

APPENDIX H

ATTACHMENT 2
ARCHEOLOGICAL AND
CULTURAL HERITAGE



MUNDA DAM MULTIPURPOSE PROJECT
ENVIRONMENTAL SURVEY

Attachment 2: Archeological and Cultural Heritage

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1. Introduction

This archeological study was conducted for the Japan International Cooperation Agency (JICA) as part of an environmental survey for the Munda Dam Multipurpose Project, planned to be built on the Swat River, about 5 kilometers upstream of the existing Munda Headworks. The reservoir area of the dam falls in the Mohmand Agency. The left bank command area is in the Malakand Protected Area, while the right bank command area falls in the Mohmand Agency. The purpose of the dam is to generate power, mitigate floods and provide irrigation water to the command area.

The proposed location of the dam is in the Mohmand Agency, which takes its name from the Mohmand tribe that inhabits this area. The Agency was established in 1951 and is bounded by the Bajaur and Malakand Agencies on the north and northeast; by the Khyber Agency on the south and southwest; by Peshawar District on the southeast; and by Afghanistan on the west and northwest. The total area of Mohmand Agency is 2,296 km² and it is largely a region of rugged mountains with barren slopes.

1.1 Objectives of the Study

This archeological study was conducted to assess the impacts of the proposed Munda Dam Multipurpose Project on archeological and cultural heritage sites in the project area. The main objectives of the study were to identify sites of concern, assess the impacts of the proposed project on these sites, and recommend measures to protect and/or salvage these sites.

1.2 Project Location and Study Area

As mentioned above, the proposed Munda Dam Multipurpose Project site is located about 5 km upstream of Munda Headworks on the Swat River. The site falls in the Mohmand Agency, Swat Valley, NWFP and can be accessed through the town of Shabqadar. Currently, a dirt track leads from the existing Munda Headworks to the dam site. The Munda Headworks is about 13 km from Shabqadar, which is at a distance of about 48 km from Peshawar. The Mohmand Agency lies between 34° 10' and 34° 43' North and 70° 58' and 71° 42' East, and includes areas of rugged, barren mountains. The Munda Dam reservoir area extends into Malakand Agency.

This study covers all those areas where archeological sites could be affected by the proposed project construction and operation. This includes areas affected by the dam and reservoir, plus the left and

right bank command areas downstream of the dam site—these areas have been referred to as "the study area" in this report.

1.3 Methodology

No archeological surveys of sites and monuments have been conducted in the study area by professional archeologists.

The first step for any systematic archeological survey of an area is to consult all available topographical maps to identify ancient mounds. All relevant topographic maps of the project area were studied thoroughly but no indication of any ancient mounds or ruins was found.

The second step is the study of settlement and land records of the area. Unfortunately, there are no settlement and land records of the study area. However, all the literature available in the Peshawar libraries in reports, books, magazines and periodicals written from the British colonial period to date, was consulted. The only two sites mentioned in this literature were Zarif Koruna and Kanro Qala, which fall in the command area of the proposed right bank canal. The other viable option was to contact local people in the study area. Under the circumstances, this option was considered the most effective way of learning about possible archeological sites in the area.

Three classes of people were contacted in every village of the study area:

- > Village elders;
- > Educated people, particularly local teachers; and
- > Amateur archeologists.

These people provided useful and authentic information, which led to the discovery of many important archeological sites in the study area.

The local villagers were asked particularly about the locations of water springs (*Khwars*) in the area, as ancient sites are generally located close to water sources. This led to the discovery of two archeological sites, Khazana Ghund and Shenai Ghundai, both of which are in the command area of the proposed right bank canal.

Fishermen and hunters were contacted about ancient remains in the reservoir area and provided useful information. The Frontier Constabulary officers (*Badraga*) who accompanied the team during the survey also provided information about ancient sites.

Survey fieldwork, ie, noting surface features and the environmental and geographical setting of these sites, was found to be the most effective method of finding indicators of archeological sites. During fieldwork, team members were always accompanied by at least one local person who provided information about the

structural features and antiquities recovered during illegal diggings.

The geographical coordinates of each site were recorded with the help of a Global Positioning System (GPS). The ancient sites and surface finds discovered during the survey have been photographed and drawn for this report. Antiquities collected during the survey, particularly pottery, were marked and kept in separate bags.

1.4 Organization of this Report

Section 2 of this report outlines legislative requirements pertaining to the protection of archeological and cultural heritage sites in Pakistan. Section 3 describes the study area's history, while Section 4 describes archeological sites of concern in the area, and the impacts the project may have on them. Finally, Section 5 recommends measures necessary to protect, salvage, and develop the area's archeological and cultural heritage sites.

2. Legal Requirements

2.1 Antiquities Act, 1975

Pakistan Antiquities Act of 1975 (amended in 1992) is the key national legislation that deals with the protection and preservation of Pakistan's archeological and cultural heritage. According to the Act, all EIAs must include an inventory of all sites of archeological or cultural significance that are likely to be affected by the proposed project. A record of the salvage and conservation efforts of such sites needs to be maintained.

Section 22 of the Antiquities Act deals with projects involving new construction. It states: "Notwithstanding anything contained in any other law for the time being in force, no development plan or scheme or new construction on, or within a distance of two hundred feet of a protected immovable antiquity shall be undertaken or executed except with the approval of the Director General".

For antiquity salvage or rescue operations during any developmental project, an application for a license must be submitted to the Department of Archeology and Museums, Government of Pakistan. After the grant of the license, the Archeological Excavation and Exploration Rules, 1978 (amended in 1989) must be followed.

Clause 13 A of the Antiquities Act states that all antiquities recovered during rescue or salvage excavations are the property of the Department of Archeology and Museums, Government of Pakistan. Clause 7 of the Antiquities Act states that the

government can acquire any land containing antiquities under the Land Acquisition Act, 1894. Under the Antiquities Act, the government can declare any site or any antiquity a "Protected Antiquity."

2.2 UNESCO Legal Instruments, 1968

Pakistan is also a signatory to the resolution adopted for the preservation of cultural property endangered by public or private works at the UNESCO General Conference in 1968. The UNESCO Legal Instruments lay down principles for the preservation of cultural property, which are considered binding and obligatory for all member states. Clause 8-E of the resolution deals specifically with the construction of dams for irrigation, hydroelectric power or flood control. The legal instruments also deal with the preservation and salvage measures that should be taken for endangered cultural property.

Requirements of the UNESCO resolution that are relevant to the proposed Munda Dam project include the following:

- > A thorough archeological survey must be carried out well in advance of construction work;
- > The project must make provisions for the salvage/rescue of any archeological sites affected by the project;
- > The project must cover the cost of any salvage/rescue work that may be required; and
- > The above provisions must be made well in advance of project construction.

3. Historical Profile of the Study Area

The study area falls within the Gandhara region, which includes the present day cities and areas of Charsadda, Mardan, Khyber, Mohmand, Swat, Dir, Malakand, and Bajaur. The entire area lies on the right bank of the Indus River.

The Gandhara region was conquered repeatedly by different nations and dynasties, from the Achaemenians, Greeks, Mauryans, Bactrian Greeks, Scythians, Parthians and Kushanas to more recent rulers such as the Mughals, Sikhs and the British. The region is believed to have flourished from about the sixth century BC, to the fifth century AD.

The following sections briefly describe the history of the Gandhara region, since it is from these past nations and dynasties that most of the sites of concern (detailed in Section 4) in the study area are believed to originate.

3.1 The Gandhara Region

The earliest literary references to the Gandhara region are found in the Rigveda, the oldest document of the Indo-Aryans, which is a collection of hymns composed in a diction called Vedic Sanskrit (c. 1200 BC). These hymns mention the Kubah or Kabul and the Suvastu or Swat Rivers. In the "Atharvaveda," a sacred book of the Aryans, the people of Gandhara are mentioned as Gandharis whose dialect was celebrated for its purity.

The Gandhara region was an ancient transit zone between the east and the west. It received and transmitted cultural, artistic, political, commercial and religious currents in both directions. The earliest capital of Gandhara was Pushkalavati, located at the site of the modern city of Charsadda, which once embraced the lower valley of the Kabul River, and the Mohmand and Bajaur Agencies. According to the Rigveda, the people of Gandhara reared sheep in large numbers and used wool for making high quality blankets that were greatly prized. The Gandharan people took part in the great war of Mahabharata in the first millennium BC. Gandhara is mentioned for the first time in history as a province (satrapy) of the Achaemenian empire in the time of Cyrus (558-528 BC).

In old Persian inscriptions, Gandhara is mentioned as the province (satrapy) of Gadara, which corresponds to the Indian word Gandhara. In the Behistun inscription of King Darius, Gandharans are mentioned as his subjects. They fought against the Greeks in 480 and 479 BC in the army of Xerxes, the Achaemenian emperor. Gandhara remained the seventh province of Persia until it was conquered by Alexander the Great in 327-26 BC. Greek rule lasted for a few years after which Chandar Gupta, the founder of the Mauryan dynasty (324 BC) took control of the area from Seleucus Niktor. His grandson Ashoka (272-232 BC) established his rule as far as the Hindu Kush range. Ashoka championed the cause of Buddhism, and sent missionaries in different directions for its propagation.

In 250 BC, the Bactrian Greeks became powerful and established their empire in Bactria. They later conquered Gandhara and ruled it for 200 years. Menander was the most important Greek king of Gandhara.

After the Bactrian Greeks, Sakas (Scythians), Parthians and Kushanas successively ruled Gandhara. The Sakas came from Central Asia and their most important king was Maués or Moga (90 BC). The Parthians overthrew the Sakas and became the rulers of Gandhara. One of their rulers was Gondophares (46-20 AD).

The Kushanas, a branch of the yue-chi (yuechi of Chinese origin), were nomadic people who were driven out from western China and came to occupy

Bactria. The first Kushana conqueror of Gandhara was Kujula Kadphises, in the first half and middle of the first century AD. The most famous of the Kushana rulers was Kanishka, who made Peshawar his winter capital. Under him, Gandhara enjoyed a period of great prosperity, and its art reached its climax. Kanishka was fascinated with Buddhism. He ascended the throne in about 78 AD, and ruled his vast empire for 20 years.

The last ruler of the great Kushana dynasty was Vasudeva. The Kushana rule was interrupted by the Sassanian emperor, Shahpur I, in 230 AD. The Sassanians and Kidara Kushans (little Kushans) ruled the area intermittently.

The Kidara Kushans were destroyed by the Hunas or White Huns, also called Hephthalites, in 460 AD. The White Huns are said to have destroyed the Buddhist centers of Gandhara. Gandhara never recovered from the devastation caused by Toramana and his son Mihirakula in the early sixth century AD. However, the power of the Huns was greatly reduced by the alliance between the Sassanians and Turks in the middle of the sixth century AD.

The local Ksutriya ruler of Gandhara was displaced around 666 AD by the Turki Sahis, who, under Muslim pressure in the ninth century, moved their capital from Kabul to Hund on the Indus. Shortly afterwards, they were replaced by the Hindu Shahis whose dynasty lasted until 1026. In about 1150, the Hindu Shahis were destroyed by the Ghaznavids, who were followed by the Ghorids.

Between the end of the Ghorids and the beginning of Mughal rule, the Gandhara region was ruled from Kabul. The Mughals ruled Gandhara until Nadir Shah established an Afghan state in 1738, which, under the subsequent Durrani dynasty, ruled Gandhara from 1747.

After that, from 1818, the Sikhs started taking control over Peshawar valley, and their hold was significantly consolidated by 1835. Their kingdom collapsed in 1848 when the British rose in power. The latter ruled the area until 1947.

Pushkalavati

The ancient capital of Gandhara was Pushkalavati. This is the city's name in Sanskrit; it is also known as "Pukhalavadi" in Prakrit and "Peukela" in Greek. Pushkalavati had been a long forgotten name; before its rediscovery, the last time it was recorded was in an account by the Chinese pilgrim, Hiuen Tsang, in the seventh century. A British archeologist, General Gunningham, discovered traces of this lost city in the scattered ruins of Bala Hisar (also known as "Hisar" locally and meaning "high fort").

Pushkalavati evolved a distinct culture built on its main resource, the Kabul River and its tributaries. It had four main caravan routes leading out of it.

Besides the eastern route of the Kabul River, there was a caravan route that cut through the western hills, connecting the valley of Peshawar with the Kabul valley. The northern route, connecting Pushkalavati with many cities in central Asia, was the most frequented. The fourth route was the southern route, which went along the Bara River valley, through Tira valley, and beyond to Kurram and Ghazni.

The plains of Pushkalavati, which contained the most fertile land for cultivation, were drained by the Kabul and Swat Rivers. The earliest evidence of ancient human existence in Pushkalavati and its surrounding areas was the discovery of cemeteries at Zarif Korana, sixteen miles north of Peshawar in Mohmand Agency. These cemeteries are of the Gandharan culture and are protohistoric graves representing three modes of burial practice: inhumation, cremation and fractional burial. The graves were excavated in 1971 by the Department of Archeology, Government of Pakistan. According to the excavator, all three modes of burial were practiced between the thirteenth and the tenth century BC. Similarly, graves found in Dir and Swat are estimated to date from 1500 BC to 600 BC.

During the survey for the proposed Munda Dam left bank canal command area, surveyors discovered a Gandharan graveyard at Selay.

4. Project Impacts

This section describes important sites of archeological or cultural heritage that are located in and around the study area. This includes sites that were already known to exist, and those that were discovered during surveys conducted for this project.

4.1.1 Known Archeological Sites

The Mohmand Agency is an area that, due to poor security, is not easily accessible. For this reason, a professional archeological survey has never been carried out in the area. However, literature from the British colonial period contains a few references to ancient sites in the Mohmand area in Afghanistan.

Merk mentions Buddhist remains in his book *"The Mohmands."* He writes, "As elsewhere in northern Afghanistan, Buddhist remains are frequently found in the Mohmand hills, and are invariably ascribed to the Kafirs as constructors, the principal being [the] ruins of [a] fort or monastery at Gharangai on the Kabul River near the Shanilo Ferry, an inscription with figures of horses and men carved in the rock at Surai, 7 or 8 miles from Lalpura in the Bira-darra." The remains mentioned by Merk (1984, pp. 9-10) are located in Afghanistan.

During the attack of the Queen's and 22nd Punjab Infantry, "the party of the enemy (the Mohmands) [were] posted in some Buddhist ruins on the Kotal" ("Frontier and Overseas Expeditions from India," selection from *Government Records*, Volume I, Quetta 1982, pp. 483-484).

There are two known archeological sites in the command area of the proposed right bank canal of the Munda Dam: Zarif Koruna and Kanro Qala. These sites are described below.

Zarif Koruna

Zarif Koruna (N 34 11 321, E 071 27 695) is located 16 miles north of Peshawar on a metalled road leading to Shabqader. The site is on the right bank of a stream and covers an approximate area of 1,320 yards in the north-south and 800 yards in the east-west direction. Originally, it may have covered a much larger area.

Zarif Koruna is an ancient Aryan cemetery belonging to the protohistoric period. Photographs of this site are presented in Exhibit 4.1 and 4.2. The Department of Archeology and Museums, Government of Pakistan excavated the site in November 1971. The scientific excavation of the 32 graves, which belong to three different periods, has been recorded by G. M. Khan in *Pakistan Archeology* (No 9, 1973, pp7-8). The three periods were as follows:

Period 1 (1300 BC): During Period 1, graves were constructed in double chambers of dry stone masonry. The mode of burial practiced during this time was inhumation.

Period 2 (12th-11th centuries BC): During this period, graves were constructed in two ways: double chamber rectangular graves in dry stone masonry, and single chamber circular graves. Bodies were cremated and the cremated bones were placed in an urn specially prepared for this purpose.

Period 3 (10th-9th centuries BC): During this period, double chamber rectangular graves were constructed in dry stone masonry. The single and multiple fractional burial practice was followed.

A large number of urns of different shapes were found in the graves. Besides pottery, a variety of personal objects have also been recovered. These include beads of stone and gold, earrings of gold, silver and copper and bone hairpins. Graves of archeological importance, containing terracotta bull figurines, a mother goddess and a stone human figurine were also found.

Cultural data obtained from the Zarif Koruna site helped discover a protohistoric cemetery dating back to the 13th-10th centuries BC in the plains of the Peshawar valley. The discovery of these graves and cultural data has made a significant contribution to

the study of ancient life in the Peshawar valley. Cemeteries of this type have also been found in Swat, Dir, Mohmand Agency and Bajaur.

The Gandhara cemeteries at Zarif Koruna will be affected by the proposed project, as they are located in the command area. The exact nature and extent of the effect can only be estimated once the canal alignment is finalized.

Kanro Qala

Kanro Qala (stone fort) (N 34 15 049, E 071 28 906) is located on the Yakaghund-Ghalanai road. It was built on an old, high terrace on the left bank of the Subhan *Khwar* (*Khwar* is the local name for a perennial stream).

Kanro Qala, as its name suggests, was fortified with a semi-circular bastion at each corner. The damaged bastion on the eastern side can still be seen (Exhibit 4.3). The Kanro Qala represents two periods of construction: the stone walls of diaper masonry belong to one, and the walls were repaired by burnt bricks belong to the later period. Illegal diggings have exposed a huge section of stone walls of fine diaper masonry (Exhibit 4.4); at one place, the length of exposed wall is 9 m. Some of the walls have been uncovered up to a depth of 2.50 m.

The proposed right canal passes to the west of this site. Because of its hilly nature, the Kanro Qala site will not be affected by it. This site has already been reported and the findings published.

4.1.2 New Archeological Sites in the Left Bank Command Area

A number of sites were identified by the consultant during field investigations in the left bank command area. These are described below.

Maizero Dand

Maizero Dand (N 34 21 243, E 071 34 958) is located 0.5 km south of Dev Dheri village. The site is on the right bank of the perennial Dev Dheri *Khwar*. It is located on a very low mound. Here, a few potsherds were seen on the ground and two small jars were found (Exhibit 4.5). The site belongs to a late historic period, although the precise date cannot be determined on the basis of the finds.

Maizero Dand will not be affected by Munda Dam as it is in a non-irrigated, hilly area, and will be bypassed by the tunnel of the left bank canal on the west.

Ghatta Bakkara

The ruins of Ghatta Bakkara (which means "large quartz") are situated on top of a low hill 1 km west of Dev Dheri and 0.5 km northwest of Maizero Dand (N 34 21 446, E 071 34 674). The site consists of the

remains of two rooms (7.20 m by 7.20 m and 5.70 m by 3.29 m) made of stone, and a courtyard to the east (12 m by 4 m). The rooms open onto the courtyard. Exhibit 4.6 presents a photograph of this site. There is also a large hall to the west of the rooms. The masonry of the stone walls is rough and poor. A few potsherds have been found but, due to the absence of any precise evidence, the exact date of this site is difficult to determine.

The site will not be affected by the Munda Dam project as it is located in a hilly area, well above the canal command area. The tunnel of the left bank canal will lie to the west of the site.

Kotagai

The Kotagai (small house) (N 34 23 122, E 071 35 896) site is also a recent discovery. It is located on top of a low hill 0.5 km north of Tarakai Kelai (Exhibit 4.7). Two perennial streams, the Tarakai *Khwar* and Nasir *Khwar*, flow on either side of the site.

A heap of rough stones can be seen on the flat top of the hill. The remains of a room made of undressed stone are clearly visible. Rough stone walls can also be observed. A limited number of plain pottery pieces have been found on the surface. The precise date of this important site cannot be verified in the absence of datable material.

The most important feature of the Kotagai site is the evidence of iron smelting activities. Iron slags are scattered in large numbers over the top of the hill (Exhibit 4.8). This is the only site in Pakistan where evidence of only one specialized craft activity has been found.

It should be mentioned that iron was introduced to this area of the subcontinent between 1100 BC and 1000 BC. It is difficult to determine how old these iron smelting sites are but, due to the rarity of iron smelting activities in the area, the site is considered of utmost importance.

At present, the Kotagai site is threatened by the people of Tarakai Kelari and Nevay Kelai who use stones from the site for building purposes.

The Kotagai site will not be affected by the proposed left bank canal due to its height and the fact that the canal will pass to the west of the site.

Sulai Khat

The Sulai Khat site (N 34 23 159, E 071 37 717) is a massive mound standing almost 80-100 feet above the surrounding fields, and is situated 2 km northwest of Shahced Kelai and almost 3 km west of Nau Kelai (Exhibit 4.9). A small perennial stream, known locally as Ghargo Garai, flows along the northeastern side of the mound.

Sulai Khat is a very large settlement site, perhaps, one of the biggest in Mohmand Agency.

The site has recently been excavated illegally. The illegal diggings uncovered stone walls of diaper masonry and a rectangular room (5.4 m by 4.4 m). At certain places, the diggings went as deep as 3 m (Exhibit 4.10). Another wall was exposed up to 5 m.

Typical Kushan period pottery is scattered over the site. The beautiful diaper masonry is also of the Kushan period (second century AD).

The site lies within the command area and will be affected by the Munda Dam project.

Selay

The site of Selay (stone slab) (N 34 22 706, E 071 37 011) is located 2 km southwest of Sulai Khat. The remains of an ancient cemetery have been found on the lowest and last spur of the Arrah hills. The spur is completely covered with graves belonging to the Gandhara grave culture (Exhibit 4.11).

Because of the high market demand for stone beads and other artifacts, almost all the graves at Selay have been plundered. This destruction of the Aryan graves has been so thorough that it is difficult to gauge their exact orientation. Small and large slabs as well as charred bones and pottery litter the surface of the spur. The graves are shallow, generally not more than 15-30 cm deep.

The presence of the charred bones indicates that cremation was the general practice at this burial site. The cremated bones were not buried in urns (as was the norm in other necropolises of this period, e.g., Zarif Koruna) but placed in the graves along with objects like small pots and beads. The graves are too shallow for urn burial.

The Selay site is in the command area but will not be affected because it is located high on a hill spur.

Kajjgal

Kajjgal (N 34 28 067, E 071 47 580) is a very large habitation site spread over an area of about 200 acres, some 3 km west of Heroshah village (Exhibit 4.12). The mound of Kajjgal is also known locally as Kandar.

The site was first visited by the consultant in December 1998. Evidence of illegal diggings, which had uncovered diaper masonry walls in different places (Exhibit 4.13), was found all over the site. Holes had been dug all over the site and, in some places, were 2-3 m deep. However, a part of the mound was still intact at this time.

During the second visit to the site in February 1999, the survey team found that the remnants of the mound had been leveled by a bulldozer and tractor. The team was told that there had been an agreement

between landowners and illegal diggers, that after the digging, the mound would be leveled into fields (Exhibit 4.14). Currently, there are green crops all over the fields and only a slight, 25 cm high mound is intact.

According to local sources, illegal excavations in the area have continued for the past three years. People from Batkhela and Sorana have been involved in illegal excavations without any fear of reprisals.

Kajjgal is a settlement site that probably represents the ancient Hero Shah. Gandhara sculpture in schist and green phyllite has also been found in the area. The site dates back to the Kushan period of the second century AD or earlier. This has been established on the basis of pottery, coins, diaper masonry and Gandhara sculpture found at the site.

The site is located on a hill outside the command area of the proposed canals and will not be affected by the project.

Shinghat

Shinghat is a small fort on top of a hill bound on one side by a stream and located to the west of the Kajjgal ruins. Shinghat dates back to the Kushan period and is part of the Kajjgal settlement. It is located on a hill outside the command area and will not be affected by the project.

Digir Raj

The ruins of Digir Raj are exposed at two locations—high up on a hill, and lower down near the base of the hill. The upper location is N 34 30 708, E 071 49 309, while the lower location is N 34 30 755, E 071 49 349.

The ruins of Digir Raj (also known as Digir) are located 3 km north of the Haryan Kot village and are spread over a large area. The ruins are mainly rooms made of stone with good diaper masonry. One room on top of a low hill has a semicircular bastion at each corner (Exhibit 4.15). There are also remains of many rooms situated lower on the same hill. At the foot of the hills and in the adjacent plains, there are two groups of ruins of which only a few huge thick walls have withstood the ravages of time.

The pottery collected from the ruins belongs to the Kushan (2nd-3rd century AD) period but there is evidence that construction at Digir Mansai (the forts) continued up to the Hindu Shahi period in the 9th-11th centuries AD. Most of the ruins of Digir Raj have been destroyed and plundered by the local people to be used as building material. At some places, the ancient buildings have been dug down to their foundations.

The site is outside the command area and will not be affected by the project. However, considering the way the local people are using stones from the site,

these ruins are in danger of vanishing altogether (Exhibit 4.16).

Salgaro

This site is located 1 km north of Salgaro village (N 34 31 434, E 071 51 949) at the foot of the Dozakhai *Tangai*. The ruins are spread on either side of the Salgaro *Khawar*, which runs north-south (Exhibits 4.17 and 4.18).

The site includes the remains of a Buddhist stupa and a monastery. The consultant was told that the site had been dug previously and a large number of Gandhara sculptures had been found. The present owner of the site is leveling these fields and has recently found Buddhist stone sculptures at a depth of 6-8 ft.

Salgaro is located well away from the command area, and will not be affected by the project.

Kandarai

Kandarai (N 34 31 527, E 071 52 881) is located 1.5 km south of Kaldara village. The site lies to the right of a minor tributary of the Upper Swat Canal and also on the right side of the road leading to Salgaro.

Walls of good diaper masonry are visible at this site. It appears to have been a sacred Buddhist site in the Kushan period. The owner is removing stones from the ancient walls for use in construction.

The Kandarai site is located well away from the command area and will not be affected by the project.

Dopai

The ruins of Dopai (N 34 32 360, E 071 52 545) are located in the beautiful Kaldara valley, to the west of the Kaldara village. The ruins consist of stone walls of diaper masonry scattered all over the hills (Exhibits 4.19 and 4.20). Dopai was a large Kushan period settlement, and dates back to the 2nd-3rd centuries AD.

The Dopai ruins are at the foot of a hill outside the command area. They will not be affected by the project.

4.1.3 New Archeological Sites in the Right Bank Command Area

The sites identified by the consultant during field investigations in the right bank command area are described below.

Khazana Ghund

The ancient fort of Khazana Ghund (meaning "treasure mound") is located on the right bank of Swat River, 2 km north of Munda Headworks. The

fort is strategically placed, occupying a commanding portion and dominating the area (Exhibit 4.21). It was originally meant to guard the much frequented ancient route from the banks of the Swat River to the fertile plain of Pushkalavati. The massive stone walls of diaper masonry indicate that it was meant for defense (Exhibit 4.22).

The pottery and the diaper masonry suggest that these ruins are from the Kushan period in the 2nd-3rd centuries AD, and the fort may have been occupied up to the Hindu Shahi period in the 9th-11th centuries AD.

It has not yet been established whether Khazana Ghund will be affected by the dam. This has to be confirmed from WAPDA officials. Presently, the site appears to be outside the Munda Dam area.

Shenai Ghundai

Shenai Ghundai (meaning "green mound") (N 34 11 590, E 071 28 175) is located 1 km north of Zarif Koruna, south of Malik Ihsan Kelai. Illegal diggings have exposed most of the walls at the site, which are of good diaper masonry.

The Shenai Ghundai was a large settlement during the Buddhist period (Kushan, 2nd-3rd centuries AD). The pottery, the diaper masonry, and a small schist fragment of a relief panel establish that these ruins are from this period (Exhibit 4.23).

By the consultant's second visit, fresh illegal digging had revealed lime plaster, indicating the presence of a stupa. The stupa appears to be buried 2 m below the ground. Irrigated fields to the south of the hill are littered with potsherds, but do not appear to have been excavated. There is also evidence of a much later post-Kushan period site, where burnt bricks are scattered.

The Shenai Ghundai site is located outside the right bank command area and will not be affected by the project.

4.1.4 Shrines in the Study Area

During the survey, the locations of shrines (*ziarats*) in the study area were particularly noted.¹ All the *ziarats*, except for Jud Baba, are located in the command area of the left bank. The chief *ziarats* in the Munda Dam area are described in the following sections.

Jud Baba

Jud Baba is located approximately 2 km upstream from Munda Headworks on the left bank of the Swat River, almost halfway between the proposed Munda

¹ A *ziarat* is usually a grave or a set of graves of saints where people visit to pray and to pay homage.

Dam and Munda headworks. To the north of the shrine is a rectangular chamber for prayer, which also encloses another shrine, said to be that of Wajud.

There are many different stories concerning Jud Baba. It is said that Jud Baba settled in the area and preached Islam all his life.

However, Mr. Afzal Khan of Pati Banda quoted Islam Shah as saying that the shrine is actually the grave of Sher Alam Jan who was killed in a property dispute.

During the investigations, the consultant was advised to meet Bakhat Jamir Mian who is considered to have reliable information about Jud Baba. Bakhat Jamir is more than 80 years old and told the consultant that once upon a time there were three brothers living in Swat. One of the brothers, Jud Baba, settled in Doaba (the old name of this area) and after his death was buried here. Bakhat Jamir informed the researcher that the grave of Jud Baba is older than the time of his own grandfather.

In the absence of any inscription or historical record it is difficult to determine the identity of the person buried at Jud Baba, his ancestry or the time of his death. However, the local people hold this shrine in deep veneration and come from long distances to visit it in the hope of remedies for different ailments.

The shrine of Jud Baba will be endangered by the proposed construction of the multi-purpose Munda Dam Project.

Shahji Baba

Shahji Baba (N 34 21 404, E 071 34 825) is a small shrine not far from Dev Dheri. The local people believe that it dates back to the Ghaznavid period.

Because of its location, the shrine is not endangered by the construction of the left bank canal.

Chalgazai Baba

Chalgazai Baba is a shrine (N 34 21 055, E 071 35 592) located on the right side of the Abazai-Newaikelai metalled road, approximately 3 km east of Dev Dheri. Chalgazai Baba's grave is about forty yards long. According to the local people, the shrine is very old, and they hold it in great veneration.

Zarif Shah Baba

Zarif Shah Baba shrine (N 34 26 144, E 071 48 930) is located 4 km south of Hero Shah village. The grave is constructed in three tiers, and made of burnt bricks overlaid with cement plaster. The shrine has a stone platform and is 3 m higher than the cultivated fields surrounding it. According to local tradition, Zarif Shah Baba's grave belongs to the Ghaznavid period.

The shrine is in the command area of the left bank canal but, because of its height, it will not be affected by the project.

5. Conclusions and Recommendations

The archeological and cultural heritage survey undertaken in the proposed Munda Dam project area revealed a large number of archeological sites. Only two archeological sites in the area had been excavated and recorded previously. This was the first scientific survey carried out by a professional archeologist in the study area.

This section presents a discussion of the expected project impacts on the archeological and cultural sites and artifacts in the study area, and then gives recommendations for preventing and minimizing the effects that are adverse.

5.1 Summary of Project Impacts

The Dam Area

The shrine of Jud Baba, located around 3 km downstream from the proposed dam site on the left bank of the Swat River, is the only ancient religious structure threatened by the proposed Munda Dam project. The investigations failed to reveal any reliable or authentic information regarding the antiquity of the shrine, its ancestry, or identity, although the local people hold it in great veneration.

Disturbing shrines is normally a sensitive and delicate issue and should be tackled in a careful and cautious manner. The Political Agent of the Mohmand Agency can probably be asked to settle the issue. Once the issue is settled, work on the proposed Munda Dam site can commence.

The Reservoir Area

No archeological sites or remains of cultural heritage were found in the reservoir area during the survey.

The Command Area

There are 14 archeological sites in and around the command areas of the proposed right and left bank canals (Sections 4.1.1, 4.1.2 and 4.1.3). Of these, 12 sites are new discoveries.

Left Bank Command Area

Ten archeological sites of great cultural importance are located to the east of the dam site. Of these, 4 are located within the left bank command area, although only 1 (Sulai Khat) is expected to be affected by the project. As mentioned in Section 4 of this report, it was discovered during the survey that all 10

archeological sites have been illegally excavated and some have been vandalized. The sites are also threatened by the local people who use their stones for construction purposes.

Right Bank Canal

Four archeological sites are located to the west of the dam site. Two of these sites were already known to exist (Shin Ghundai and Zarif Koruna) and 2 are new discoveries (Khazana Ghund and Kanro Qala). All four sites are located outside the right bank command area and are not expected to be affected by the project. However, illegal diggings have damaged all four sites.

Once the final alignment of the proposed canals and their command areas is determined, salvage or rescue excavations of endangered sites must be undertaken before they disappear completely.

5.2 Recommendations

5.2.1 Rescue and Retrieval of Archeological Sites and Artifacts

Appropriate arrangements should be made for the protection of the archeological sites identified in Section 4 of this report. These could comprise *in situ* protection or the salvage of artifacts for display in museums. Construction work for the proposed dam must be according to the requirements of the following:

1. The Antiquity Act, 1975 and Archeological Excavation And Exploration Rules, 1978; and
2. UNESCO Legal Instrument, 1968.

5.2.2 Establishment of Dam Site Museum

The antiquities and the cultural material recovered from the rescue excavations of the endangered sites will provide a strong basis for establishing a museum near the dam site. Therefore, it is recommended that a site museum be established as a part of the Munda Dam Multipurpose Project. The land and the building for this museum should be provided by the project proponents. All antiquities retrieved during salvage or rescue operations should be placed in this museum.

Since these artifacts will be the property of the Department of Archeology and Museums, Government of Pakistan, formal permission will have to be obtained for salvage work, and for setting up the museum. In case permission is not granted by the Department, a good photographic exhibition of the ancient sites and antiquities can be arranged. The site museum may also include flora and fauna samples to depict the area's natural history and make the museum more attractive.

5.2.3 Promotion of Tourism

In order to promote tourism in the area, three archeological sites in the command area of the proposed right bank canal—Khazana Ghund, Kanro Qala and Zarif Koruna—can be developed as tourist attractions. The three sites are easily accessible and safe enough to visit without escort. In addition to providing recreation in the area, this will help instill in the local people a desire to protect the archeological sites.

Exhibit 4.1: Zarif Koruna 1



Exhibit 4.2: Zarif Koruna 2

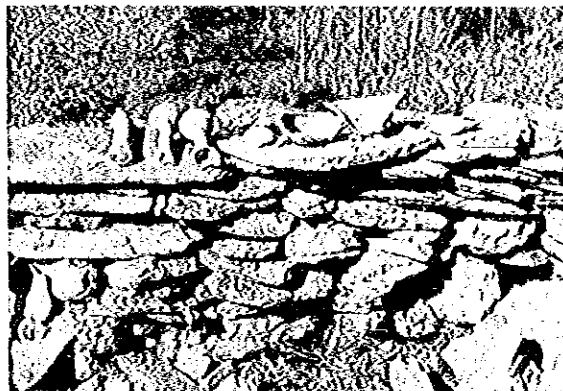


Exhibit 4.3: Kanro Qala 1



Exhibit 4.4: Kanro Qala 2



Exhibit 4.5: Maizero Dand

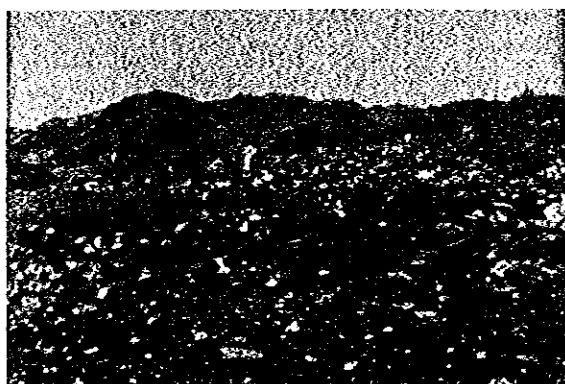


Exhibit 4.6: Ghatta Bakkara



Exhibit 4.7: Kotagai

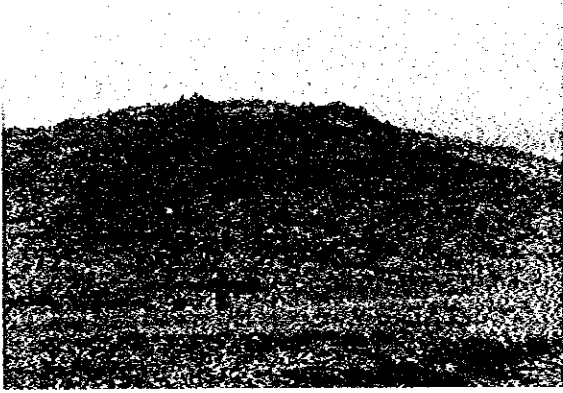


Exhibit 4.8: Artifacts Found at Kotagai

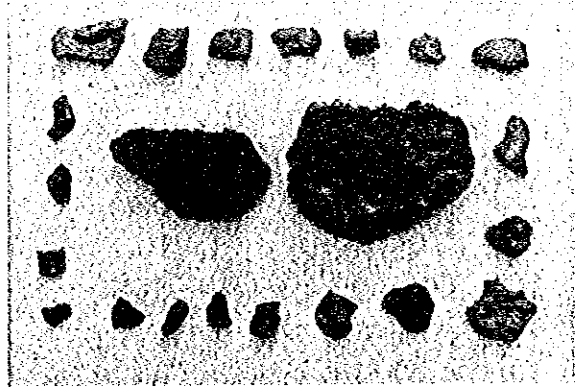


Exhibit 4.9: Potsherds found at Sulai Khat

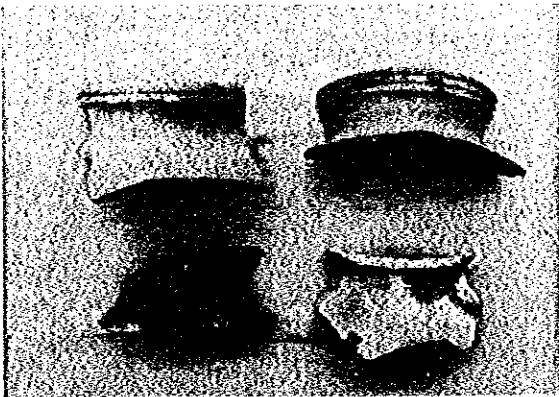


Exhibit 4.10: Excavation at Sulai Khat



Exhibit 4.11: Selay

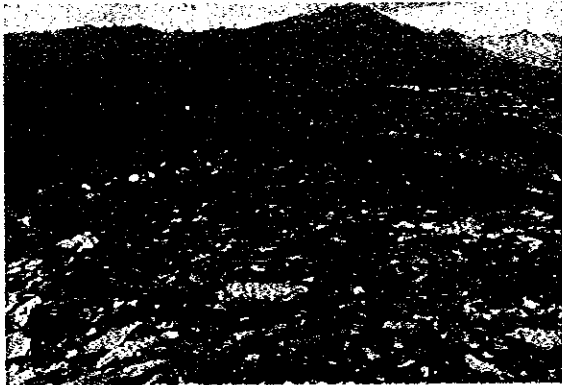


Exhibit 4.12: Kajigal



Exhibit 4.13: Excavation at Kajigal 1



Exhibit 4.14: Excavation at Kajigal 2



Exhibit 4.15: Digir Raj 1

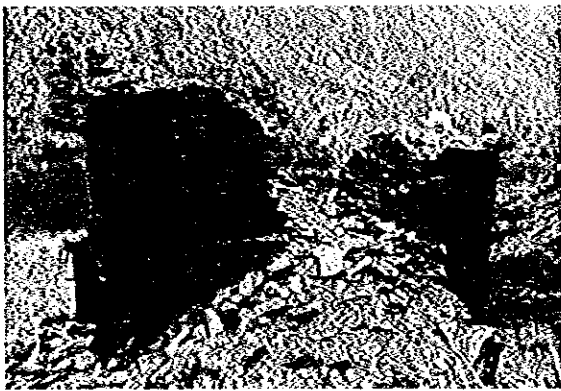


Exhibit 4.16: Digir Raj 2

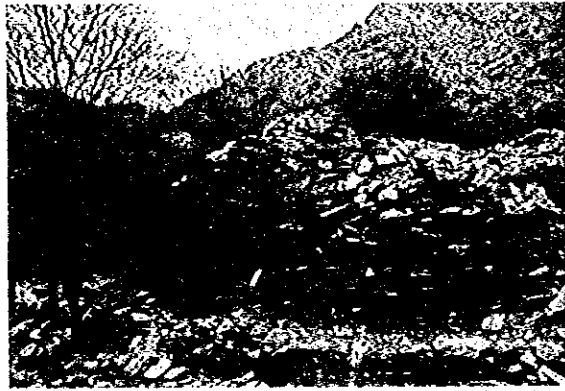


Exhibit 4.17: Salgaro 1



Exhibit 4.18: Salgaro 2

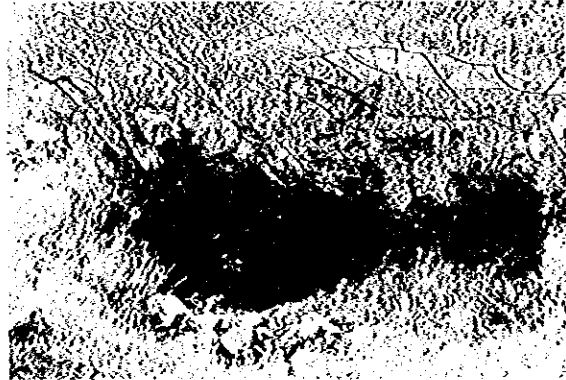


Exhibit 4.19: Dopai 1



Exhibit 4.20: Dopai 2



Exhibit 4.21: Khazana Ghund 1



Exhibit 4.22: Khazana Ghund 2

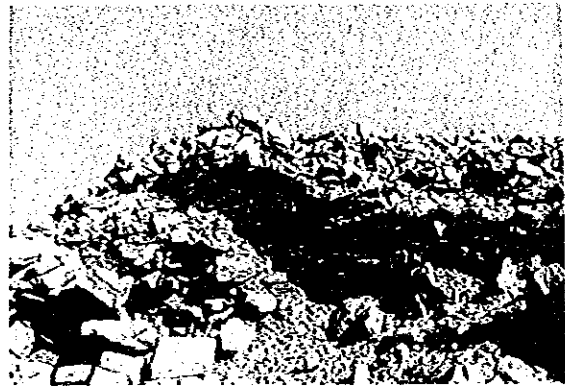
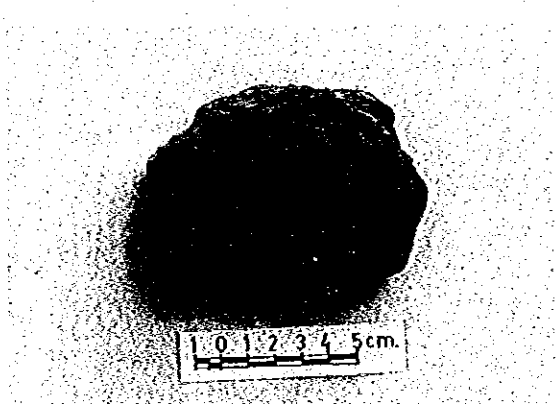
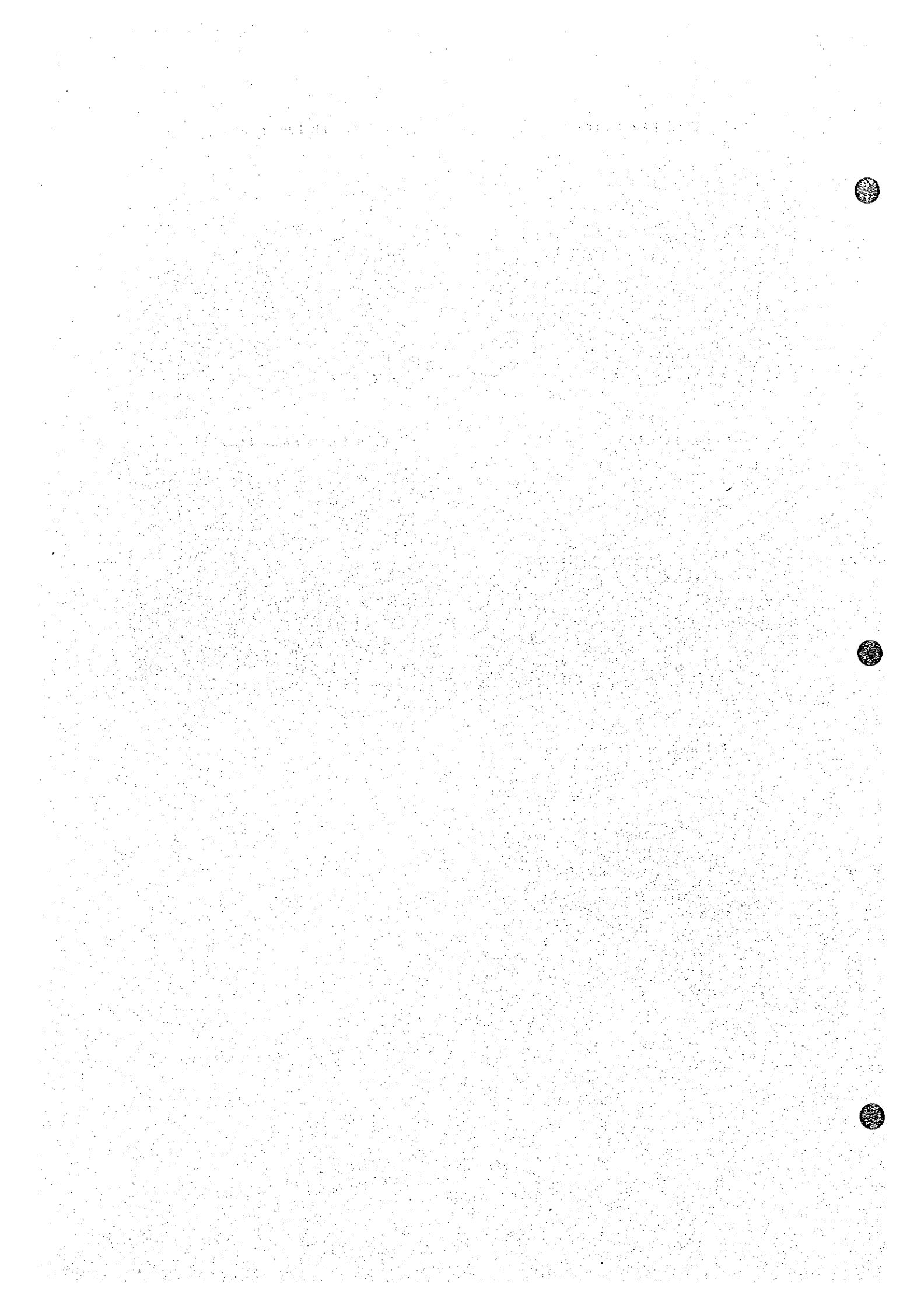


Exhibit 4.23: Shenai Ghundai





Appendix A: Persons Contacted

1. Dr. Muhammad Said (*Contacted for geo-strategic situation of the study area*)
Former Professor and Chairman, Department of Geography, University of Peshawar; former Dean faculty of Sciences, University of Peshawar; and Director, Geographical Information Center
2. Mr. Ziauddin (*Contacted for information on Mohmand Agency*)
Socioeconomic consultant for the Mohmand Agency
3. Mr. Abdul Gaffar Khan (*Contacted for logistic support*)
Director Investigation, WAPDA Center
4. Mr. Rashid Ali Khan (*Contacted for logistic support*)
Executive Engineer, WAPDA
5. Dr. Sayed Suhail Altaf (*Contacted for information on Mohmand Agency*)
Political Agent, Mohmand Agency
6. Dr. Jamal Nasir (*Contacted for information on the history of Mohmand Agency*)
Project Manager, Mohmand Agency project management unit
7. Mr. Zahir Ahmad (*Contacted to obtain information on archeological sites on the left bank of the Swat River in the reservoir area*)
Supervisor, WAPDA Computer Center
8. Mr. Zain ul Wahab (*Provided information on archeological sites in the Mohmand Agency*)
In-charge, Mardan Museum
9. Professor Karm Elahi (*Contacted for information on Mohmand Agency*)
Former Professor and Chairman, Department of Social Work, Sociology and Anthropology, University of Peshawar
10. Dr. Sarah Safdar (*Contacted regarding her work in the Mohmand Agency*)
Chairperson, Department of Social Work, University of Peshawar
11. Dr. Muhammad Anwar Khan (*Contacted to obtain information about Mohmand Agency*)
Advantage Former Director, Area Study Center, University of Peshawar and Vice Chancellor, University of Peshawar
12. Dr. Fazul-ur- Rehman Marwat (*Contacted regarding the literature on Mohmand Agency*)
Associate Professor, Pakistan Study Center, University of Peshawar
13. Mr. Muhammad Akram (*Contacted for the proposed left bank canal alignment and command area*)
Surveyor, WAPDA
14. Mr. Muhammad Azam (*Contacted for information on the proposed right bank canal alignment and its command area*)
Surveyor, WAPDA
15. Mr. Abdul Ghaffar (*Contacted for procuring relevant maps of the study area*)
In-charge, Drawing and Map Section, WAPDA
16. Mr. Afzal Khan of Pattai Banda (*Contacted for information about the reservoir area*)
A professional fisherman
17. Mr. Bakht Jamir Mian of Spin Khut (*Contacted to obtain information about Jud Baba Shrine*)
Local elder.

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