progress is another problem faced by many students that results in depression and leads to crimes and illegal activities. The results show that 72% students agree that parental pressure can create depression and finally leads towards committing crime. One instructor reports, "Parents usually visit to the university and talk about good academic results of their children in colleges and complain for bad results in university at the end of the semester. They should inquire their (students) performance after mid-term exam as students have chance to improve their grades after mid-term exam". The results of close-ended questions show that students feel parental pressure in selecting the desired subjects and getting good grades in exam. As many students say, "peer and parental pressure can hinder their progress". Some students argue that parental pressure sometimes lead to depression that may trigger criminal activities". One student even gives the example of his friend, how he got

depressed from annoying attitude of his parents and started doing criminal activities. Moreover, it is evident from the results that majority of the research participants (43%) agree that boarders commit more crimes as compared to the students living in their own homes.

**Weak Financial Background**

As a developing country, Pakistanis are facing many financial problems where parents face a lot of difficulties to educate their children in high ranked universities. When these students are enrolled in universities located in big cities, where inflation rate is very high, students find difficulty in making both ends meet. The statistical data shows that 51 % students agree that weak financial problems may lead the students towards depression and negative activities. The results of open-ended questions also second the view point that weak financial background sometimes hinder students' progress and one instructor said that even some brilliant students are not able to continue their studies due to financial crisis.

**Poor Health Conditions**

Poor health condition also effect students' academic performance. One instructor informs that in many higher educational institutes of Pakistan, 75%-80% attendance is mandatory to appear in final term exam, sometimes, students are not able to meet the attendance criteria due to poor health conditions. This leads to poor grades and even failure in the subject. The response of open-ended questions revealed that sometimes students were not able to concentrate due to poor health conditions, so poor health conditions may lead to depression. The results of the close-ended question number 7 shows that majority of the research participants disagree (45%) with the statement that poor health conditions of students can cause depression and leads to crime although we found a few instances in open-ended responses which second the idea that poor health conditions may lead to academic failure and depression.

**Choice of Subjects**

Students' selection of subjects plays notable role in their academic progress. The responses of open-ended questions show that some parents intend their children to select some specific subjects/field of study and students do not take interests in these subjects which results in failure and depression. The statistical results of open-ended question number 8 and 9 show that students

get depressed when they are either unable to get admission in their favourite subjects/fields or they feel parental pressure regarding subject/field selection.

There are some other factors which may cause depression like Time management, peer pressure, change in academic environment. Research Participants have mentioned many crimes that students may commit as a result of depression like stealing, murdering, drug addiction, bullying, quarrelling, beating, breaking objects and even commit suicide or leave their homes. Moreover, the statistical results show that most of the participants 44 % believe depression is more common among girls than boys.

**Remedial Measures**

Remedial measures need to be taken to avoid the factors that may lead to criminal attitudes. Some remedial measures, suggested by instructor and students are given below:

1. In educational institutes, seminars, workshops or sessions should be conducted to develop students' self-actualization and confidence.
2. Interpersonal relationship like Student-instructor relationship, student-student relationship and student-parents relationship is very important to minimize negative bent of mind. Instructors should do counseling of students to refrain from negative activities. Similarly, good company of students is also a blessing; students adopt good habits and positive ways of living in good company of friends. The students suffering from depression should socialize with friends and family, try to focus on aims, remain strong and leave negativity. Parental role cannot be neglected in this regard. Gottfredson and Hirschi (1990) say that parental rearing plays a vital role in building children attitude towards life. Parents should keep an eye on children attitude to recognize deviant behavior and try to guide them in positive direction. Instructors should meet the students' parents after regular intervals.
3. Rehabilitation centers should be built for the students' guidance to refrain from drug addiction or any other crimes.
4. Guidelines to avoid negativity can be provided in the light of religious quotes.
5. University/Higher education Commission should increase scholarships for needy students.

6. Extra/Co-curricular activities should be arranged by the university for the students. As the response of close-ended question 4 shows that extracurricular activities in academic institutions can help curing depression and reduce negative bent of mind.

**Conclusion**

Ratio of depression is much higher among university students than other people. This study shows that students studying in universities face depression during their academic career which consequently ends in suicidal thought, ill behaviour, hurting oneself or other people, stealing, murdering, drug addiction, bullying, quarrelling, beating, breaking objects and even commit suicide or leave their homes. This research focuses on the reasons upon which students extreme acts are based like constant failure in exam, parental pressure, weak financial background, poor health condition and selection of subjects. It is very much unfortunate to note that most of the institutes in which such cases occur where student either commit suicide or run into illicit crimes do not report the cases. There can be various reasons to it, either the parents of the victim want to keep it confidential or the institute doesnot want its name to be linked with any controversy. On the other hand, even if the institute gives medical care to its students regarding depression there are some students who donot seek help. The reason can be they donot recognise their symptoms or they hesitate because it can probably affect their future careers. Development intervention programs targeted at young people who suffer from mental disorders like depression must be introduced among institutes. Moreover, policies designed to reduce depression at young age may have real downstream benefits on criminal behaviours. Advisers and professional staff must be assigned to respond to student in crisis. They can also evaluate the environment and the factors in the organisation that have contributed to the mental state of students. The advisers must follow and respond to the two phases: intervention and postvention. Intervention begins with the immediate recognition of crisis: if the student wants a down time and missing classes or not responding properly then the adviser must call him for a conversation. Even if a student resist an adviser must consider the possibility that the student is in a seriously depressed state and need medical attention. In this case an adviser must lay a close eye upon student so that he may be prevented from worst situations. Postvention work assumes that the student has gone through some professional counselling and has made some appropriate changes in his life. Sometimes,

treatment usually involves either medication or psychotherapy, or a grouping of both. Parents should also pay attention to the behaviour and behavioural changes of their children.

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# Digitization of the Peshawar Museum - Decorative Motifs in Gandhara Art

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**Abstract:**

*Peshawar Museum is considered to be the centre of Gandhara sculptures and images, which overall enhances its significance. Since recent few years, Pakistan has being suffering from the terrorist attacks leading to the high alert security. Peshawar has become the home land of terrorist attacks which is negatively impacting the visitors and tourism of Peshawar Museum globally as well as nationally. Thus, several positive steps should be taken to restore the importance of the Peshawar Museum, especially Gandhara Art. The need of digitalizing of these Gandhara Sculptures into a form of catalogue so that it can be viewed by many of the people will gradually increase the interest and will overall help in the promotion of Gandhara Arts. Now days, entrance of advanced technology and digitalization environment has completely changed the perspectives of the people. The ever growing world of technology has entirely replaced the manual system by the digital system. The proposed technology is based on the web application platform, and can be accessed by anyone from anywhere with the help of internet connectivity.*

**Key Words:**

Web Application, Gandhara Arts, Sculptures, Digitalization Environment

## Introduction

Peshawar Museum is known for the displaying of highly significant and world's great collection of the architectural pieces with unique historical sculptural designs, reflecting history into reality (Aiyar, V Natesa; 1913). Gandhara Art sculpted in unique stones not only shed light on the artist's talent and competence, but also narrate life stories of Buddha from their birth to death of all the episodes with the integration of their miracles events (Sehrai, Fidaullah; 1978). Life stories of Buddha is exquisitely carved with number of deep details from the interpretation of dream of Queen Mayo, historic Buddha Siddhartta's birth, footsteps, recording lessons, matches of wrestling, lives in palaces, marriage events, renunciation, ascetic life, sermons, fasting, initial meditation, departures, stupas constructions and many others (Carson, Mike T. & Hsiao-chun Hung; 2014.

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Presently, Gandhara region comprises of Peshawar valley, Mardan, Swat, Dir, Malakand, and Bajuaur agencies in the North West Frontier Province (NWFP), Taxila in the province of Punjab, and up to Jalalabad in Afghanistan. The emergence of Gandhara civilization in this region and become one of the main foundation of the Buddhism. From here, Buddhism started its expansion and spread towards the countries like Japan as well as Korea. The fascinating and interesting Gandharan's civilization records discovered in twentieth century can be found in archaeological regions spread over the cities of Taxila, Swat and many other related parts of Khyber Pakhtunkhwa. Karakoram Highway provides the fascinated historical records of Gandhara arts from the rock carving to petroglyphs reflecting the historical previews of Buddhism lives. Main emphasis of Gandhara art is on the reflection of Buddha's life stories, individual images as well as previous and future Buddha (Spooner, David Brainerd; 1978).

Importance of Gandhara Art in Pakistan cannot be neglected at any instance as it makes Pakistan to be known all the around the globe. However, since recent years, Pakistan is highly suffering from terrorist attacks at number of sensitive and historical places, which clearly accounts for the need of securing and preserving the things, such as Gandhara arts sculptures. Local artists have being stimulated by Buddha's personality, taking benefit of motifs, advanced technology and contacts from Romans, Persians, and Greeks who provided information related to the eternal lives of Buddha (Spooner, David Brainerd; 1978). Gandhara art is oriented from the Gandhara land under the rule of Kashan, more dominant and dynamic in comparison to the India's Mathura Art. "The life stories of Buddha, depicted in Gandhara Art, are an authentic document of the Mahyana text composed during the time of Kanishka (1st Century CE)," said Prof Fidaullah Sehrai, renowned archaeologist and former director NWFP Department of Archaeology and Museums." (Anderson, Catherine L & Ritu Agarwal).

The earliest examples of Buddhist Art reflecting their aspects of life are not considered to be iconic rather are aniconic images and got high popularity in number of regions of Sub-continent even after Buddha died due to the aspect that Buddha's themselves did not

sanction their personal worship nor the creation of images (Aiyar, V Natesa; 1913). Siddhatha Guatama, Buddha was known for his characteristics such as self-perfected, highly enlightened human being, considered to be the role model who should be followed rather being idolized. In accordance to his view, "Buddha's only point the way." This is considered to be the main reasons of why the earliest artists highly tributed to Buddhas making their sculptures, abstract symbols indicting and reflecting number of major events as well as achievements in last phase of Buddha's life, as well as earliest phases of life. Earliest Buddha's representation includes Buddha's footprints, mostly created in those places where Buddha used to walk (Spooner, David Brainerd; 1978). These footprints can be easily found in the Swat and Peshawar Museum. One of the main Buddha's poses in Peshawar Museum are mediation pose, Reassurance Pose, pose of earth touching and turning the wheel. Main collection of Gandhara art in the Peshawar Museum originated from India Archaeological survey, Frontier circle comprising from the year of 1902 to 1942, and donations and purchases from the public sector (Sicilia, Miguel-Angel: 2012).

Thus, Gandhara arts need to be highly digitalized so that it can be preserved as well as viewed by number of people throughout the globe. Collection mainly includes various kinds of architectural and stucco sculptures, models of stupa, relic's caskets, along with the reflection of Buddha's statuses and life styles.

**Designing a Digitization Project Plan**

In the advance world of information and communication technologies (ICT), the digital revolution plays a major role in the improvement and creation of the information and communication technologies (ICT) for the human beings (Tegelberg, Riitta et el; 2014). A large number of the research projects have being conducted at different levels for the preservation of data relating to the different field throughout the globe (Wagner, David; 2014).

This research paper presents a digitization project plan for the Peshawar Museum focusing on the (Decorative Motifs in Gandhara Art). The main goal of the research is the digitization of the Decorative Motifs from timeline of 1950 to 2014. This research will help us in the preservation of the arts and the people can have a virtual visit of the Peshawar Museum.

The Digital Peshawar Museum application will be developed using the web based applications and mobile apps. The images will be stored in the database. The web application can be accessed from any location of the world. One of the critical challenges which are involved in this research is the collection of these images from the different perspective of the Gandhara Art and integrating the Meta data with them so that the exact information can be searched according to the user search criteria. Different social media tools such as Facebook, Twitter and other social media sites will be utilized for the data collection relating to these images as well.

This project of Digitization of the Peshawar Museum will not be acquiring any physical location. The project will be totally based on the virtual web. However, during the initial stages of the project, we will need some physical location to conduct a meeting relating to the software development and for the verification of the metadata which will be provided by the different users or communities. During the initial collection, the project will require number of volunteers. This will be helping us for the data collection of the Decorative Motifs in Gandhara Art. For the verification and validation (V&V) of the image received from the different volunteer, we will perform the survey based on the images including some of the main parameters such as “Date, Time, Symbolic Meaning, Features, Influence, Variations and many other parameters”. The survey questionnaire will be based on the “yes or No” scale and once the image is validated, the information will be entered in the database. The web application will hold an image and a complete metadata relating to these images.

**Digitization Process**

The digitization process contains number of phase. All the phases are as under (Table I)

| Step | Description | Dependence |
|---|---|---|
| Step I | The current painting, object, arts material will be in an analogy form. The first step is to convert the object into digital form. The image can be converted into digital form with the help of camera, scanned and much other analogy to digital converting devices. | High Resolution Camera or Scanner |
| Step II | The metadata information relating to the image will be added with the image. This information will also help in the search and provide support to the viewer relating to the image information. Some of the parameter includes "Title, Description, Collection of, Painted by, Summary text, Date and Time, Available Resolution, Reference, Keyword, Location, and many other" | Image, Metadata |
| Step III | The most important step is to verify the image and its information. So, the images will be provided by the volunteer user. It important to verify the image. The image will be verified with the help of the survey. The survey will be conducted on the social media networking sites. | Questionnaire |
| Step IV | Once the images are verified and then the information will be entered in the database. The database will contain two main components i.e. "Image and metadata". For best resolution the information will be stored in the "BMP" formatted. | Database, Image, Metadata |
| Step V | The web application interface will display the image and its parameters. The user can search the required painting with the help of the search functionally. The search functionally will be based on the metadata. The interface will also have the functionality to submit the image. The user can also submit its image but the image will be added to the database once it is verified. | Internet connection |
| Step VI | The payment method will be available in case if the visitor needs a high resolution of the image and the visitor can order. The payment method available for the website will be "PayPal, Credit card". These will be transfer Peshawar Museum<br>And will help to pay the hosting and other charges required for running the Digitization of the Peshawar Museum application. | |

**Table 1 Digitization Process**

### Components, Steps and Criteria of the process

To ensure the quality of the Image, we will be using specific criteria for the image which is to digitalize and enter in the database.

### Image Criteria

The digitized image should have a resolution of at least "500 x 500".

The digitized image should have minimum metadata information of “Painted By, Data and time”.
The digitized image should be verified by at least 10 users.
The digitized image should not have the copyright issues.
The image should be converted in the entire format (JPG, PNG and BMP).
The image should be least. The watermarked image will not be entered in the database of Peshawar Museum.

**Hosting Services**

The main hosting services criteria are as followed:

The hosting services should provide at least or more than 100 GB of database space;
The hosting service should have minimum downloading time;
The security should be provided;
The Microsoft SQL database should be provided by the hosting services;
The Windows services should be used as the application will be developed and designed by using the Microsoft technologies.

The criteria of the image and the hosting services are set in order to ensure the quality of the project. If the resolution is minimum, the visitor will not be able to view the image properly. The metadata should be available so that information relating to the image can be provided and the visitor can also search the image according to his need and requirements. The copyright images should not be displayed on the web as its illegal and against code of ethics. As the project has no specific physical location, then the project is totally online, so the hosting services should have minimum downloading time in order to provide the quality service to the visitor. The technical aspects are also presented in the criteria in order to provide quality service to the user.

There are number of issue which will be ignored during the digitization of the painting images. However, these issues will not directly affect the project but the project outcome may be affected due to these issues. When the painting image is digitization there may be an issue that some color may be affected during the digitization process. There may be some issue in the metadata as few parameters of the images may be missing in the metadata and on the web application the blank information will be appeared in the data field.

There are several advantage that why we will be uploading the fade color image and the images of the small size and images with incomplete data field. The main goal is to give share these images information with the visitors. The visitors will have the feedback facility on the web application of Digital Peshawar Museum application. The visitor can share information relating to the specific or group of images. Once the information is share from the visitor the information will be send back to the temporary database. The review team will be updating the information of the image once it is verified.

**Labour and Control phase**

The project will be requiring the hands-on labour and will also help in increasing the sense of realism in the volunteers. The control phase will be involved in the verification and validation (V&V) of the image. The entire image collected for the volunteers will be verified. However, this project is based on the digitization so there will be a logical control phase.

**Risk Analysis**

There are number of risks which are linked with the design, development, implementation and execution of the project (Waterson, Patrick; 2014). During the execution of the project, there could be some negative impact. Firstly, as this project is dealing with the Decorative Motifs in Gandhara Art images, so there are many chances of colour changes in the images during analogy to digital conversation. There is a high risk of affecting the colour of the real object or subject which may different in the theme of the overall image.

There is a risk that during the up gradation and during the copying of the new information the download of the application may be increased. The technical reason behind is that during the initial phases of the project a large amount of the data will be entered in the database. So to interpret the application and database the application will be kept offline. There is no security module installed on the database and application so there will be a high level security issue but with the passage of time as the project will be having good

income the security module will be instated on the application and database cluster. These are online the few general risk which are involved in the online application so a strategy can help us to resolve most of these common issue.

**Digitization Workflow Process**

The workflow processes are presented in the figure workflow. The analogy image of the painting is enhancing with the help of the digital device (I.e. Camera). There are number of ways to send the image Digitization Workflow Process. There are number of ways to send the image to the temporary image centre designed and developed for Digital Peshawar Museum application. The images can also be sent with the help of the emails. The image can also be shared through the social media networking sites. Once the images are reached to the temporary image centre, the process of the verification and validation (V&V) of the image will be started. The questionnaires are distributed through different social media network site.

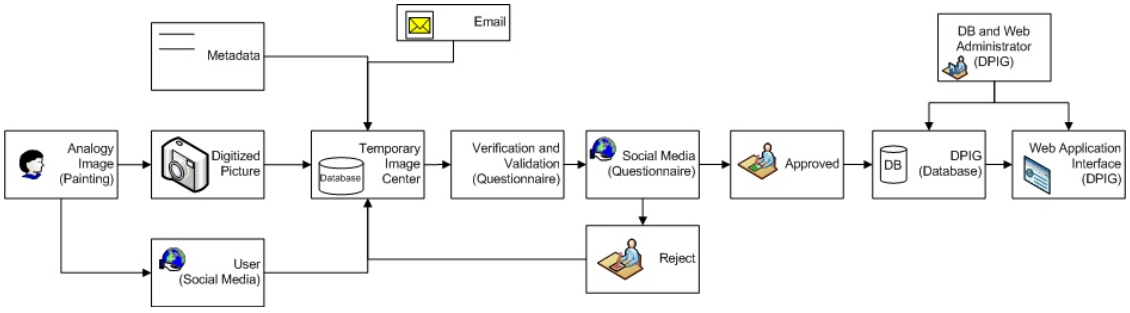



**Fig. 1 Digitization Process Workflow**

**Verification Process**

The verification process may take long time depending upon the respond of the user (Sinamai, Ashton: 2014). Once the verification and validation process is completed, the review team will either accept or reject the image. The image selection criteria are mentioned in the above section. Once the image is approved, the image and its metadata

will be entered in the database and would be visible to the entire visitor linked to the web application. The email notification will also be sent on weekly or monthly basis to the visitor to notify them about the new images. All the approved images are handled by the web administrator. In case of rejection of the image by the reviewer team, the image and its metadata will be sent back to the temporary image. In future, the update information of the image will again pass to the reviewer team.

**Conclusion**

Digitalization has completely changed the views of interacting and approaching the things. Peshawar Museum displays one of the unique contributions of the artists to the Gandhara Arts as well as reflects collection of the other components of history. It is concluded that Gandhara arts needs to be digitalized through the integration of the advanced information technology. The digitalization of the Gandhara arts and sculptural images will not only preserve the collection but will also provide artists to easily view the images any time they want sitting at any place. This research paper has provided the view of the automation through the integration of various applications and tools.

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# Prehistoric Economy of Balochistan: The Development and Evolution of Trade and Crafts in Pre-Indus Period

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**Abstract:**

*The emergence of first settlements in prehistoric times has been a long debated issue among the Scholars. The causes and processes of adopting settled life and forgoing hunting-gathering cultures have been the most important topic among archaeologists, historians and anthropologists. There are several schools of thought, who have advocated different causes and processes of early settlements and cultural change, starting from prehistoric life to the rise of civilizations. The present paper is an effort to understand this process in South Asian context in general and first settlements in the Balochistan in particular. The paper is aimed to discuss that how first settlers (from hunting-gathering societies) merged in Balochistan and which kind of interaction they had developed among themselves which resulted into a mosaic of cultural tradition. Here the main focus has been on the economic and technological aspect of the people and their culture. The basic theme of the paper has been taken by the idea of V.G Childe and it's applied in South Asian perspective of "Neolithic Revolution". The paper discusses two economic and cultural themes in pre-Indus tradition which developed in Balochistan i.e. Neolithic and Chalcolithic periods. The methodology here applied is a mix method of exploratory and interpretative. The themes have been critically analyzed and it has been taken care of that how economic aspect played its role in the overall development of socio-cultural lives of not only people from individual sites but overall region. These cultural interactions had provided a thriving ground for the birth of magnificent civilization on the banks of Indus River.*

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**Introduction**

The emergence of first settlements in prehistoric times has been a long debated issue among the Scholars. The causes and processes of adopting settled life and forgoing hunting-gathering cultures have been the most important topic among archaeologists, historians and anthropologists. There are several schools of thought, who have advocated different causes and processes of early settlements and cultural change, starting from prehistoric life to the rise of civilizations. The functionalist school of thought, championed by Emile Durkheim, advocates that the societies are composed of abstract institutions and these institutions or systems play fundamental roles or functions in the keeping intact the societies (Trigger 1989). Durkheim further elaborates this system of social functionalism by employing two concepts of *organic solidarity* and *mechanical solidarity*; the organic solidarity is based upon norms and values of a social setup while mechanical solidarity is based on division of labor, social stratification and interdependency of social groups or individuals (Trigger 1989). This system/approach of social functionalism was applied on prehistoric to modern societies. The functionalists (especially Durkheim) are of opinion that human societies have undergone through different stages of social or cultural evolution and this cultural evolution gave birth to different institutions, technological advancement and development of complex social, political, religious and economic systems. Functionalists further elaborate the process of social change happening across the society and their main focus is on the contemporary, complex societies and the prehistoric, primitive societies are mentioned only as base or running references so that the complete picture of cultural evolution should have a base back in prehistoric times.

One of the major works about the prehistoric societies and the factors of cultural change have been presented by V.B Childe in his celebrated book *Man made himself*. In this book V.G Childe highlights major stages or steps of social change and he attributes these turning points as “the revolutions”. V.B Childe specifically discusses two major revolutions during prehistoric societies i.e. *Neolithic* and *Urban Revolutions* (Childe 1951). Child points out that the abandoning of nomadic life and adopting of settled life was due to environmental changes at a global level and he further describes that the environment was changing, either during glacial or post-glacial period, men started interaction with environment, slowly and gradually men learnt controlling of environment and there was a major shift from complete dependence on environment for subsistence to production of food by man himself (Childe 1951). This process of shifting from dependency to control of food production was a long period of time but once men was able to domesticate plants and animals, further process of social change followed with much pace.

Childe gives a materialistic and technological explanation, instead of functionalist approach of organic and mechanical consolidation, for social change. This approach advocates that once man invented the trick of taming wild animals and cultivation, storage and manipulation of plants, he was soon able to produce the systems of other modes of economic subsistence and this also helped in archaic division of labors as all family members were engaged in means of production i.e. the women would help in cultivation, pottery production, tools making and storage while grown up children would look after the flocks in nearby grazing areas or fields (Childe 1951).

Balochistan in Prehistory

The archeological studies in South Asia suggest that the emergence of settlements had originated in the border lands of Indian and Iranian territories which geographically make the present day Balochistan. There are cluster of archeological sites, scattered throughout Balochistan and these sites clearly depict that there was a cultural and economic interaction of people among themselves. Although Balochistan is very much rich in terms of archeological data but there have been very limited excavations and mostly sites have been documented only that is why there is very limited information about the pre-Indus sites in Balochistan. But the limited information on Balochistan provides enough data to understand the nature of cultural and economic activities prevailing there. The emergence of cultural activities in Balochistan goes back to Paleolithic Age and Dr Fazaldad Kakar has documented the cave paintings in northern Balochistan. The next step in the journey of cultural evolution takes place in the change of means of life of the then people as they adopted sedentary life and gave away the nomadic life of hunter-gatherers. The shift in the life and culture of the people was not an abrupt process rather it was a complex and slow process of evolution constituting over a long period of time and space. The settled life in pre-Indus period has been discovered in Bolan at Mehrgarh. This was the birth of *Neolithic Revolution* in South Asia. The Neolithic settlement in Balochistan was multifacet and has been studied from number of cultural angles but here we would confined ourselves only to the economic aspect and it would be endeavored that economic and technological development in pre-Indus period would be explained with especial reference to cultural interactions among people living at multiple archaeological sites.

Childe's approach of economic and technological interpretation of primitive societies and their historical development can be applied on Neolithic Balochistan as the cultural evolution in Balochistan has started from hunter-gatherer societies/groups up to archaic-urbanism (early township). The emergence of Neolithic societies in Balochistan can be studied at Mehrgarh and other sites as we find first settlements there. This cultural development (Neolithic and chalcolithic cultures) can be studied in terms of subsistence economy which is discussed as follow:

**Balochistan Tradition: the emergence of archaic economy**

The emergence of settlements and forgoing of hunter-gatherer societies has not been an abrupt process rather this has happened over a long period of time. The environmental changes have force man to change his subsistence strategies as after the end of Pleistocene period, the supply of food was becoming scarce and there were limited water resources for all organisms and this resulted into more close interaction of human beings with its subsistence sources i.e. plants and animals (Childe 1951). The Neolithic revolution is all about the process of controlling and increasing the food production by cultivation of wild plants and breading of wild animals (Singh 2002). This process of domestication of plants and animal in South Asia is attested at Mehrgarh in Kahchi/Bolan area and the process started in post-Pleistocene era. The subsistence strategy in Mehrgarh, at an early stage, was based upon a mix approach of hunting-gathering and domestication of wild plants and animals. After c. 7000 BCE, there emerged an archaic economy of domestication. The system of domestication of plants and animal were in process side by side and it cannot be claimed that which process preceded the other one.

In terms of agriculture, the wild wheat and barley were being sowed and the naked barley was the main grain to be cultivated in early periods of time. The other agricultural products would include jujube (Zizyphus), dates and cotton at Mehrgarh IIB (Kenoyer 1998). Since farming needs moist areas for cultivation so early farming was practiced near the rivers but at later stages, there is some indirect evidence for irrigation, possibly by flooding the field with diverted waters. This gave the concept of proper irrigation as man learnt that additional water can be saved by constructing the artificial dams and by constructing canals water can be brought to fields; there are evidences in Mehrgarh about such archaic techniques of irrigation and dams (Jarrige, C.J. 1991). The natural landscape of the area between two sites i.e. Mehrgarh and K.G.M (Kili Gul Muhammad) is made in such a way that it helps in seasonal migrations. The Kahchi/Bolan area is mainly hot and during summer season it becomes unbearably hot while the Quetta valley during the same season is much pleasant. Similarly during winter season, temperature falls to a freezing level in Quetta valley while it is time for lower lands to have temperate weather. This climatic change would have helped the people of Neolithic times to migrate between the lower and upper lands. This seasonal migration also brought the skill of seasonal harvest. The people

of Mehrgarh and K.G.M learnt with the passage of time that which crops should be harvested in particular seasons in the given areas. The production of multiple grains also helped in the increase of settlement areas and population size. The construction of store house and the impressions of grains on the mud-bricks show that there were communal store houses at Mehrgarh (Jarrige 1991).

The second major source of subsistence economy in Balochistan Tradition was based upon the domestication of animals or pastoralism. Pastoralism is the system of breeding, raising and managing flocks by human beings for food production and dairy purposes (Meadow 2003). The evidences of transition from hunting to domestication of animals are not much clear but the early pastoralism got its roots in Mehrgarh I and the evidence suggests that pastoralism was second major source of subsistence. There were twelve principle animals, also called the "wild big games", comprising of sheep, goats, cattle, swamp and spotted deer, gazelle, nilgai, blackbuck, onager, water buffalo, pigs and probably elephant (Meadow 2003)(Possehl 2006). The principle animals among this "Big Games of twelve" were four i.e. cattle, goats, sheep and water buffalo. The domestication of animal brought a biological change in the games physical features, the physical size and shape slowly started to change (body size shrined) as the size of herds increased and this interesting change was observed by R. Meadow in his studies and he also suggested that this physical changes in games suggests that all the domesticated animals were tamed from wild to domestic form and these games were locally available (Meadow 2003). The physical size diminishing in goats completed probably during period I, in cattle during period II but in sheep it was not completed until period III (Possehl 2006). In the early stages the animals were hunted and domesticated purely for the meat purpose but as time elapsed, the animal husbandry became a complete system and pastoralism as a profession. The animals which could help in agriculture (especially cattle plowing fields) became much more important as compared to other animals and now these were "cultural wealth", since the process of breeding and raising was laborious and time taking so people would not use them for sacrifices rather these were kept as means of production for dairy purpose and plowing (Shaffer, J. 1992).

Another aspect of archaic economy of Balochistan Traditions can be studied in the invention of pottery and stone tools. The emergence of pottery is documented around 6500 BCE (MR II) and

the pottery was basket-marked (Jarrige, C. J. 1995). The pottery invention is related with storing and carrying water and other food items. At early stages the pottery was made only for daily usage and there was no commercial production. The pottery was rough, crude and mostly with simple shape having finger and basket marks on it. The pottery became an important item as it was also produced for ritual purpose of burials and this would accompany the dead body in graves as grave goods along with other items.

The lithic industry has got much remote history as compared to any other industry. During the Paleolithic age, the stone tools were made with rough and crude shapes, the evidence for this period is found throughout Northern parts of Subcontinent. The Paleolithic age in Balochistan is only found in Zhob valley and as far as Neolithic sites of Mehrgarh and K.G.M are concerned, the excavations does not reveal the presence of preceding Paleolithic age on the or near to the sites and its suggested that such Paleolithic assemblages might have been buried beneath silt brought by annual floods of Bolan river (Jarrige 1991). The lithic industry was developed because of stone tools were needed for early agriculture (garden forming) for sowing and sharp edged stones would help in slaughtering, cutting into pieces and skinning the games (Childe 1951). As the man progressed, man learnt the art of more polished stone tools and these could be used for multiple purpose. In Balochistan Traditions we find a large number of stone tools and other stone crafts in occupied sites and in cemeteries. The tools consisted of cherts, grinding stones and stone axes and along these daily usable stone tools, there was a number of ornaments and beads, discovered in graves, which were made with precious and semi-precious stones of sea shell, lapis lazuli, carnelian, steatites and copper (Jarrige, C. J. 1995). This availability of precious and exotic stones at sites cemetery suggests that the people were in process of long distance trade as these materials (precious and semi-precious stones) are not locally available rather these were being brought from distant places. But this trade was not on commercial bases as no crafts workshops have found at this stage and the quantity of these precious stones is not much high (Jarrige, C. J. 1995 & Kenoyer 1998).

**Emergence of Village Economy**

The next stage in the economy of Balochistan Traditions can be observed during the emergence of villages almost throughout Balochistan. Chronologically this period is from 5500 BCE to

3300 BCE and technologically this is called chalcolithic period. The cultural sites of this economic system can be grouped into two parts and in firs group, the sites were MR III, KGM III, Ajira II, SD I and MQ I and the second group includes MR IV–VI, KGM IV, DS I–II, Anjira II–III, SD I–II, MQ IIIa[4]. For making our discussion simple and more interactive, here both phases of village economy across the Balochistan will be presented so that the overall economic picture will be clearer and understandable.

The village system emerged with increase in population which resulted in mushrooming of new sites. The economic structure was still based on agriculture and pastoralism. The increase in the production of grains (because of better irrigation system, farming and plowing) resulted into construction of multi-storey rooms where surplus food was stored for feeding the larger population. This architectural system is found in Mehrgarh where rectangular buildings with no doors have been excavated and these building were being used for storage rather than living (Jarrige, C. J. 1995). The communal storage system shows that there was a centralized system of storage and distribution of food. This shows there was a social hierarchical structure where food items storage and distributions was being control by some people who might be the tribal or religious heads of the community. The social hierarchy can also be observed in the crafts industry where exotic good were being used only by few people as these exotic items (beads, ornaments and seals) were the symbol of honor and there price was high so common people could not afford to buy (Kenoyer 2000).

The pottery production at this time also increased and there were some technological innovations too. The pottery industry saw a multiple production centers and there emerged some specific traditions of pottery which were distinct from each other on the bases of texture and designing. Among these the most famous are Quetta Ware, Kechi Beg Ware, Togua Ware and Nal Ware (Pearsall 2008). These all wares would make the mosaic of Balochistan Tradition as pottery is the most common craft found and studied in Balochistan Tradition by archaeologist. There are evidences that there was rapid distribution of these vessels throughout Balochistan because of kind of pottery is found on the long distance sites of its production. This shows that there was a constant interaction among inhabitants of these sites. The pottery brought on the sites of other

[4] MR (Mehrgarh), KGM (Kili Gul Muhammad), DS (Damb Sadat), MQ (Miri Qalat).

than there origin can be explained in two ways i.e. either there was a trade of pottery between these two sites (site of origin and site were these pots were found) or the idea might have been borrowed by local people and then they have started production of similar vessels by their own. Whatever the case might be, this pottery distribution shows that there was a strong communication among the people of these cultural sites and this could help in the sharing of idea pertinent to crafts production, social realities and ideological beliefs which would result in the development of common socio-cultural life of the people who were living over long area of given geography and hence resulting in common traditions in entire Balochistan.

**Crafts and Production Technology**

Man is by nature innovative and this quality has helped him in the evolution of culture and made him different from other hominids. Since beginning man has tried different experiments and has learnt from his mistakes and whatever knowledge man has obtained, he has transferred it to his offspring. The common experiences, innovative techniques and sharing of personal experience with fellow beings have help man in the development of strong cultures and system of knowledge based on ideas and experiments. This journey of cultural and experimental innovations can be studied in the prehistoric time when technology was a magic and sources of raw material, a myth. During the time period of "Early Food production" and "Regionalization Era" Balochistan had a number of sites where crafts industry was going through a revolution and there was well established industry which was producing large quantities of goods with local and exotic material for a commercial purpose. This complex system of crafts manufacture and the provision of raw materials can be explained by an economic model given by Dr J.M Kenoyer. He presents his model of crafts production on the bases of availability of raw material and technique of production in his four-steps strategy i.e. crafts with local material and simple technology, crafts with foreign or exotic material and simple technology, the products with local material and complex or advance technology and crafts with exotic material and complex or advance technology (Kenoyer 1998 & 2000).

This model can be applied on Balochistan as the nature of raw material and technology applied on crafts production can be observed in artifacts found in almost all sites. The first method of crafts production (local raw material and simple technique) was employed on the crafts made up

of simple terracotta bangles, beads, baskets, pottery, buildings and other perishable products like textiles. These products are found throughout Balochistan Traditions with local variations in designs, texture and technology. The second method of crafts comprises of (foreign material with comparatively complex technique) stone tools, grinding stones and chopped stone (Kenoyer 2000). Since Balochistan Tradition is based on Neolithic and Chalcolithic period so this was one of the basic craft traditions in Balochistan where we find a large number of stone tools and stone products. The technology of dental morphology was at very high level as evidence from Mehrgarh suggests that the people had developed a system of dental treatment where individuals were being treated with stone tools and their teeth were drilled, filled and caped with stone material (Lukacs 1989). The sources of such stones which could be used for dental morphology and other items were not locally available. The nearest possible source of stone can be either Suleiman Range or Rohri hills near Indus River in present day Sindh province (Jarrige, J.F. 1991). The third method of production in this model (local material with complex technology) is employed in the production of stoneware bangles, woodworks, decorative and painted pottery production (Kenoyer 2000). This model can be studied in Balochistan especially as we have a variety of pottery tradition here. The already mentioned wares of Balochistan remained a special source of prehistorians and archaeologists working on South Asian cultures. The presence of variety of pottery suggests that the products were being in a state of competition and every designed pottery had its own market value because as suggested by Professor Mark Kenoyer this was a symbol of social status that people were using foreign goods for differentiating themselves from common people (Kenoyer 1998). The fourth strategy of economic production of this model (complex technology with exotic materials) would comprise of copper smelting and copper tools, stone carving, bronze tools, seals and beads made up of agate, steatite, lapis lazuli, turquoise and sea shells (Kenoyer 2000). This model is found in Balochistan Traditions during last phase of chalcolithic period when a large number of beads making and faience making workshops were there in Mehrgarh IV, V KGM IV, Ajira II, III and Miri Qalat III (Pearsall 2008) and the evidences of such beads production is found in the grave of Mehrgarh and Miri Qalat. The raw materials were brought from long distances to local workshops where the finished goods were produced; these good were locally used and traded with other people. The source of raw materials, especially of precious and semiprecious stones (agate, steatite and lapis lazuli) are not locally available at Mehrgarh, rather the source sites are in Helmand region and Nushki district,

so raw materials were brought from such long distance areas and then at local workshops of Mehrgarh the finished goods were produced (Jarrige, C. J. 1995 & Kenoyer 1998).

**Conclusions**

The economic and technological development in Balochistan Traditions makes it clear that during this long process of development, the people of entire region were in constant interactions which resulted in the similar development of economic, technological and trade strategies. At early stages of this economic development, raw materials especially from long distance areas were rare but as time elapsed there emerged skill crafts men who were well verse in making of crafts and the source of its raw material. This shows there emerged a new social group who were neither pastoralists nor agriculturalists rather this new group gave birth to new social entity called merchants and professionals. This group was purely working on the basis of raw material trading, crafts production and then trading of finished goods among the sites. Balochistan Tradition cannot be studied without a comprehensive study of this complex system of trade andproduction which resulted into the prehistoric social stratification. This process also shows that how latter social and economic developments emerged at a grand scheme at cities of Indus Valley. There are evidences that these cities were more economically and culturally integrated rather than politically and militarily controlled by a specific institution, personality or capital city. The studies in the socio-economic aspect of pre-Indus period can help in the understanding of the process of latter cultural development in the Indus Traditions which shows that here might was not probably right and there was rather a system of socio-cultural and economic based unity which would create an overall image of Indus Tradition and this complex process had its roots in the mountainous and barren lands of present day Balochistan.

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# The Political Economy of Reproductive Healthcare: Changing Cultural Beliefs and Practices in Balochistan

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**ABSTRACT:**
*Anthropological research techniques were used to collect empirical data for this article. Field data were collected in the Zandra village of district Ziarat in the province of Balochistan. In this article an effort has been made to understand the natives' cultural beliefs and practices in reproductive health care. The main focus of this research was to understand the nature of development, internal and external factors responsible for the changes and its impact on natives' lives. An effort has also been made to find out the reproductive health care systems working in the village which included both the traditional and modern medical systems. Initially the natives were using traditional methods of childbirth and postnatal care, but now, as their economic condition and literacy rate is increasing they are more inclined towards the modern methods including gynecologists and technologically advanced clinics. During the last 3 decades many changes have been witnessed. Awareness through media and the shift from subsistence to market economy has increased the use of allopathic modes and medicines due to which the natives have started opting for secondary sources of income. Besides, researcher's endeavor to explore the shift from traditional to modern reproductive healthcare and the disparity between natives' health related beliefs and practices, the impact of these changes has been analyzed in light of world system theory at micro level.*

**Keywords:**
Reproductive Health, Traditional Birth Attendants, Gynecologist, Allopathic Medicine, Pharmaceutical Industry

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**Introduction:**

Traditional medical practitioners and birth attendants are found in most societies. They are often part of the local community, culture and traditions, and continue to have high social standing in many places, exerting considerable influence on local health practices. With the support of the formal health system, these indigenous practitioners can become important allies in organizing efforts to improve the health of the community. Some communities may select them as community health workers and engaging them in primary health care after training them accordingly.

In the village, the pregnant women were normally healthy, but the women having a lot of children were weak and looked older than their actual age because of less birth spacing. Pregnant women continued to do work till their $9^{th}$ month. Because of this irresponsible attitude, many of the women went through abortions from carrying weighty things. The rate of stillbirths and miscarriages is high due to carelessness.

Pregnant women of economically sound families go to doctors. The ratio of these women was low but increasing. Most of the newly married women of rich and educated families were going to doctors for consultancy during pregnancy, but for delivery they were calling out either midwives/*dai* or elderly women who were experienced in the field. The most common term used to refer to the midwife is traditional birth attendants (TBA). During the last decade upper class women started delivering their children at modern gynecology clinics in Quetta.

**Research Methodology**

The qualitative anthropological methodology was used for this research. The fieldwork was conducted in Village Zandra, District Ziarat, in Baluchistan, Pakistan. Zandra Village is situated 108 km southeast of Quetta just 12 km short of Ziarat town. The total population of the village is 3,234 consisting of 295 houses. The majority of them is *Paxton, Kaker Panizai* by tribe. The methods used for this research include socio-economic survey, participant observation, key informant interviews, indepth interviews, case studies and focus group discussions. For socio-economic survey 100 households were selected through simple random sample. We choose two key informants in the village on our personal judgment basis, which knew most of the people in

the village and their socio-economic conditions. The stratified random sampling technique was used. Target population was divided into economic classes and 50 couples were selected randomly from each class. Participant observation was used in order to get a first hand and accurate information about the respondents. In-depth interviews were conducted with the elder members of society to get detailed information. Case studies were conducted to get a detailed presentation of data related to different events. This research was a longitudinal study. First of all a 4 month visit was conducted in 1987, then a couple of month long visits in 1990s and finally in 2010.

**Theoretical Framework**

The world systems theory or the development-of-underdevelopment school would be used to analyze the "under-development of health" in the peripheral region. It will focus on the unequal relationship between core and periphery on health care systems. Theoretical concept has been borrowed from the works of Immanuel Wallerstein, A. G. Frank, and Walter Rodney, who logically believe that the development of capitalism in core countries requires a continuous and conscious underdevelopment of peripheral countries for regular supply of raw materials and cheap labour.

Some of the scholars were very enthusiastic and started analyzing social and health consequences of capitalist expansion at global level. World system theory became popular among the medical anthropologists like Onoge (Onoge, O. F. 1975; 219-232), Morsy (Morsy, S. 1979; 349-363), Baer (Baer, H. A. 1982; 13-17 &, 1986b; 129-131) and Singer (Singer, M. 1986a; 113-130), who were trying develop a relationship between political economy and medical anthropology. Some other medical anthropologists including Wasserstrom (Wasserstrom, R 1979; 1-4), Ferguson (Ferguson, A.1980) Nash and Kirsch (Nash, J. & Kirsch, M. 1986; 131-138) while discussing about exploitative corporations and industries, have pointed out some harmful effects of development of capitalism on health care systems in peripheral regions. Their approach also supports the world system theory. Davison (Davison, L. H. 1983) and Heggenhougen (Heggenhougen, H. K.1984; 217-224) in their discussion about the relationship between socio-political configurations and health policies and DeWalt (DeWalt, B. 1983) and Whiteford

(Whiteford, M. B. 1985; 241-250) while talking about harmful nutritional impact of rapidly growing capitalist ventures have also highlighted the same issues.

Interest in political economy of health revived in 1970s when dependency theory was put forward by Doyal and Pennell (Doyal, L. & Pennell, I. 1976; 152-172), Elling (Elling, R. H. 1976; 144-155, 1977; 209-235, 1978; 107-115), Frankenberg and Leeson (Frankenberg, R., & Leeson, J. 1973; 255-278), Kelman (Kelman, S. 1971; 30-38, 1975; 625-642), Lichtman (Lichtman, R. 1971; 265-290), Rossdale (Rossdale, M. 1965: 82-90) and Waitzkin (Waitzkin, H. 1978; 264-278). Works of A. G. Frank (Frank, G. 1969 &, 1972; 3-17), W. Rodney (Rodney, W. 1974) and Wallerstein's world systems theory (Wallerstein, I. 1974) were an advanced version of the same theoretical concept, where underdevelopment means the transfer of wealth by exploiting periphery and semi-periphery by core countries which encourages rapid scientific development so that Western medicine and other scientific institutions could surpass underdeveloped countries of the world (Gish, O.1979; 203-211).

Some political economists of health (Turshen M. 1977a); 7-35 and Doyal L. 1979) argue that the prevailing situation of poor health and health care systems in peripheral countries is due to the development of underdevelopment by creating technological and economic dependency on the international capitalist system. While explaining health, they borrowed the basic idea from Walter Rodney (Rodney, W. 1974) who was influenced by Frank and Wallerstein. They borrowed these concepts because medical imperialism follows the same path as capitalist expansion. Main features of medical imperialism as pointed out by Doyal and Pennell (Doyal, L. & Pennell, I. 1976; 155-172), J. Paul (Paul, J. A. 1978; 271-286), Waitzkin (Waitzkin, H. 1978; 264-278), Elling (Elling, R. H. 1981a; 21-51) and Franco-Agudelo (1Franco, A. S. 1983; 411-427) are as under:

(1) It extracts human resource from the peripheral countries in the form of trained health workers who migrate to the core countries as part of the brain drain.
(2) It helps to find out and maintain cheap labor for capitalist industries.

(3) It creates new markets for medicines, pesticides, medical equipment, and technical assistance.
(4) It strengthens the class relations of core countries through the medical division of labor.
(5) It provides covers for counter insurgency and other military efforts.

Berliner (Berliner, H. S. 1982; 162-173) and Kelman (Kelman, S. 1975; 625-642.) say that capitalism and biomedicine support each other in their ideological constructs and share the same goals to create ambiguity for socio-economic reasons of health and economic underdevelopment. World system theorists and political economists of health (Brown, E.R. 1979, Waitzkin, H. & Waterman, B. 1974, and Elling R.H. 1981a) propose the same solution to the problems related to dependency and underdevelopment, and that is to put an end to capitalism.

Elling (1981a, 1981c) has pointed out an important issue in relationship of capitalism with health care systems. The goal of profit maximizing does not always match the goal of maintaining health. The desire for maximum profit leads the employers to pay the minimal remunerations and benefits to the workers due to which they cannot maintain their health. They cannot even purchase commodities and services like food, housing, and education. Often profit maximization does not allow the employer to provide technically safe working environment and the industrial waste causes environmental pollution. A worker lining and working in such conditions cannot be a productive worker and the industrialist cannot risk low productivity.

Most of the world system theorists have analyzed its implementation at the macro level. The exploitative relation between core and periphery has been studied at the state level. In this research this model will be put to test at the micro level to confirm, revise or drastically change the reasoning built into this. Its impact would be observed on village economy, education and health care systems. During the last couple of years the researcher is trying to examine how this development of underdevelopment influences the masses at grass root level, especially in the field of economy, education and health (Mohyuddin, A. & Ambreen, A 2012a); (Mohyuddin, A., Chaudhry, H.R. & Ambreen,

A. 2012b; 322-225), (Mohyuddin, A., Chaudhry, H.R. & Ambreen, A 2012c: 40-44), (Mohyuddin, A., Chaudhry, H.R. & Ambreen, A. 2012d: 66-79), (Mohyuddin, A., Chaudhry, H.R. & Ambreen, A. 2012e), (Mohyuddin, A., Chaudhry, H.R. & Ambreen, A.2012f), (Mohyuddin, A. & Chaudhry, H.R. 2012g: 127-138), (Mohyuddin, A., Chaudhry, H.R. & Ambreen, A. 2013a: 39-43), (Mohyuddin, A., Khan, S., Chaudhry, W. & Ambreen, A. 2013b: 2-19). Husain (Husain, M. 1976) sees the impact of development at micro level. In the field of education Di Bona (1977; 615) and Keith (Keith, S.1978) have studied the implementation of world system analysis at the micro level. Arnove (Arnove R. F. 1980; 48-62) has emphasized the need of further research at micro level.

**Results and Discussions**

The natives followed the traditional remedy system, especially for reproductive health, believing the modem medicines as unreliable. They were scared of the medical systems used in the hospitals. It was because the mother in law and the other elderly women in the family were authoritative and believed to be more knowledgeable and experienced than a doctor. They forced the younger women to follow them. Regarding the fear of medical doctors the question was asked from 100 couples each from 3 different age groups. The elderly women were more scared the medical systems used in the hospitals whereas the younger ones were less afraid of doctors. Among the males trend was similar but the percentage was slightly lesser than the females (see Table 1).

Table 1: Fear of Medical Doctor

| Age groups | Male | | Female | |
|---|---|---|---|---|
| | Frequency | Percentage | Frequency | Percentage |
| 21-40 | 21 | 21% | 27 | 27% |
| 41-60 | 33 | 33% | 39 | 39% |
| 60 Plus | 40 | 40% | 43 | 43% |

(Source: Field data)

Secondly a woman was a symbol of honor for the men in the societies; hence they wanted their wives to stay in the home. They did and not even allow them to go to doctors and to use modern medical facilities. Only the high risk pregnancies after being referred by TBA

were taken to the hospitals in Quetta, where the services of gynecologist were available. When the position of the baby was not getting normal, even in the late stages were considered as high risk pregnancies.

There are three types of women in the village providing reproductive health care services, including traditional birth attendants, midwives and lady health workers. Traditional birth attendants (TBA) are also known as a traditional midwives or community midwives. They provide health care during pregnancy and childbirth. They provide the majority of primary maternity care, including basic health care, support and advice during and after pregnancy and childbirth, based primarily on experience and knowledge acquired informally through the traditions and practices of the communities where they belong to. They usually work in the villages. Normally they do not receive formal education and training in the field of health care, and do not have any certification or license to practice. They are mostly self-taught; one of the criteria for being accepted by clients as a traditional birth attendant is their experience as a mother. Traditional birth attendants are often older women, respected in their communities. They consider themselves as private health care practitioners. They are normally herbalists and use traditional healing systems.

On the other hand, midwives are specialists in childbirth, postpartum, and well-woman health care. They are educated and trained to recognize the variations of normal progress of labor and deal with deviations from normal to discern and intervene in high risk situations. In many developing nations, midwifery is the front-line of maternal health services and provides necessary care in a safe and cost effective manner, where it is available. Well trained midwives can reduce the demand for the more highly trained doctors.

Lady Health Workers (LHWs) deliver primary health care services to women and children in the rural areas where the doctors are not available. The LHWs are the first contact with the health care system for the rural women The LHWs cure, care, teach, and

train traditional birth attendants. In addition, they perform health promotion and document their findings. To provide their maternal and child health services, the LHWs travel by foot through miles of rough terrain to settlements and villages. Prenatal and postnatal care, anemia, diarrhea, and malnutrition are among the major health care problems of these rural women and their children under 5 years of age.

There were 4 elderly women working as TBAs, 7 midwives and 5 lady health workers in the village. They were normally consulted during the complex delivery cases otherwise elderly women of the family could handle the cases. TBAs were prescribing herbal as well as allopathic medicines to the patients and sometimes giving injections too. They were relying more on herbal medicines. They used a variety of herbs and plants to make a mixture, which could help a mother healing after the delivery of a baby. These herbs and plants were used with poultry and dairy products by the majority of the people in the village not mattering their economic condition. The recipe for cure included ghee, *panjeeri, cheeri, khashkhash,* Chicken, milk, coconut powder, brain, grounded pistachio, almonds and dry dates. On the other hand, midwives and LHWs were using allopathic medicines. They advised massage and precautions during and after the pregnancy. Their fee varied from Rs.1000-3000. They charge more when son was born (see Table 2). Most of the respondents said that they preferred TBAs or the midwives because they belonged to that area and understood their problems better. It was not just the allopathic medicines what they avoided; it was also the behavior of doctors and nurses in the hospitals and clinics. They treated them like their clients not the patients. They always demand for money. They do not show any sympathy with them. They cannot even feel the pain of the patient. Some of them could not even understand what they said. The person who could pay more could get a better treatment. Most of the doctors in big hospitals could not understand their language. So even if they needed allopathic treatment they preferred the midwife.

Table 2: Reproductive Health Services available in the village

| Service Provider | Frequency | Nature of Treatment | Fee |
|---|---|---|---|
| TBA | 4 | Herbal/allopathic medicines<br>Massage<br>Advise precautions | Rs.1000-2000 |

| | | | |
|---|---|---|---|
| Midwives | 7 | Allopathic medicines<br>Massage<br>Advise precautions | Rs.2000-3000 |
| LHW | 5 | Allopathic medicines<br>Massage<br>Advise precautions | Rs.2000-3000 |

(Source: Field data)

**Case Study:** Kaneeze Fatima started her profession as a midwife at the age of 22. She had been serving in the village from last 30 years. None of her relatives was involved in reproductive health before her. Her husband died when she was 20 years old. According to her, midwifery was the only way of earning a better living for herself & her children. She got 1 year training in Quetta for reproductive health. She had dealt about 600 cases until then. Women came to her house for medical assistance during pregnancy. But for delivery, she used to go to the patient's house. She took normal delivery cases and did not operate. She charged Rs.2000 for a normal delivery case. For complicated deliveries, however she charged more. She believed that the work could only be done through experience. She could understand the patient's problems better because she belonged to the same community. She sent complicated delivery casas to Quetta.

**Case Study of Self-Delivery:** Hamida had 8 children – 7 of them were born through self-deliveries. Her mother and mother in law came to help her during her first delivery. After the birth, they tried to make her realize what they had done for her. She was very disappointed and could not tolerate their behaviour, so she decided to do her deliveries by herself. She could not afford a midwife or doctor because she was a poor woman.

She said that she never had any fear before any of her deliveries; if she ever had she could have gone to the doctor. She would start the preparations 2 days before the delivery because she always knew the time of her delivery. She prepared a bag of clothes for her unborn child. She kept eggs, oil spices and milk near her. She did not lie down on the bed. She kept a stool on the floor and sat on it. She put plastic sheet under it to ensure cleanliness of the room. She had the contractions and delivered the baby. She cut her cord with a knife. She then boiled the water and washed up her baby and wrapped her in a

cloth. This way she delivered all her 8 children by herself. She also conducted delivery of a child of her husband's brother's wife.

**Status of Midwives**

A midwife provided necessary supervision, care and advice to women during the pregnancy. She conducted deliveries and took care of the newborn baby. That care included preventative measures, the detection of abnormal conditions in mother and child, the procurement of medical supplies and the execution of emergency measures in the absence of medical help. She had an important task in health counseling and education, not only for the women, but also within the family and the community.

Assistance in birthing was a problematic issue in Zandra. Middle class families generally employed a TBA for conducting deliveries. However, some lower class families could not afford it. Hence some family members, such as the mother, mother-in-law, sister-in-law, and so on, could assist them. Sometimes, a neighbor was called in.

When expert opinion was needed (and could be afforded), lower and lower-middle class families called a TBA, who received payment, amounting to Rs.1000 to 1500 after the delivery. This depended on the sex of the baby. In olden days, there was no set fee in cash or kind for them. Even at the time of research researchers found some TBAs *who* did not charge money. They did it for God-Sake to get spiritual benefit. In fact, however, they usually said that they did the job for *sawab* (spiritual benefit). They said it because they felt it was the right thing to say, especially when speaking to other women. Most of the TBAs performed the deliveries in expectation of some payment, even though they said that they were not paid. In fact they were paid in shape of gifts or money for gifts. It was clear that these women were in a bind. They needed the money, and once a woman became acknowledged as an experienced TBA, she was always ready and willing to assist a family in delivery and charged a certain fee. According to Gallagher,

“Health care is not a commodity from the premodern standpoint of the midwife in the village or urban neighborhood where she provides her services. Delivering babies is an activity that, in addition to meeting a human need, validates her worth in an important

social role, and brings her into sociable contact with clients already known to her (Sukkary, S 1981: 26-34). The midwife's work may well provide income in cash or in kind, but it is not a commodity in the sense of consuming calculable resources or constituting a stream of economic value in an ongoing system of production. If the women of the village lowered their rate of pregnancy, the midwife might be less occupied, but would she worry about "the impending midwife surplus"? Her casual economic posture can be contrasted with that of the contemporary obstetrician (or other physician) whose offering has a far more systematic character and tangible monetary value." (Gallagher, E. B. 1988: 59-87)

**NGO's Interventions**

Provincial Rural Support Programme (PRSP) was working with the communities to address the root-causes of poverty and deprivation in the province by presenting alternative approaches to development. The organization addressed community health needs by establishing local mechanisms of health and hygiene service facilitators. Those programs were designed with the realization that physical health and mental wellbeing of men, women, children and family contribute to sound attitudes and behaviors in a society.

PRSP did a lot of work on health issues. They trained women and check their progress on a monthly basis. They trained them in reproductive health. They followed the Midwives Model of Care 1996-2001 developed by Midwifery Task Force. This model was based on the fact that pregnancy and birth were normal life events. The Midwives Model of Care includes:

(a) Monitoring the physical, psychological and social well-being of the mother throughout the childbearing cycle
(b) Providing the mother with individualized education, counseling, and prenatal care, continuous hands-on assistance during labor and delivery, and postpartum support
(c) Minimizing technological interventions; and
(d) Identifying and referring women who require obstetrical attention

The application of this model had been proven to reduce the incidences of birth injury, trauma, and cesarean section.

**Trainings of Lady Health Workers**

PRSP gave trainings to the Lady Health Workers. These women were selected from the village aging 35-45 years. The training courses were about 15 days each. They were given trainings on proper and safer methods of deliveries. Following were the important features in the training.

(1) Family planning education.
(2) Education about women's health problems.
(3) A delivery kit provided to the LHW.
(4) Vaccination referral cases.
(5) Injection doses to pregnant woman.
(6) Providing iron supplements during pregnancy.
(7) A delivery kit provided to the LHW.
(8) Checking of contractions before delivery.
(9) Sterilization of equipment for delivery.
(10) Drip before delivery.
(11) After delivering cutting of the cord in a technical way with a sterilized scissors.
(12) Childcare immediately after delivery.
(13) Immunization of child.

**Gender Difference in Treatment Seeking Behaviour**

There was a gender difference in health seeking behaviour in Zandra. Male patients preferred to go to the doctor at the initial stage of their illness as compared to females who usually used home remedies at the first stage of their illness. And the reason the males gave for this disparity was that usually they remained out of their homes for the purpose of their jobs and therefore whenever they felt any health problem, they directly went to clinic or hospitals. Contrary to that, females remained at home. To consult any doctor they had to leave all their tasks incomplete and did not have money in hand to buy the prescribed medicine. Thus, factors of physical mobility, nature of work and economic position of male and females affected their health seeking behaviours.

This point confirms that at the individual level economic position affects the health seeking behaviours, such as, males having better economic position can easily avail allopathic mode of treatment. Thus, it shows that economic uplift leads towards adoption of an allopathic mode of treatment. On the other hand, females had to get permission

from their husbands or male guardians, for which they had to wait. On the contrary, males decided for themselves and consulted the doctors before their illness got severe. It shows that differences in decision-making power lead towards difference in health seeking behaviour also. There was no lady-doctor in the village. Mostly females responded were not comfortable while check-up by a male doctor. So they were relying on home remedies. Now a lady-doctor is available in a private clinic in Ziarat and the women have started visiting her.

**Changes during the Recent Past**

During this research two different modes of treatment regarding reproductive health were found prevailing in Zandra, which could be placed under two main categories: traditional mode and modern mode of treatment. Traditional modes consisted of home remedies and *dai* (TBA). Modern modes of treatment include gynecologists and allopathic medicines. Traditional birth attendants were present in the village but most of the newly married women of rich and educated families were going to doctors for consultancy during pregnancy and having regular ultrasounds during the pregnancies. The use of ultrasounds and other medical technologies got popular during the last two decades. Though these facilities were not available in the village people travel to Quetta for that purpose. NGOs were playing very important role in this regard. They were working with the community in the health sector. They were providing training facilities to the midwives and lady health workers. They were also creating awareness among the natives to use allopathic treatment.

In Zandra allopathic treatment was getting popular among the young generation. Sixty five percent of the young respondents use allopathic medicine and consult doctors, whereas it was just twenty four percent among the senior citizens. Awareness and improved literacy rate were two major causes for this shift. Educated families were motivating the illiterates also for the use of allopathic medicines. The mass media also had an impact on the natives' attitudes regarding reproductive health care in particular and health care systems in general. The people were also attracted towards allopathic

treatment due to it's availability and affordability. So education, economic conditions and availability of health facilities had an impact on natives' health-seeking behaviour. Gradually, it became a status symbol for the people. Visiting expansive private clinics added to their prestige.

In Quetta like other big cities like other big cities the number of gynecology clinics was increasing very rapidly. According to Health Department 73% of the total registered gynecology clinics were established during the last two decades. The old clinics had improved their standard by providing ultrasound technology and other modern facilities for postnatal mother and child care. In 1980s the doctors were advising ultrasound only to those patients who had some complications during their pregnancies. In 1990s, almost all the doctors were asking the patients to have at least three routine ultrasounds during nine months. In 2010 the modern clinics were not accepting anything less than an ultrasound every month. This growth of clinics and the gynecologists was attracting the people to migrate to the urban areas. Some of them did not migrate permanently, but at least to earn something extra to meet these expenditures.

The natives had started migrating towards the cities, mainly for two reasons, one is the better health facilities, especially the reproductive health and the other is higher education for their children. There were 81 families that have migrated from the village to Quetta and some other cities, which resulted into the breakup of joint families in nuclear families and in some cases distribution of property also. Eight families of these 81 were living in Quetta to enjoy a better lifestyle, having better educational and health facilities, but the heads of the households were still working in the village. They, however, were visiting their families once a week. Some of the families in the village had constructed their houses in Quetta but had not moved there. They had sent any male member of the family to Quetta, who worked there and took care of the house. The other family members could go and live there whenever needed. The children lived there for their education and females for better health care and treatment facilities, especially during their pregnancies and childbirth. About 32 men had been living out of the village for their work and their

families were living in the village. So urban migration from the village could be categorized into three types, i.e. all members of the family migrated, male migrated and in some cases female and children migrated leaving the male in the village.

For the survival in the cities and to meet the expenditure on modern health care people need some additional source of income and for that matter they have to work and serve the industry. In cities they were mainly involved in the employment sector, businesses and wage labor. To keep up their living standard in the cities they have to invest on different type of services and luxuries like, housing, schooling, marketed commodities, entertainment sources like television, musical devices, cinema etc. Youth migrated to cities starts wearing Western dresses.

**Theoretical Discourse**

Some of the issues are further explained in the theoretical perspective.

In Zandra people were using multi-mode treatments for their reproductive health issues. The main reliance was on the traditional modes which included *dai* and TBAs, but in the recent past allopathic medicine and doctors have become their first choice in most of the cases. This shift from traditional to the modern treatment supports the pharmaceutical industry of the core countries as it creates a market for their medical products and assistance.

The modern medical system is more of an economic transaction than the treatment, as many of my respondents said that the doctors treat them like their clients not the patients. They always demand for the money first and if they can't pay their fee they do not admit them in the hospitals. This clientage becomes permanent as the allopathic medicine provides temporary relief and leaves many side effects. This medico-economic transaction always supports the industry as the doctors and the allopathic medicines are the products of industrialization.

- NGOs are providing awareness to the masses to use allopathic treatment for reproductive health in particular. These campaigns create new markets for medicines, medical

equipment, and technical assistance. During these campaigns harmful effects of pesticides and chemical fertilizers have never been highlighted as these are imported from the core to the periphery.

- Trainings provided by the NGOs strengthen the class relations of core countries through the medical division of labor. They are providing training facilities to the midwives and lady health workers, which mean they are preparing a force of medical assistants. These trained health workers have the potential to migrate to the core countries as part of the brain drain. No NGO has been producing high level medical professional in Pakistan. It maintains the dependency of peripheral countries on core regions for medical professionals and assistance, and a continuous supply of medical workers to the core countries.

- Male patients prefer to go to the doctor at the initial stage of their illness as compared to females who usually use home remedies at the first stage of their illness. It is because the males have better economic position and can easily avail allopathic mode of treatment. Thus, it shows that economic uplift leads towards adoption of an allopathic mode of treatment. Same is the case with education. Educated people prefer allopathic medicines. Somehow or the other economy, education and health complement each other and ultimately benefits the capitalist industry of the core countries.

- Females have to get permission from their husbands or male guardians for their treatment, for which they have to wait. On the contrary, males decide for themselves and consult the doctors before their illness got severe. It shows that difference in decision-making power leads towards difference in health seeking behaviour. So investing on women empowerment in peripheral countries also creates a market for pharmaceuticals.

The migration from villages to cities proves beneficial for the industry because the industrialist can have cheap labour. By having extra workforce available in the market, they can easily exploit the poor villagers offering them low remuneration. Some of the industrialists enjoy this situation as the workforce belonging to rural areas does not have an awareness of its rights. According to the world system theorists, this situation does not prevail for a long time as the workforce becomes aware of their rights with the passage of time. Until then core countries are benefited as many of them have their industry in the periphery.

Migration leaves different effects on family structures. In some cases, the males move to the urban areas with their families which create a nuclear family in the city, but the joint family in the village stays intact. However, if the immigrant needs his share of property to invest in the city, then normally property is distributed and the joint families break into nuclear families. Sometimes, only male members of the family move to cities to earn money, which strengthens the joint families in the village as their dependents have to stay back with them and the joint families have to support them. This male migration also leads to some serious social problem within the family. Children have to live without their fathers, wives without their husbands and the old parents without their sons. A wife without husband often becomes the victim of emotional disturbance, depression and other such problems.

As a result of male migration, man living away from his wife may go to sex workers for satisfaction of his sexual desire from where he may carry different types of diseases, which further transfer to his wife also. This again increases the medical bill, which becomes a source of profit for the pharmaceutical industry owned by the core countries.

This lust for money stimulates the people to migrate to cities. This migration proves beneficial for the industry because the industrialist can have cheap labour. By having extra workforce available in the market, they can easily exploit the poor and unaware villagers offering them low remuneration. A person living in cities uses more consumer products which benefits the industry. Edible products do not match the nutritional level of the homemade items and thus cause malnutrition leading to health problems. The people striving for more money often work more than normal and takes less care for their diet, causing malnutrition. In case of male migration, men may visit sex workers and carry diseases, which further transfer to their wives also. This malnutrition and health problems increase medical bill of the consumer which again goes to the industry. Poor health automatically creates a vicious circle which starts from poor health leads to more expenditure, which becomes a cause of poverty and poverty causes malnutrition, and this malnutrition reflects as poor health. This vicious circle creates a dependency on core countries.

- Through medical imperialism they can invade any peripheral country without sending their forces. They can implement their policies in the peripheral territories. They are controlling the labour through doctors and economic resources through pharmaceutical market. People are living in their bodies and their bodies are actually governed and controlled by the doctors in favour of core countries.

The above discussion supports the argument of world system theorists. Main features of medical imperialism as pointed out by Doyal and Pennell (Doyal, L. & Pennell, I. 1976: 155-172), J. Paul (Paul, J. A. 1978; 271-286), Waitzkin (Waitzkin, H. 1978: 264-278), Elling (Elling, R. H. 1981a: 21-51) and Franco-Agudelo (Franco, A. S. 1983: 411-427) seems valid.

**Conclusion**

Since the Industrial Revolution development was treated as an economic phenomenon only with industrialization as its pre-requisite. During last couple of decades the pace of the development has really been increased. Even the economically poor peripheral countries are giving great importance to people's income resources, health and education. The data reveals that this pace of progress has also affected the village which has gone through some major structural changes during recent past. The natives are economically well off which they consider as development. This development has increased their choices. They have a better access to education and health facilities. Their perception about biomedical healthcare has changed which reduced the clientele of the ethnic healthcare systems and increased the people's expenditures on health care.

According to world system theory core countries have an interest in the growth of the peripheral countries, because such a growth increases demand for the goods produced by the capitalist industry. This, in turn, will promote growth in the core countries. The reverse is also postulated to apply, that is the developing countries can sell more of their products in the industrial countries when the economies in these countries grow. The main point here is that it is not only the peripheral countries that depend upon the core countries, the core countries are in many areas dependent upon the periphery. So interdependence exists, for periphery, it is for finished

products and for core it is for raw materials and human resource. This interdependence supports the core countries as the consumer products used in peripheral countries become a source of profit and inexpensive raw material and cheap labour provide them savings. So they are becoming richer and richer at the cost of the peripheral economies.

The world's capitalist economies determine the route for development of the large part of the world's population in their own favour. Industrialization is a precondition for aggregate growth and economic development of backward societies. Distorted production structure in the peripheral countries and their dependence is a result of the dominance of the core countries. The economically backward countries have to pledge considerable resources to set in motion an industrial development process. Technological development brings positive changes all over the world. Some impulsive changes are brought in peripheral or semi-peripheral countries, but the core countries get the most advantage.

In the end the researcher is in full agreement with the views of world system theorists (Doyal, Waitzkin, Elling and Franco-Agudelo) who have been working in the field of biomedical hegemony and political economy of health, following the concept of Wallerstein, Samir Amin, A. G. Frank, Meyer, Arnove and Ramirez). In the light of empirical data world system theory is found valid and accepted.

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# Political History of Khyber Pakhtunkhwa (KPK) Province with Special Reference to the Rise of Gandhara and its Geographical Division

**Nighat Aslam***

## Abstract

*The present paper provides a comprehensive political history of Khyber Pakhtunkhwa starting with the sixth century B.C. Effort has been made to trace out important political events that took place in the ancient Gandhara country (predominantly synonym with the greater Peshawar) in the 6th century BCEs. The ancient land of Khyber Pakhtunkhwa remained focus of attention and of paramount importance throughout the history. All invaders from Europe, Central Asia and Iran made serious efforts to take control of this strategic land before forcing their onward conquests. It remained the seat of power of many dynasties and thus witnessed hectic political activities. This paper gives a broader overview of the important developments in the political arena that took place here during the earliest historic period going back to the sixth century BCE.*

**Key words:**

Khyber Pakhtunkhwa, Gandhara, ancient, Culture, Kushan, Pushkalavati

The Khyber Pakhtunkhwa is one of the most ancient lands that witnessed countless important events and ups and downs in its long period of known history. Situated in North and North West of Pakistan, it played key role as the first and major battle field for all invaders who came here via Afghanistan for control and political supremacy of the mainland India. It remained the meeting place for knowledge, culture and ideas since time immemorial and a place where Central Asia and the Indian Sub-Continent met in the mountainous of Hindu Kush region. Through it passed many routes of the ancient Silk Road and thus it played highly important role in promotion of trade between different parts of the world. While it linked China, Afghanistan, Central Asia, Iran and Europe on one hand, it linked all important cities of ancient India.

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Khyber Pakhtunkhwa has been the abode of many ancient civilizations and cultures with a long history of successive invasions from different directions. Its history goes back to the Stone Age as has been attested with the discovery of Sanghao Cave near Mardan. In the Sanghao cave, Mardan, early Stone Age implements, flakes, core tools, blade flakes, awls, hammer tools and scrapers of various shapes with a sharpened edge for scraping materials such as hide or wood have been discovered. Similarly in Lewan, Bannu district, core tools, blade flakes, end scrapers, pebble tools, hand-axes, knife blades of hard stone give evidence of a culture that thrived between 3,500 B.C.-3,000 B.C. Remains from the later Stone Age or Neolithic period, when animals were first domesticated and agriculture introduced, have been found at Jhandi Balar in the Dera Ismail Khan district. These consist of terracotta toys, human and animal figures, painted pottery shards and beads (http://aboutkp.kp.gov.pk/page/history_march_of_time). Important sites of the Harappan culture (2,700 B.C.-2,000 B.C.) have been found at Rehman Dheri, Dera Ismail Khan, linking it to the better known sites of Moenjodaro in Sindh and Harappa in Punjab.

The Aryan invasion of this region from southern Central Asia and their occupation of almost the entire Khyber Pakhtunkhwa have been substantiated with the discovery of the "Gandhara grave culture". Though it is still a debatable question as to when the Aryans came to this region, but most probably their arrival could be dated somewhere in the 2nd millennium BC and this Vedic Culture probably survived till mid first millennium BC. Prof. Ahmad Hassan Dani was the first archaeologist to have discovered Gandhara Grave Culture in the Dir (Dani: 1967;1-40) . Subsequently the traces of this culture were found in most parts of Khyber Pakhtunkhwa including in Swat (Antonini, C. Silvi & Stacul, G 197; Tusa, Sebastiano: 1977) and Buner by the Italian Archaeological Mission and by the Federal Department of Archaeology and Museums in Peshawar Valley (Khan, Gulzar M 1973). Thus Khyber Pakhtunkhwa must have played an important role in the epic of Ramayana and Mahabharata.

The sixth century B.C was very important historical period. This considered as a real starting point of the political history of ancient India in general and the Khyber Pakhtunkhwa in particular. From that time, it has been possible to put up an incessant account of India's

political history. Buddhist text, Anguttara Nikaya, describe political history of India at the time of the rise of Buddhism. There were sixteen great states or the 'Sodasha Malianjanapada' at that time extending over the land from the Kabul Valley to the banks of the river Godavari (Fig.1). That historical period is very significant for this Province. At that time, the Khyber Pakhtunkhwa was divided into many independent states like Gandhara and Kamboja. Gandhara was one of the most important and great state among the sixteen Malianjanapada' (Majumdar: 1953;1)

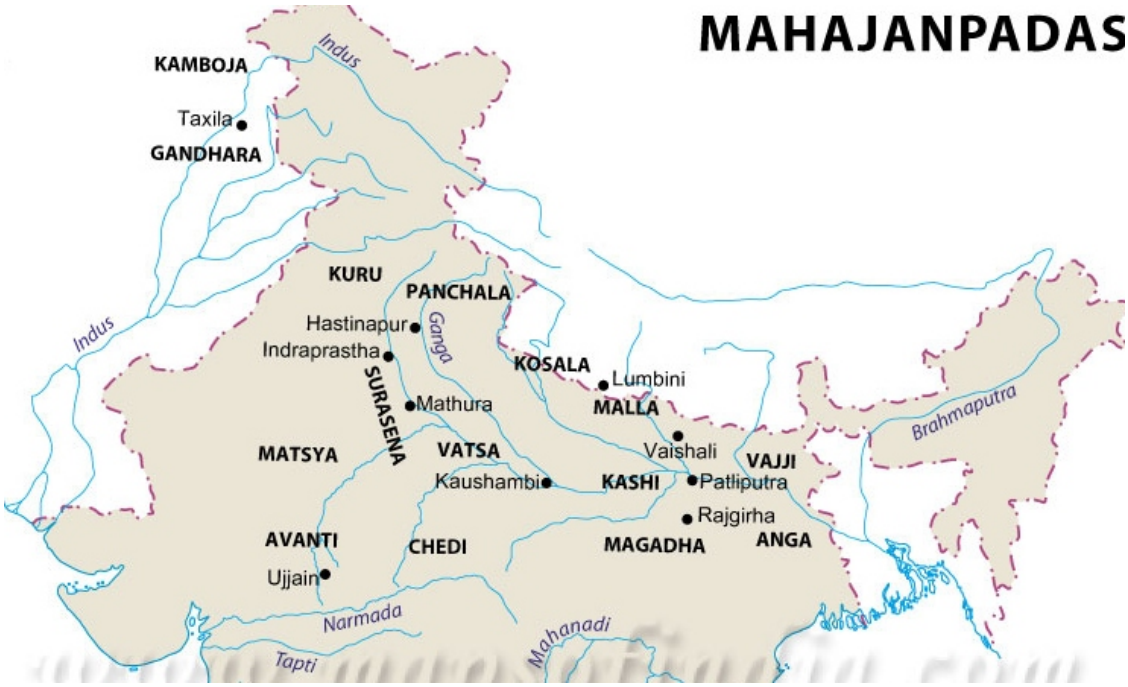



Fig.1 Map of sixteen Mahanapada of North India

Geographically, Gandhara was a distant region surrounded by mountains in the Hindu Kush range. Gandhara including Taxila was conquered by Achaemenid Empire in 518 BC (Marshal, John 1975; Vol.1, p.83). Gandhara was being ruled by King Pushkarasakti, who was contemporary of King Bimbisara of Magadha Empire (558-491 BC). Pushkarasakti was at that time struggling against his local rivals to save his power and control over the region. Achaemenids under Darius penetrated to the region and annexed other parts of Punjab and Sindh. Gandhara is mentioned in the list of *satrapies* (provinces) of the Achaemenids in the inscription on Darius' tomb at Naqsh-i-Rustam

near the ancient city of Persepolis. The upper Indus region, comprising Gandhara and Kamboja states then formed the 7th province of the Achaemenid Empire. Gandhara was obviously a monarchy ruled by a king with absolute power. It was a flourishing and prosperous state.

The name "Gandharidum" initially come out in Rig-Veda (1.126.7), translated it "an awe of Gandharis" (Macdonell & Keith: 1958; 2191). This statement pointed out of Gandhari as an ancient clan occupying the surrounding region of north western frontier of India. The Atharvaveda (V.22.14) also refers to Gandhari tribe. The Vedic texts do not provide exact intimation to the geographical location of the region. Mahabharata mentions the Gandhari people as living in the Uttarapatha or the northern most region of India, in conjunction with Yauna- Kamboja:

*Uttarapatha- janmanah kirtyishyami tan api*
*Yauna- Kamboja-Gandharah Kirata Barbaraih saha*
(Mbh 8.40.42, X11.207.43, 8.44.43, 8.44.47)

Ramayana (20, 42, V11) remembers Gandhara with its position and affirms a region on both banks of Indus River and separated into two regions Gandharva Desa and Gandhara Visaya.

*Gandhara-Vishaya Siddhe, Tayoh Puryau Mahatmanoh*
*Takshasya Dikshu Vikhyata Ramaya Takshasila Puri*
Pushkarasyapi Virasya Vikhyata Pushkaravati (V11.114.11)

Gandharva Desa was identified with a region across the Indus on the east with *Takshasila* (Taxila) as its capital and Gandhara Visaya was identified with Peshawar Valley with its capital at *Pushkalavati* or *Pushkaravati* (modern Charsadda). Both these cities were established by Bharata sons, Taksa and Puskala (Divyavadana: pp 407, 474,476). The remains of the first historic city of Taxila were unearthed at Bhir Mound on the south of Taxila Museum by Marshall (Marshal, John 1975). *Pushkaravati* or *Pushkalivati* has been identified with modern Charsadda near Peshawar on the north-east. According to Prasara Verahamihara (ch .XXXV11) *Pushkalavati* and Takshasila two different constituent regions. Prof H.C. Raychaudhuri (1938; 50) agreed with Ramayana describing location on both sides of Indus. According to Nando Lal Dey (2005; 61) "Gandhara which was evidently a corruption of Gandharva–Desha was divided by the

Indus into the Purva and the Apara Gandhara. These two were connected by the Uttarapatha (the northern highway) which crossed the Indus by a pontoon bridge at Udbhandapura (mod Ohind) about four miles above its confluence with the Kabul River. Takshasila sixty miles east of Udbhandapura, was the capital of the eastern of Purva Gandhara and Pushkalivati as far as west that of the western or Apara Gandhara .modern Charsadda, near the confluence of the Kabul and swat rivers mark the site where Pushkalivati stood."

The Indian Hiranyakesirs Shrauta Sutra (XV11,6, 18.) and Baudhayana Srauta Sutra(11`,5,XX1.13) pointed out Gandharis peoples at the Vedic times and the people of Gandhara were established their community on the southern bank of the river Kubha up to its mouth of Indus and for some distance down the eastern side of Indus itself. The Mistaya and Vahu Purana (11, 36.107.) regarded Gandhara an Indian territory and Chhandogya Upanishad (V1, 14) also mentions Gandhara and call it as centre of knowledge. The passage as follow:

*Yatha somya purushain Gandharebhyo, bhinaddhaksham*
*Aniya tam tato, tijane visrijet, sayatha tatra pran*
*va udan vadharan va pratyan va pradhmayita .abhinad –*
*Dhaksha anito, bhinaddhaksho visrishtah. Tasya yatha-*
*Bhinahanam pramuchya prabruyad etam disam Gandhara*
*Etam disam vrajeti. Sa gramad gramam prichchhan*
*pandito medhavi Gandharan evopasampadyeta, evam eveh- .*

Panini's *Astadhyayi* (IV, 2.133.) gives a complete picture of Gandhara. According to him "Gandhara is situated on both banks of the Indus. On the South East it touches the district Jhelum - the ancient *Kekaya* and on the north-west the river Kunar or Kashkar. It comprised the districts Takshasila, Pushkaravati, Tryakshayana, (Tarkhan) Triravatika, Atakataka, Urasa and Uddigana or Aurdagani or Uddiyana". Buddhist Anguttara Nikaya (AN, 1,213; IV, 252,255,260) of Pali Sutta Pitaka mentions Gandhara with Kamboja and to be found in the Uttarapatha.

In the middle of sixth century B.C Gandhara became a great and mighty state under the king of Pukkusati and the boundaries of the kingdom were more extended. Jataka story described the territory of Kashmir which was formed part of Gandhara kingdom (V.

Fausboll, Michael Viggo:1980; p.406). The region between the Chenab and the Ravi, formerly occupied by the Madras, passed under the domination of the kings of Gandhara. Hecataeus of Miletus (549-486 B.C) a Greek Historian and Geographer refers to Kaspapyros as a Gandaric city. A.Foucher (1911) has identified this Kaspapyros or Kasyapapura with Multan. This reference is testified by Buddha Prakash (1976;14) as he writes, "It is clear that the kingdom of Gandhara expanded eastward up to Ravi and southward up to Multan and included the territory of Kashmir" V.D. Mahajan (2005; 233) also points out the same boundaries of Gandhara roughly corresponding to modern Kashmir and Taxila.

Indian literature showed Gandhara as a mighty state but in the first historical record Behistan inscription (Deydier:1950;1-50) of Achaemenian kings Darius 516 B.C and Xerxes (c. 484-465B.C) refer to Gadara (Gandhara) as the twentieth satrapy of their vast empire and the soldiers of this Gandarioi or Gandarae fought against Greeks on the side of Xerxes. Greek historian Herodotus ("Historica": 111,590-93) was the first foreigner that described Gandarioi in 450 B.C. He informed about the nations, which were under the rule of Darius1, Gandhari nation was one of them. Gandhara became the part of Asoka kingdom and his rock edict V and XII mentioned Gandhara janapada with Yonas and Kamboja, named Gandharana or Gandharanam and after Asoka it seems that Agathocles conquered this country and expelled the Mauryans (Dey, Nando Lal: 2005;61)

Alexander's historians have scantly referred to the otherwise well known region of Gandhara. The description of Arrian, Strabo and Ptolemy may well get the only name of this region. Strabo (Geog, lib .xv.1,26 ) account tells us about a tribe named Gandaris, living there at the time of Alexander's invasion. He mentions "Gandharitis living along the river Kophes between the Choaspes and the Indus". In the same position Ptolemy (Geog, lib, vi, c. 1,7 , vii, 1,44) marks place of Gandarae, and states, "that country included both banks of the Kophes immediately above its junction with the Indus. It's covered the area of river Koa around both banks touching a bit forward to Indus and it junction". Arrian (Majumdar: 1960; 10) did not mention Gandhara, yet he refers to Asakenoi or Assakenoi and its tribe, who dwelled with the lower section of river Kophes

known as Kabul River", the region where the Kabul flows into the swat and hence into the Indus River is now a part of the Peshawar province. ( Lal : 2005;60)

The Chinese pilgrims visited this state and they called it Kien-to-lo., lying at the west of the Indus and capital name was Po-lu-sha-pu -lo to be three or four days journey from the Indus and near the south bank of a large river.( Watters:1904;46,198). This is an exact description of the position of Peshawar. They all described the geographical location of Gandhara together with its topographical situation, extension and limitations. But the Hiuen Tsang (Ibd;97-99 )reference is very clear about it and for the first time established a detailed definition for it. He states "The places Gandhara 500, li, to the east of Hilo, a town of Nagara". In his opinion Gandhara's Eastern border touches the Indus River. Uddyana (Swat) and Fa-lo-no forms it's northern and southern border respectively. Gandhara is 1000 li or 166, miles from east to west and 800, li or 133, miles from north to south. During the traveling of Hiuen Tsang, Gandhara was not a sovereign state; it was under Kapsia and Taxila was a part of Kashmir. (Sharma.2004;45). Cunningham (1924; 48) agreed to the description, limits and measurements of Gandhara by Hiuen Tsang. In addition to it he has further elaborated and identified Gandhara with that part of land in north western India, which lay between Jalalabad on the west and Indus on the east and hills of Swat and Buner on the north and hills of Kalabagh on the south."

"Gandhara not only comprised the modern district of Peshawar and Rawalpindi but also swat and Hoti Mardan or what is called the Eusofzai country, is bounded on the north by Chitral and Yasin, on the west by Bajor and the Swat river, on the east by the Indus and on the south by the Kabul river, that is the country between the Indus and the Panjkora, where at Ranigat, Sanghao and Nuttu, discoveries of were made of excellent Buddhist architecture and sculptures of the time of Kanishaka." (Dey, Nando Lal: 2005;61).

Majority of scholars have opined geographically the name Gandhara was used for the Peshawar Valley in ancient times i.e. the large part between the Suleiman Mountains along the Afghanistan border in the west and the Indus River in the east, western Punjab and Kabul valley. However, the term Gandhara was also used in a boarder sense and its cultural boundaries extended to the neighboring regions, particularly the swat and other

river valleys to the north, Dir district, Buner District, Malakand and Bajaur agencies and the region around the great city of Taxila to the east, parts of the Punjab and the eastern edge of Afghanistan to the west. Its limits extend from river Swat to river Jhelum (Gazetteer of North West Frontier Province, 1979 L; 124.)

Gandhara art is said to have originated in the last centuries of the first millennium BC, while it developed and reached perfection in the first few centuries CE (Salomon:1999;3) The area in which Gandhara art can be found is bordered on the east by the great stupa of Manikyala on east of Rawalpindi, By the Dir and Swat valley on the north, by Bannu on the south, and by Bagram plains in the southern Hindu Kush Mountains of Afghanistan (Higuchi: 1984; 210). Dr. Saifur Rahman Dar also fixed the eastern most boundary of Gandhara art at Manikayala and rather shifted the eastern limit of cultural boundary of Gandhara to the banks of the river Jhelum"( Dar: 2008;1). In this perspective R.C. Sharmaha (2004; 45) innovated a terminology "Core Area" and 'Greater Gandhara" by dividing Gandhara into two components. He states that "the core area and heartland is somewhat triangular piece of rocky region surrounded by the hills between the present day Afghanistan and the northern Pakistan and roughly measures 100 km from east to west, and about 70 km from north to south. The greater Gandhara however commanded a vast land as it influenced the production in the periphery of several hundred kilometers". In the words of S.P.Gupta (2004;75) "the Gandhara region lay on both sides of the Khyber Pass, in all probability, confined to Kabul valley, Peshawar valley and Swat valley. However, when we are adding a new concept that of greater Gandhara which extends from the Oxus basin to Taxila. The areas involved are ( i) The Oxus basin in Bactria, comprising of southern Uzbekistan and northern Afghanistan, broadly north of Hindukush mountains, (ii)The Kabul basin, from the upper reaches till it meets the Indus and beyond including Peshawar and Swat highlands, and (iii) Taxila valley. Kashmir is also included in great Gandhara. Gandhara comprised the whole lower valley of Kabul river Kohat range on the south to the borders of the Swat valley on the north. It thus included the modern districts of Peshawar, Charsadda, Mardan with part of Kohat, the Mohmand, Bajaur, and Malakand agencies, once its borders embraced within limits the great city of Taxila, east of the Indus".

V.K. Sharma (2004;45) states "that the kingdom of Gandhara occupied the area, now covered by the name Peshawar valley, including the hilly district of Swat and Buner to the north and extending on the east to the Indus River. On the side of Afghanistan it went perhaps as for as Jalalabad .Apparently the territory thus delimited forms the core of the Gandhara regions ,and its influence or cultural affiliations extended far beyond these boundaries , for instance, to the Taxila on the south-east."

In the light of the many accounts, the Gandhara region may be said to have embraced the Khyber Pakhtunkhwa province of Pakistan, parts of the Punjab province (west Punjab) and parts of eastern Afghanistan. T. P. Verma (2004; 3) extends its limits between two river lands and declare that "Gandhara to be the region from swat river to Jhelum. Thus the region of western Punjab and eastern Afghanistan are included in it. Gandhara extend to the North, the east and the west, Gandhara is hemmed in by tall mountains, but to the south, the flat Indus valley spreads out for some seven hundred miles until it reach the Indian ocean".

One should, therefore, be careful to distinguish the geographical limits of Gandhara from the political when Cyrus the great held sway over proper Gandhara, the name designated the extensive political unit of Parapamisadae governed by his representative residing at Kapisi in Afghanistan but in the time of the Indian emperor Asoka the name was applied to the province comprising the Kabul valley together with north-west India which was governed by Asoka's viceroy from his headquarters at Taxila. The boundaries of this political unit then shifted from west to east and from east to west in accordance with the temporary preponderance of either Iran or India, but the borders of geographical unit have remained constant through the centuries (Verma, T. P. 2004: 120,177). The loose delimitation made it difficult to describe clear boundaries of Gandhara mainly because the boundaries of various kingdoms changed time to time and that there was no clear and detailed definition of the term Gandhara in the various texts (Sharma, V.K. 2004: 45).

Speaking from political point of view for the period in the middle of the 6th century B.C., Gandhara was an extensive state with its capital at Taxila. According to Upinder Singh, "the kingdom of Gandhara comprised modern Peshawar and Rawalpindi districts of Pakistan and the Kashmir Valley. Its capital Takshashila (Taxila) was a major centre of trade and learning. King Pukkusati or pushkarasarin ruled over Gandhara in the mid-6th century BCE. … The Behistun inscription of the Achaemenid emperor Darius indicates that Gandhara was conquered by the Persians in the later part of the 6th century BCE (Singh, Upinder 2008:p.264). According to the same author, "ancient texts and inscriptions usually associate the Kingdom of Kamboja with Gandhara. Kamboja included the area around Rajaori, including the Hazara disctict of the North-West Frontier Province, and probably extended up to Kafiristan (Singh, Upinder 2008:p.264). According to Kosambi, "a Gandharan king Pukkusati of Taxila exchanged gifts of costly trade goods with Bimbisara of Magadha, and travelled on foot to see the Buddha (Kosambi, Damodar Dharmanand 2008: p.150). Dr. Dani has also confirmed this statement (Dani, Ahmad Hassan: 2007; 81). According to Romila Thapar King Pukkusati belonged to Khasteryia (the warrior class of the Hindus) caste (Thapar, Romila: 1966). Pukkusati was a great and mighty king and Gandhara became a great state under him. Hecataeus of Miletus (549-468 .B.C) refers to Kaspapyros as a Gandaric city. This Kaspapyros or Kasyapapura has been identified by Foucher with Multan. "Thus it is clear that the kingdom of Gandhara expanded eastward up to Ravi and southward up to Multan and included the territory of Kashmir' (Parkash.:1964; 140).

A significant result of the rise of Gandhara was the growth of its capital Takshasila, as a great seat of learning, a centre of culture activities and exchange/amalgam of ideas, and hub of commerce. The students of Magadha pass through the vast distance of northern India in order to join the great centres of learning at Takshasila. We learn from Pali texts that Brahmans youths, Khattiya princes and sons of the elites from Rajagriha used to visit Taxila for learning the Vedas and eighteen sciences and arts (Cittasambhutta Jataka, no.498). Jotipala, son of the Purohita of the king of Benares, returned from Takshasila with great proficiency in archery or military science and was later appointed commander-in-chief of Benares.( Jataka V;127 ) Likewise Jivaka, the famous physician of Bimbisara and Buddha, learnt the science of medicine under a far-famed teacher at

Takshasila and on his return was appointed court-physician of Magadha.( Mahavagga V111, 1,3,6 ). Another illustrious product of Takshasila was the enlightened ruler of Kosala Prasenajit, who is closely associated with the events the age of Buddha.(Dhammapada Atthakatha:1; 331-338). Panini and Kautilya, the two masterminds of ancient times were also brought up in the academic traditions of Takshasila. King Pukkusati was a contemporary of the Buddha and took keen interest in Buddhism through the efforts of Bimbisara, the king of Magadha. He is even said to have visited the Buddha by travelling all the way from Taxila to Magadha on foot. As such, there is every probability that the king must have adopted the new faith and officially patronize it to be spread throughout his kingdom. According to Dani, he was the last local ruler of Gandhara and after his death, Gandhara became part of the Achaemenid empire of Persia (Dani, Ahmad Hassan, 2007: p.81).

**Conclusion**

The history of KPK is very glorious and enjoyed a significant position in all historical periods. The region has a very rich cultural and historical background since earliest times to-date but the sixth century B.C is very important for this region because of the rise of Gandhara as the ancient state of Khyber Pakhtunkhwa. There was a monarchy, but its king had a great political wisdom that he utilized for maintaining cordial relations with the contemporary powers on one hand and expanding and securing the limits of his state on the other hand. He paid serious attention to education and turned his capital to a great seat of learning traditional knowledge and modern sciences of the time including medicines, art, architecture, engineering, languages, warfare, etc. Though generally the efforts of Ashoka the Great are considered to be instrumental in spreading Buddhism to the far-off lands, but frankly speaking the real foundation for introduction of the new faith was laid down by King Pukkusati in the $6^{th}$ century BCE.

Gandhara witnessed independence, progress and prosperity under its own local monarch, who unlike oppressor rulers was a visionary who provided maximum opportunities of education and health to his people by building educational institutions with all possible facilities and the best of teachers. By introducing medicine in these state of the art institutions of the time, he produced medical practitioners to take care of health of the masses. By introducing all possible science subjects, he laid foundation of progress and

prosperity in his state. He kept open the doors of knowledge for students coming from other adjoining states and thus established strong diplomatic contacts with his neighbours. Though after his death, the state of Gandhara could not maintain its independent status and sovereignty after its occupation by the forces of Darius of Persia, yet the great spirit of freedom and prosperity cultivated and nurtured by King Pukkusati never died and Gandhara subsequently once again came to limelight when once again the local rulers took control and kept the state on path of continuous progress and stability for almost a millennia.

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