

Appendix 5

Archaeological, Historical and
Ethnographical Survey Results

Archaeological Impact Assessment, Chirundu Bridge, Zimbabwe

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The aim of the study is to identify any archaeological sites which may be affected by the development of extended border post facilities and a new bridge at Chirundu, and to make recommendations concerning the archaeological heritage of the area.

1. The archaeological potential of the project area

Stone Age research along the Zambezi River has identified numerous sites of the Early, Middle and Late Stone Age (Clark 1950, 1957; Summers 1960). These sites lie between the Victoria Falls and Kariba, and the majority have been found to the north of the river. Prior to the flooding of the Gwembe Valley by the Kariba Dam, evidence for sparse human occupation from fairly early Acheulian times through to the Later Stone Age was identified (Bond and Clark 1954). Between the Kariba Dam and the Kafue River substantial Stone Age assemblages at Bagasa, Siakapu, Kasoko and Mandenga have been identified and described (Phillipson 1976, 1977). Mandenga is 1 to 2 km downstream from the Otto Beit Bridge at Chirundu, on the western bank of the Zambezi River, on the top of a small bluff. The fact that some of the lithics may have been contemporary with Iron Age material (discussed below) in the same deposits is relevant for current studies of the nature of the relationship between hunter/gatherer communities and the earliest farming communities in southern Africa.

The paucity of recorded Stone Age sites from Chirundu to Kanyemba probably reflects the lack of archaeological survey work rather than a lack of human activity along that stretch of the Zambezi River during the Pleistocene and Holocene.

It has been suggested that the Zambezi Valley would have been unattractive to habitation by settled farming communities because of the hot, dry climate and the presence of tsetse fly which poses the threat of tripanosomiasis to domestic stock (Robinson 1965; Summers 1967). Archaeological sites at the foot of the Zambezi escarpment were thought to have been occupied only seasonally, with close connections to settlements above the escarpment. However, recent archaeological research has demonstrated a high density (68 sites within 22 square kilometres) of prehistoric farming community settlements from the fifth century AD onward, below the Zambezi escarpment between the Kadzi and Musengezi Rivers (Pwiti 1996). Settlement locations took advantage of water sources and soils suitable for agriculture. The predominance of wild species over domestic stock in the faunal assemblages shows that hunting was more important than animal husbandry.

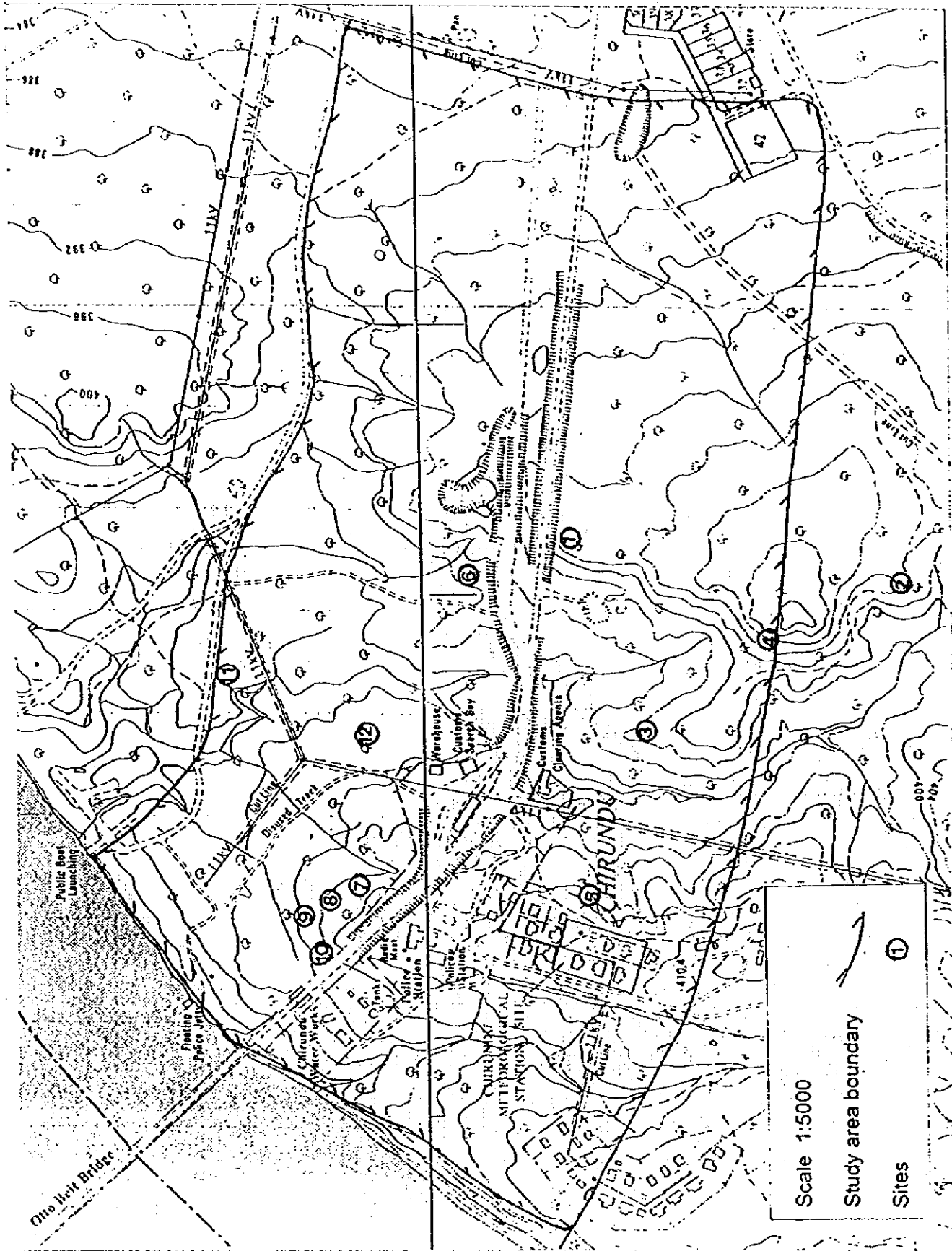
Archaeological settlements of farming communities which have so far been identified in north western Zimbabwe are more closely related to archaeological traditions in southern Zambia than to those on the Zimbabwean plateau. During the later first millennium AD, for example, Sinoia pottery from north western Zimbabwe is more closely related to Kapwirimbwe and Kalundu assemblages from Zambia than to the Gokomere and Ziwa assemblages from southern and north eastern Zimbabwe (Robinson 1966; Huffman 1972). In the fourteenth and fifteenth centuries AD, a community living at Ingombe Ilede, next to the Lusitu River approximately 20 km upstream from Chirundu, became wealthy through trade between the Zimbabwean plateau and the Zambezi River route to the east coast (Fagan et al 1969). Related sites are found throughout north-western Zimbabwe (for example Garlake 1970). In the past, the Zambezi River served as a focal point for human activity rather than as a boundary as it does today.

Iron Age material from Mandenga included a first millennium AD component, an Ingombe Ilede component, and recent or 19th century potsherds. Spindle whorl sherds were also found. Spinning was practised in the area from about 1400 AD onward. Cattle as well as wild species were represented in the faunal assemblage (Phillipson 1977). The first millennium sherds were compared with material of the Shongwe tradition in the Victoria Falls area. Sherds from Kasoko and Selous Island, near Chirundu, were described as Dambwa type (Phillipson 1968). Dambwa is the second phase of the Shongwe tradition and has been dated between the early seventh and mid ninth centuries AD. More

Figure 1. Places mentioned in the text.



Figure 2. The study area, showing locations of sites found.



recent work on the early Iron Age in southern Zambia focussed on the Batoka plateau, with a view to provide evidence in support of a migration hypothesis (Huffman 1989).

Although the east bank of the Zambezi River at Chirundu has not previously been subject to systematic archaeological survey, sites have been reported by members of the public. Those within a 10 km radius of Chirundu indicate signs of human activity near to springs and streams during the Middle and Later Stone Age. Some pottery scatters indicate the presence of settled farmers during the first millennium AD, although these can probably only be found along the edge of old river terraces and along roadsides where buried deposits are becoming exposed by erosion. There was a Portuguese trading station at Kasoko, approximately 3 km upstream from Chirundu on the western bank, and imported ceramics found on the Zimbabwean banks of the river further south may be associated with this site (Phillipson 1977). Potsherds suggesting Tonga settlements, dating from within the last few centuries, have also been found on the ground surface.

2. Survey methodology and results

The area covered by the survey extended 200 to 300 m to the north and south of the main Harare-Chirundu road, and from the river it extended eastward along the main road for approximately 1.1 km (Figure 2). The entire area, except for areas of modern infrastructure, was walked. Ground vegetation was minimal and visibility on the ground surface was good. Modern human debris was found strewn over a large portion of the area, and much of the ground had been disturbed by modern building activities, particularly the construction of the main road. Nonetheless, several scatters of potsherds were seen, enabling an identification of previous areas of human activity.

- Site 1. A few undiagnostic sherds and possible grinding stone were seen on elevated ground overlooking the road cutting. Much of the site was probably cut away when the road was built.
- Site 2. Potsherds were seen on the sides of a low knoll in a sheltered position next to a stream. One sherd with fine comb stamping indicated an association with Ingombe Ilede. This site was outside the study area.
- Site 3. Several more undiagnostic sherds on the north facing slope of a knoll, possibly related to site 2 because the ceramics are very thin-walled and well fired.
- Site 4. More undiagnostic sherds were seen in a water course.
- Site 5. Close to a fence around a housing complex, numerous undiagnostic sherds were seen among much modern household and building debris. One decorated sherd is probably of Tonga origin.
- Site 6. Potsherds were seen on elevated ground and the adjacent slope on the opposite side of the road from site 1.
- Site 7. A single potsherd was seen.
- Site 8. Potsherds were seen on the north west facing slope of a small hill.
- Site 9. The base of a hut was surrounded by pieces of pole-impressed daga, remnants of a fairly recent hut structure. A few potsherds were seen to the south of the hut base.
- Site 10. Potsherds and spindle whorl fragments were seen on a north west facing slope.
- Site 11. Several small scatters of potsherds and pieces of tin were seen next to the dust road. Fragments of tin and iron, and diagnostic potsherds indicate that this was possibly a fairly recent Tonga settlement.
- Site 12. A few potsherds were seen.

Signs of Stone Age activity were not seen in the study area. This is probably due to a lack of suitable material for stone tool manufacture, even along the river banks, which are formed by deep sand dunes downstream from the bridge and steep, rocky slopes upstream.

3. Recommendations

None of the pottery scatters seen in the study area are of sufficient significance to warrant further investigation. This report will be lodged with the Zimbabwean Archaeological Survey so that a record of the sites found will be kept

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**ARCHAEOLOGICAL, HISTORICAL, AND
ETHNOGRAPHICAL SURVEY OF THE SITES
PROPOSED FOR THE NEW BRIDGE AT CHIRUNDU
BORDER POST, ZAMBIA**

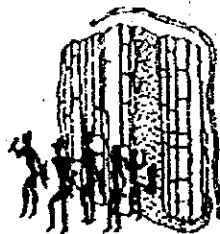
**A REPORT SUBMITTED TO THE
JAPAN INTERNATIONAL COOPERATION AGENCY STUDY TEAM**

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OCTOBER 1997

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This report is a product of a collective effort of the three officers at the Livingstone Museum who undertook the project on behalf of Japan International Cooperation Agency (JICA). The Director, Livingstone Museum and the survey team would like to thank JICA for sponsoring this project which culminated into the production of this report. It is our sincere hope that the report will not only be useful to JICA but to Zambian organisations and Government as well.

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Mr. M. K. Chansa, Senior Immigration Officer In Charge, Chirundu.

Mr. L. Chanda, Assistant Commissioner, Zambia Revenue Authority, Chirundu.

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Mr. S. G. Michelo, Headmaster, and staff of Mandenga Basic School.

Mr. Tom N'gambi, Siavonga Council Chairman, and staff.

October, 1997.

SUMMARY

Anticipating the construction of a new bridge and border facility at Chirundu Border Post, the Livingstone Museum did a historical, archaeological and ethnographical survey on the proposed sites on behalf of Japan International Cooperation Agency (JICA) from 22nd September to 2nd October, 1997.

The study sought to

- (i) establish the cultural resource potential of the land within 100 metres both upstream and downstream of the existing bridge.
- (ii) identify the socio-economic implications of improved border facilities at Chirundu.
- (iii) make recommendations and submit a report on the impact on cultural resources that may result from the proposed development.

Data arising from the survey indicated that archaeological remains within the township and the area under study had been greatly disturbed by previous construction of the present buildings and the military structures. Evidence to establish actual sites of settlements, manufacturing and camping could have been destroyed or scattered. Hence the archaeological remains in the area of study have very minimal local and national significance. On both sides of the existing bridge is evidence of Zambia's defence of the country and the bridge in particular during the Zimbabwean liberation struggle. Since there are more of these defence structures on the downstream of the bridge, these may be declared protected sites for historic and economic purpose. The survey further established that if the proposed development goes ahead residential housing and business installations on either side will be destroyed. It also came out clearly during the survey that improved border facilities may require corresponding improvement of commercial buildings, security service and social amenities.

Based on the survey findings the Study Team recommends the following:-

- (i) The proposed new bridge and border facility be constructed on the upstream of the existing bridge.
- (ii) The land within 100 metres of the existing bridge must be searched for land mines before the proposed development.
- (iii) Permission be sought from Zambia Army Authorities before any of the

bunkers and trenches are destroyed.

- (iv) Displaced families and property be compensated and found decent alternative quarters and structures.
- (v) The proposed new bridge and border facility should be accompanied by improvements and upgrading of the Chirundu township to accommodate fire fighting facility, post office, banks, markets, shopping centre, a dry port, a weigh bridge and a warehouse.

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ARCHAEOLOGICAL, HISTORICAL AND ETHNOGRAPHICAL SURVEY OF THE SITES PROPOSED FOR THE NEW BRIDGE AT CHIRUNDU BORDER POST, ZAMBIA

1.0 INTRODUCTION

1.1 Need for Survey

Cultural heritage unlike natural heritage once destroyed is irreplaceable and non-renewable. The protection of heritage has in recent years become an important factor in environmental and cultural regulatory process of many countries in the world. In common with the majority of countries, Zambia has legislation to protect her heritage in and ex-situ. According to chapter 23 of the Laws of Zambia, the National Heritage Act of 1989, any objects or traces of historical, scientific, anthropological, archaeological, aesthetic or cultural value made or used in Zambia before 1st January, 1924 constitute Zambia's protected heritage. As it is deemed that heritage can be found anywhere it is a requirement that survey for heritage is incorporated into planning and development programmes at the earliest possible stage to identify and salvage any heritage well in advance of development. However, not all heritage will have the same influence on development. Given the various limitations of both fiscal and otherwise, it is not always feasible to save all cultural resources in situ hence the need to rescue and keep as representative collection a record of those affected by development for future reference.

1.1.1 Criteria for Determination of Significance

According to the National Heritage Management Policies of 1996 significance of any site will be dependent on the following.

- (i) Archaeological sites that have produced information of major scientific importance by revealing new cultures, or shedding light upon periods of occupation over large areas of Zambia. Such sites are those which have produced, or which may reasonably be expected to produce, data affecting theories, concepts and ideas to a major degree.
- (ii) To possess national significance, a historic or prehistoric structure, site, or object must possess integrity. Integrity requires original location, and elements of

feeling and association.

- (iii) Heritage to which events have significantly contributed to, are identified prominently with, or outstandingly represent, the broad cultural, political, economic, military, or social history of the nation, and from which an understanding and appreciation of the large patterns of our Zambian heritage may be gained.
- (iv) Birth places, graves, burials, and cemeteries as a general rule, are not eligible for consideration except in cases of historical figures of transcendent importance. Properties associated with actual careers and contributions of outstanding historical personages usually are more important than their birth places and burial places.
- (v) Heritage achieving historical importance within the past 50 years will not as a general rule be considered unless associated with persons or events of transcendent significance.

1.2 Terms of Reference

Anticipating the construction of a new bridge at Chirundu Border Post, the Study team of Japan International Cooperation Agency (JICA) contracted the Livingstone Museum in September, 1997 to carry out environmental impact assessment on the sites for the proposed new bridge over the Zambezi River. The terms of reference were:-

- (i) to do an archaeological, historical and ethnographical survey of the land within 100 metres of the existing bridge.
- (ii) to establish the cultural resource potential of proposed sites.
- (iii) to identify the socio-economic implications of improved border facilities at Chirundu.
- (iv) to make recommendations and submit a report on the impact on cultural resources that may result from the proposed development.

1.3 Area of Study

1.3.1 Location

Chirundu Border Post is located 16° 03'S and 28° 50'E at an altitude of 400m above sea level approximately 130 kilometres from Lusaka. The area is located in the Middle Zambezi Valley. The Post shares the border with Zimbabwe on the Lusaka-Harare route and links the two countries by the Otto Beit Bridge on the

Zambezi River.

1.3.2 Geomorphology/Geology

The area comprises dissected hilly land which is bordered to the north by the Zambezi escarpment. The geology comprises the Precambrian basement with the valley floor underlain with karroo sediments and undifferentiated rocks and rubble covered with thin layer of soils common on mounds and hills. The land form generally is undulating hills deeply dissected by ephemeral rivers flowing only in the rainy season.

1.3.3 Ground Water

The area and its surrounding comprises two aquifer types. In the immediate vicinity are aquifers where intergranular ground water flow is dominant. To the north of these are low yielding aquifers with limited potential.

1.3.4 Rainfall/Temperature

According to the Isohyetal Map of Zambia 1964-1993 Chirundu area has annual average rainfall of just under 800mm. Pan evaporation on the other hand ranges between 2200mm and 2300mm. The temperature range from a mean lowest of 6^oC in the coldest month and mean maximum temperature of 39^oC in the hottest month giving a mean range of 22-32^oC .

1.3.5 Land Use

The vegetation of the area is predominantly mopane woodland characterised by Colophospermum mopane graduating into mixed woodland and grasslands towards the river. According to satellite imagery interpretation the area comprises mainly small intrusions of agriculture and forests. Other uses include tourism and peri-urban settlement.

1.3.6 Population

The township as at 1994 had a population of 5,110. This figure has increased in the last three years and is projected to be at 6,600 assuming the growth rate is at 5.4% per annum.

1.4 Composition of the Survey Team

Having accepted the contract the Livingstone Museum did the proposed study in the field of archaeology, history, and ethnography and submitted the report on 15th October, 1997. The team comprised:-

Mr Liywalii Mushokabanji (B.A. ED, M.Phil.)- Survey Co-ordinator/Keeper
of Archaeology.

Mr Flexon Mizinga (B.A. ED, M.A.) - Keeper of History/Head,
Humanities and Social Sciences
Department.

Mr Mungoni Sitali (B.A., M.A.) - Keeper of Ethnography and Art.

Mr Kenneth Kambimbi - Driver/Mechanic.

The three professional officers carried out the survey in line with their field of specialization. Mr Mushokabanji carried out an archaeological survey to establish whether or not there are any sites worth preserving on the proposed sites for bridge construction. Mr Mizinga carried out a historical investigation to identify the changes that might have taken place since the establishment of the urban settlement and to forecast the implications of those changes in the future development of Chirundu in the light of the expected improved border facilities. Mr Sitali carried out a sociological enquiry to establish the impact the project is likely to have on the area during and after the bridge construction.

1.5 General Methodology

(i) Literature Review : The study team began work by searching for background information from the National Archives in Lusaka, Zambia Information Services and the Livingstone Museum Library. Other sources of information was obtained from the National Heritage Map of 1992, the 1979 National Register Index, the Livingstone Museum Accession Register for Archaeological Remains and Sites, and the Site Index Cards.

(ii) Field Survey : This was done in two stages.

(a) Reconnaissance Survey -

- i) Walking around to establish landscape types/elements.
- ii) Establishing range and diversity of sites.
- iii) Carrying out preliminary interviews.

(b) Detailed Survey -

- i) Surface analysis of archaeological/historical features.
- ii) Test-pit excavations. Three test-excavation pits of 1 metre wide x 1 metre long x 1 metre deep were put on each side of the bridge.
- iii) Structured interviews.
- iv) Photography.

(iii) **Compilation of Sub-Reports** : Each officer was required to submit reports for each day's work. These were finally integrated to produce a final survey report.

2.0 ARCHAEOLOGICAL SURVEY

2.1 Literature Review

Systematic investigations for archaeological information in Chirundu began in the early 1960's and three sites were established and recorded. These were:-

- (i) Chirundu A - This site was investigated by John Hodges. He established a Middle Stone Age Settlement.
- (ii) Chirundu B - This was discovered by David Phillipson. The site was confirmed a Late Stone Age Settlement.
- (iii) Chirundu C - This was discovered by Mrs Anderson during an archaeological reconnaissance. The Site was associated with the Sangoan period.

All the above mentioned sites are found over ten kilometres away from the proposed area for development.

The objects recovered from these sites were preserved and are stored in the Livingstone Museum for study and exhibitions.

Evidence of these excavations revealed that the earliest known inhabitants of Chirundu were nomadic Stone Age hunter-gatherers whose subsistence economy depended on hunting and gathering of a wide variety of animal, plant and fresh water resources. The most common form of tools used by these early humans were made from stone, bone and wood. The raw materials were fashioned in simple but effective tools. The majority of stone tools used were made

on quartz, quartzite, sandstone, silicates and chert. The period of occupation of this kind of technology in Zambia has not yet been precisely determined due to lack of intensive archaeological research and suitable dating materials. However, on the basis of materials recovered from a few known and investigated sites, we may put the period of occupation well beyond 10,000 b.p. (Clark, 1970).

Also studies in Chirundu and else where in Zambia show that the hunter-gatherers continued to live in the area until about 2,000 b.p. when an Iron Age population with some knowledge of farming and animal husbandry evolved and colonized the territory (Phillipson, 1975; Katankwa, 1995). Since the last 2,000 years, the economy of the area changed from one which was wholly depended on hunting and gathering of food resources to that which emphasized farming, animal rearing, trading and seasonal procurement of plant and animal resources. Transformation in economy took place along side changes in technology, settlement patterns, and commodity exchange relations. While the Stone Age peoples depended largely on stone, wood and bone for their regular tool-kit, the later Iron Age peoples incorporated ceramic and metal objects in their tool kit, domestic and production activities, and in trade relations.

By 1000 b.p. a variety of wares of iron, copper, ivory, salt and animal skins had become common items of local and external trade, and for augmenting socio-political relations (Fagan, Phillipson, and Daniels, 1979). Throughout this era, the Gwembe Valley played a central role in long-distance trade involving exchange of copper, ivory, skins, salt, and later, slaves for Arab and European trade goods from the east and west coasts respectively (Fagan, 1960). Chirundu, situated about 40km from Ingombe Ilede a 15th Century trading settlement, was a crossing point for the traders, especially the Portuguese in the 17th Century (see National Heritage Map of 1992). Guns, beads, cloth, sea-shells and glass assumed prominence in the African interior, especially when slave trade reached its peak in the 17th through the 19th Centuries. Several copper ingots, bars and bangles, beads and shells recovered at most Iron Age and historic sites at Ingombe

Itede attest to the widespread commodity exchange networks obtaining in the prehistoric past.

Paleontological studies in Chirundu established the Chirundu Fossil Forest whose fossils have been dated to about 150 million years ago during the Jurassic period. The site has been declared a National Monument.

2.2 Present Archaeological Survey Findings

The study proceeded on a systematic and problem-oriented research for relic features of previous occupations and activities. Surface finds were collected and features of previous occupations were also marked for detailed examination.

Many of the surface finds consisted of pieces of broken spoons, knives, pieces of wire, modern ceramic plates, potsherds, ash, charcoal, pieces of glass and other rubbish items of modern debris. Field surveys also established bunkers and a tunnel which are visible on the ground. From the bridge up to 500 metres Upstream only one bunker was found during the survey. It is located about 4 metres from the bridge. From the bridge downstream at:-

7 metres is a bunker

18 metres is a bunker

20 metres is a tunnel

For positions of the test-pits, bunkers and tunnels in the proposed area for development see the Chirundu Township Plan below where they are marked. One bunker about 11 metres downstream from the bridge was destroyed by Nemerit, a company currently doing sewerage construction work in the area.

Three test-excavation pits of 1 metre wide x 1 metre long x 1 metre deep were put up on each side of the bridge and one on each side parallel to the road. Only one pit on each side of the road near the bridge could be put up due to heavy housing and business buildings existing in the area. Test excavations were carried out to acquire the following information.

- (i) artefacts and eco-facts that provided clues to the nature of the area.
- (ii) to reveal the three dimensional patterning of artefacts, eco-facts and features.
- (iii) to assess the functional and temporal significance of the patterning.

The test-pits yielded very useful archaeological remains as shown below.

| TEST-PIT FINDINGS - UPSTREAM | | | |
|--------------------------------|-------------|---|--------------------|
| Test-Pit No. | Depth | Description of Item | Probable Site Type |
| 1 | 20cm - 35cm | Charcoal, 1 piece of glass | ? |
| 2 | 10cm - 55cm | 2 flakes, 1 core | Stone age |
| | 55cm - 1 m | 2 cores, 1 handaxe, 3 pieces of bone, 2 pieces of iron, 1 shell piece | Stone age/Iron age |
| 3 | 40cm - 65cm | 3 potsherds | Iron age |
| TEST-PIT FINDINGS - DOWNSTREAM | | | |
| 1 | 75cm - 1m | 5 cores | Stone age |
| 2 | 31cm - 70cm | 2 pieces of iron, 1 fish hook, 1 piece of shell | Iron age |
| 3 | 62cm - 1m | 2 flakes | Stone age |

Seven sites were assessed in probable locations.

Percentage of sites on stone age: $4/7 \times 100 = 58\%$.

Percentage of sites of iron age: $3/7 \times 100 = 23\%$.

Percentage of sites unknown: $1/7 \times 100 = 14\%$.

A normal sample needs more than 30 samples for statistical analysis. However, since the population of sites is seen to be small (from reconnaissance) a sample of seven sites was assessed to be able to yield reasonably good results. From the percentages it is clear that there is a likelihood of more stone age sites than iron age sites. The profile of the soil did not come up in clear layers and as such the stratigraphy was mixed-up. This was evident in the mix-up of soil colours and also in the objects discovered during the "dig". Some flakes and cores

were found well above latest Iron Age objects wrongly giving an impression that the latest Iron Age preceded the use of stone technology.

2.3 Significance of the Findings

A UPSTREAM

(i) Test-Pit 1

The pit yielded charcoal and a piece of glass. Charcoal is indicative of the presence of fire that is believed to have been made and used towards the end of the earlier Stone Age. The charcoal specimen is also very essential for dating purpose using C14 to establish the date of associated materials. On the other hand the piece of glass gives very little information. It is clear that this site is of little national significance.

(ii) Test-Pit 2

The pit contained substantial archaeological remains that reveals the presence of some civilization in the area. However, the remains do not signify a comprehensive site settlement hence it is of little national significance.

(iii) Test-Pit 3

The result of this pit were 3 potsherds uncovered at the depth of 40cm-65cm. The pit reveals little information that affects concepts and ideas of a major degree in Zambian archaeology and as such it is of little historical importance.

B DOWNSTREAM

(i) Test-Pit 1

The pit has not produced any major scientific information that may be deemed to affect data theories, concepts and ideas to a major degree.

(ii) Test-Pit 2

Two pieces of iron, 1 fish hook and a piece of shell. Iron remains show use of iron tools while fish hook may particularly indicate that the people of the area fished in

the river while shells means they also collected shells for domestic use and shell beads though there was no evidence of beads in the survey findings. This data does not contradict earlier findings in the area hence its significance may not be recognized.

(iii) Test-Pit 3

Two flakes were discovered at a depth of 62cm-1m. Flakes indicate manufacture and use of stone tools. The information from this also confirms earlier findings in the area and therefore it can not be put in the category of significant type.

C MILITARY STRUCTURES

One military bunker was found upstream about 4m from the bridge. Two bunkers and a tunnel were discovered about 7m, 18m and 20m away from the established bridge Downstream, respectively.

The military structures were erected between 1965 and 1980 for the purpose of defending the bridge and the country in general by the Zambian Army. Currently there is evidence of the military struggle Zambia endured at Chirundu Border Post. The structures illustrate the military history of Zambia and therefore are deemed to possess local and national significance. Interviews with council personnel in charge of land planning in Chirundu indicate the likelihood of the presence of land mines in the area. They had come across one in the area previously.

3.0 HISTORICAL SURVEY

3.1 Literature Review

Although a number of scholars have published works about the Gwembe Valley Tonga, none of them has written extensively about Chirundu area. Very little is written about the people who live there. Furthermore, we are not aware of any work on the development of Chirundu area. However, if an intensive research project is undertaken a more comprehensive publication can be produced.

3.2 Discussion

(i) Name

The name Chirundu is derived from a Tonga word "Chilundu" or "Cilundu" which means hill. The local people said this place was given that name because it is overlooking a hill on the Zimbabwean side of the Zambezi river.

(ii) People

Before the advent of the British Colonial rule at the end of the 19th century, the area was inhabited by the Tonga speaking people. Those people also speak a dialect known as Goba. Some of the people interviewed informed us that "Goba" was a Portuguese word which meant "lower valley". The Portuguese settlers and slave traders like Kanyemba who lived at what is today called Kanyemba Island before 1900 might have had influence on the local language. The Goba dialect also has heavily borrowed vocabulary from Shona probably because of the interaction with the Shona speaking people until the boundary between Northern Rhodesia (now Zambia) and Southern Rhodesia (now Zimbabwe) was shifted by the Federal Government in the 1950's. The local people said before the boundary was shifted it used to extend to Kaloi in present day Zimbabwe. Over the years these people around Chirundu Border Post have been shifted by authorities to give way to modern development.

(iii) Otto Beit Bridge

In pre-colonial Zambia the people who lived along the Zambezi River used to cross it in canoes at selected points where it was relatively calm. People had relatives (and they still do today) on either side of the river. At that time they did not require big tonnage water vessels to cross as their goods were limited to lighter personal chattels. This situation changed when colonial rule was introduced. The colonial government established boundaries and since then entry from one country to another required complying with border formalities. The introduction of commerce and motorised forms of transport increased the tonnage and frequency of goods to be ferried from one side of the river to the other. As commerce increased, it became necessary to replace human labour by motorised transport. A big number of African carriers hired to carry commercial merchandise was reduced to cut down costs as it became cheaper to carry huge baggage on vehicles.

Two brothers, Nicholas Vlahakis and Gregory Vlahakis (nicknamed Jimmy the Greek) who had come from Crete in Greece settled in the Gwembe Valley after their brief stay in Southern Rhodesia, and exploited the opportunities available. They moved from the Salvation Army post of Ibbwe Munyama to Chirundu where they obtained some tracts of land from Chief Sikoongo. Most of the Vlahakis family today still live on this land - Mwandani Farm and Demetraus Farm. In addition to their business in cattle, goats and sheep, Jimmy the Greek started operating a pontoon driven by an outboard 16 horse-power motor between 1929 and 1939. He also acted as an immigration officer. His pontoon operated behind the present site for the Catholic Parish Priest's house, about two kilometres downstream of where the Otto Beit Bridge stands today.

As the Lusaka-Salisbury route via Chirundu became more convenient, the one via Ibbwe Munyama was abandoned. Consequently, the traffic on this route increased. This necessitated a permanent bridge since Jimmy's pontoon only operated during the dry season and its load at a time did not exceed three tons. The Vlahakis brothers Gregory (Jimmy) and Nicholas advocated for the construction of a permanent bridge at Nankwilimba, a site believed to have been a shrine as legendary pigeons had lived there for many years prior to the construction of the bridge.

A suspension-type bridge was constructed and completed in 1939 by the Beit Railway Trustees out of the funds bequeathed by the Late Mr. Alfred Beit. It was named Otto Beit Bridge in recognition of the services to Rhodesia rendered by Sir Otto Beit, Bt, KCMG.

Once the bridge was operational the Kafue-Chirundu route was opened in 1939 and with the passage of time it became necessary to replace the road which was a type of twin footpaths. The increasing traffic required an expanded all-weather road that would stand up to heavier traffic and to build bridges on it that would bear the heaviest road engines. Furthermore, this route was a link to the railway traffic at Kafue. By 1951, the construction of the Kafue-Chirundu road was underway.

Another obstacle before the route could be feasible was the absence of a bridge on Kafue river. The bridge was completed in 1949 and was

replaced in July 1994.

(iv) Growth of the Township

Since the opening of the Lusaka-Salisbury route, Chirundu was considered a mere transit point. Therefore, the colonial government did not see it necessary to plan for its growth. The few white settlers pressed for township status which, according to our informants, was granted in 1936. This did not seem to make the government realise the need to plan the growth of the town.

The present police post was not built until the 1950's. This probably indicates that the crime rate was still low. The Catholic church only moved from Kariba on the Southern Rhodesian side in the 1950s. Our informants said the site where the Parish Priest's house stands today on the bank of the Zambezi river was a home for headman Mandenga.

The church convinced the people of Mandenga Village to move away so that the church could be established and in return render to the people religious, educational and health services and other amenities like water supply.

For the travellers who could not proceed to their destinations the same day could be accommodated in a hotel run by G. Patterson and Sons. The residents did their shopping at Northern-stores Ltd. These buildings were destroyed to give way to new buildings.

(v) Chirundu in the Post Independence Era

When Zambia attained her political independence from Britain in 1964, a number of countries in her neighbourhood had not yet attained theirs. Zambia took a stance that meaningful independence would only be achieved if all the other countries in the Southern and Central African region were free. Zambia therefore pledged to support African Liberation Movements in the region. Present day Zimbabwe was one of those countries that were still struggling for independence. Zimbabwe's struggle intensified when the white settler community led by Ian Douglas Smith rebelled against Britain by proclaiming Unilateral Declaration of Independence (U.D.I) in November 1965. Chirundu was one of the areas in Zambia that greatly suffered Smith's aggression as his forces pursued Zimbabwean nationalists who had established bases in

Zambia until they attained their independence on 18th April, 1980. Zambian troops established a base at the Otto Beit Bridge to defend the country in general and the bridge in particular. The bunkers and trenches found on either side of the bridge are a clear evidence of the protracted struggle experienced by the people of Chirundu. The route to Salisbury was closed as Zambia closed border with Zimbabwe between 1973 and 1975.

The situation began to change when Zimbabwe got her independence in 1980. The independence of Namibia; end of civil wars in Mozambique and Angola and the democratisation of South Africa in 1991 greatly enhanced trade in the region. The situation might further improve when civil wars end in the Great Lakes Region. The Lusaka-Harare route will be busier than at the moment when there is peace in Southern, Central and Eastern regions of Africa.

After Zimbabwe's independence in 1980, calm returned to Chirundu and traffic on the route began to increase. Transport and border related businesses also began to increase. Today one finds two BP filling stations, a number of clearing agents, Finance Bank, Nyambadwe Motel, Gwabi Lodge, several grocery shops, two markets, one next to the Police Station and another at the site and service plots. Street vending in groceries and currency are very common. Cross border trade is prevalent. After working hours some residents and those in transit find their way to drinking places such as Nyambadwe Motel, Mike's Car Wash, Chitibu Bar and Machebele. The catholic church built Mandenga school in 1962 which has since been upgraded into a basic school and a clinic which was later replaced with Mutendere Mission Hospital to cope with the growing population.

Chirundu, like most places in the Gwembe Valley was for a long time administered from Gwembe District until the 1990s when Siavonga was given a district status. The council has so far done very little to address the problems of Chirundu township. The township is still congested. The residential houses are very close to the commercial centre. A squatter compound popularly known to the local people as Gabon has grown rapidly in the last three years as people from other bigger towns have come to Chirundu in search of employment and business opportunities. The compound has temporal shelters mainly grass

thatched huts. It has no water supply and no access roads. The council has no plans to upgrade it because it regards it as an illegal residential area. The council has urged residents to obtain commercial and residential plots in areas designated for those purposes. To get the land the council needs, the people of Mandenga village will be further pushed away. The land tenure system is changing from customary system to a private system or to a state system. Chief Sikoongo in whose area Chirundu is, would like to see Chirundu develop into a well planned town provided his people are taken care of.

4.0 ETHNOGRAPHY SURVEY

4.1 Discussion

(i) The Local Community

The term local community refers to the residents of Chirundu who are settled there because Chirundu is their traditional land. From time immemorial the land has been handed down to them for generations. The people of Chirundu speak both Tonga and Goba. It is difficult to tell exactly where the Goba language originated from but judging from its vocabulary it is a dialect of Shona. Today the people of Chirundu are under Chief Sikoongo. The custodian of Chirundu area on behalf of Chief Sikoongo is Headman Mandenga of Mandenga village. The village has been moved several times to pave way for the development of the township and other social amenities. The original site of the village was given to the Catholic Church for the purposes of building a church, mission school and clinic. There are also the Vlahakis family who settled around here about 1895.

Like most rural communities the people of Chirundu are basically involved with subsistence agriculture. They grow maize but due to the regular droughts and crop failures efforts are being made to influence the adoption of drought resistant crops such as sorghum. Most of the people keep goats, these being the only domesticated livestock that could withstand the infestation of Trypanosomiasis due to the high incidence of tsetse flies.

The people of Chirundu share similar beliefs with their relatives. They believe in the existence of a Creator, ancestral spirits and the existence of spirits to influence either the pattern of rainfall, fortunes in harvesting and the like. In the area around Chirundu two

sites are revered as traditional sacred sites. The Katongo ka Mandenga Shrine, which is in a Mazunda Tree. This site is in the Site and Service Scheme area. The Council has tried to reserve an area of 800m² around the tree to preserve the Site. It is believed that a woman occasionally came out to do beadwork. The people use the Shrine to request for rains and destructions of pests such as caterpillars, rats and all creatures that damage crops.

The second Shrine is Nankwilimba Site. This is the area starting from the bridge going downstream. The name of the Site was derived from the presence of "pigeons" that sought refuge in the cliffs after their owners capsized. This Shrine, however, has been abandoned due to the hostile modern usage. The other site worth of mention is the Hotspring Site further Upstream on the river, locally known as "Ku menda a pya", literally translated as "at the hot water site". The area was least inhabited due to high flood levels of the river.

ii) **Land Tenure and Land Use Systems**

The Land Tenure System in Chirundu is in three categories:-

- (a) Government Land set aside for government development such as for the Township.
- (b) Private Land Holding where a piece of land is held under title by an individual. An example of this are the two Vlahakis farms.
- (c) Customary Land Holding in the case of the indigenous people they inherit land in perpetuity.

The land being held under the three different forms of land tenure system has created considerable problems for the people. The area having been designated as a priority Tourism development area a lot of developments are carried out without consultation with the local people and more often than not the later find themselves at a disadvantage.

As stated earlier the land use patterns area mainly subsistence agriculture, intermittent with commercial farming especially of bananas. The commercial farmers hold the rich alluvial areas while as the subsistence agriculture is marginalised into the rocky rubble areas. Currently the population levels show signs of reaching the carrying capacity of the land. Indications of deforestation, growing erosion and the lack of adequate social amenities attest to this.

The land around Chirundu falls under different ownerships. There is the traditional land tenure system under Chief Sikoongo, Government land under the control of the Siavonga district Council and that belonging to the business community (who come under settler community category).

Major subsistence activities of the local community include peasant farming of food crops and rearing animals. Most of the cattle, goats, etc were sold out due to lack of grazing space and water drinking sources. Trade in consumer commodities has become a major household sustenance activity. There is less direct economic benefit for local people. Land is grabbed to pave way for development.

The services coming alongside the bridge are a source of market for any produce and many local people will find employment in institutions supporting economic infrastructure.

A challenge faces the local community. The traditional systems of life are eroding away and the village unit is being displaced and disintegrated to accommodate the values of modern economic development.

(ii) The Settler Community

The term Settler Community shall refer to the residents whose home areas are outside Chirundu and have come for employment or are traders following up business gains.

Chirundu is a growing peri-urban centre. Being a port of entry and exit a small town community of workers had developed. The Chirundu border Post is one of the busiest in the country. This has attracted the development of a lot of auxiliary support services in the provision of social amenities. The major occupation of the town people is in white collar jobs, mainly Police, Customs, Immigration, Health and a few construction works. A good percentage of the population especially the youths between ages of 18 and 35 are engaged in activities such as street vending, illegal currency vending, brewing of illicit beers and the like. This reserve of able bodied young men and women constitute a reservoir of labourers who could be utilized as unskilled labour in the bridge construction.

Only the hospital and the school expressed worries over the growing population of Chirundu. The hospital with 110 beds has 21 medical personnel far below their staffing. A high population demands increase in educational and health services. The school if expansion is made the few classrooms have to cater for the increasing demand. More settlers will take their children to the only school and hospital. The church is more sympathetic with the increasing number of orphans most of whom are due to HIV/AIDS.

(iii) Township

The township is badly planned and congested. The caravans housing the clearing and forwarding agents are a sad sight. In addition to being too close to each other the set up is haphazard. This busiest port in Zambia has only one bank but has no post office, no shops, telecommunication office, etc. There is an urgent need to introduce modern services in the township.

(iv) Fuel Filling station

The two fuel filling stations are a threat to human life and property if they catch fire. The stations are less than 5 metres from the Customs and Immigration buildings. Behind the filling station on the downstream side of the bridge is a highly patronized beer drinking place. Nearby are residential houses and a motel which in many cases is fully booked. Another filling station on the western side threatens the police offices, police compound and trading shops.

(v) Customs and Immigration

The two government sections are understaffed and ill-equipped. Trucker queue for long hours in order to go through the customs and immigration formalities. The creation of a dry port and warehouses can ease congestion of traffic and travellers. These modern facilities improve efficiency of the departments and facelift the township. The light trucks, passenger and pedestrians if cleared separately from heavy trucks will reduce the congestion at the barriers. The barriers should be well clear of residential and business structures so that illegal immigrants and goods will not find their way into residential quarters without fulfilling customs and immigration requirements.

(vi) Gabon Compound

Most of the residents in the compound arrived from the line of rail and outline districts in search of business opportunities. They are engaged in brewing illicit beer locally called *kachasu*, *sikokiyana* and "wine". In the evenings the residents patronize beer drinking places. With a birth rate of 5.4% per annum, Gabon compound poses a threat on the provision of health facilities and other services. The HIV/AIDS scourge is not ruled out.

As the compound grows bigger it is becoming imperative to allow residents and their dependants to be contended with the services. Though as squatters they too deserve good and accessible water sources. The compound needs access streets and plots demarcated to encourage owners to erect better habitable structures. If allowed to develop without guidance it is likely to be a source of trouble for the township in future.

(vii) Provision of Social Amenities

By the end of the construction of the proposed bridge the population of Chirundu is likely to grow to unprecedented proportions. The inadequate resources will even stretch to the limits. The demand for health services from one understaffed hospital will grow. With the anticipated increase in HIV/AIDS cases the bed capacities has to be doubled.

People arriving from outside places will demand for more school places at the only one basic school. Pupils not absorbed into higher grades should be considered for placement in local vocational training centres.

The water supply to cater for the increasing population, if increased, will offer every resident decent water supply. Increase in other services and in population growth demands for large output of water.

If the township is earmarked for an improved status it is inevitable that a post office, bank and a civic centre are constructed to enhance the commercial and financial transactions. An increase in the township status coupled with high population entails a steady supply of perishable foods and other commodities, hence a ready market for the local farming community.

5.0 OBSERVATIONS

5.1 Archaeological Sites

The data arising from excavations especially the soil stratigraphy indicate that archaeological remains within the township and the area under study had been greatly disturbed by previous construction of the present buildings and the military structures. Evidence to establish actual sites of settlements, and manufacturing or camping could have been destroyed or scattered during construction. Hence evidence of human activity is discovered in isolated portions.

5.2 Site of Bridge

Whichever way the proposed bridge is sited, upstream or downstream, property shall be destroyed to pave way for the proposed structures. The upstream site if opted for will inevitably lead to the destruction of the fuel filling station, waterworks, the police and police compound. Whether the government has adequate resources to replace these structures or not is one thing worth consideration.

The downstream option leads to the destruction of private and government residential areas, the fuel filling station and the bars. The government is likely to pay huge amounts of money in compensation and resettlement of these premises.

The military trenches and bunkers should be preserved with the existing bridge. Because of the liberation war that saw Zimbabwe get its independence in 1980, the trenches are now synonymous with the Otto Beit Bridge.

5.3 Existing Bridge

The Otto Beit Bridge is one of the oldest bridges in Zambia, fifty-eight years old, and its architectural design is beautiful. There is strong representation from the residents of Chirundu that the existing bridge be retained. Almost 100% of respondents feel the bridge should be left for light vehicles, as a footbridge, as a historical object and as a tourist attraction.

On both sides of the current bridge, there is evidence of Zambia's defence of the country during the Zimbabwean liberation struggle. For this purpose the military trenches and bunkers on one side of the

bridge should not be disturbed for purpose of the interpretation of the bridge.

5.4 Border facilities

Chirundu border post is described as the second busiest after Beit Bridge in Central Africa. On the average it handles the following on daily basis:

100 in-coming heavy trucks

80 out-going heavy trucks

90 in-coming small vehicles

70 out-going small vehicles

15 in-coming passenger buses

15 out-going passenger buses

Total of 370 vehicles\day = 135,050 vehicles in a year.

The existing infrastructure does not allow speedy clearance of vehicles and passengers. Only one vehicle is allowed to cross the bridge at a time. As a result there is always congestion both on the Zambian side and Zimbabwean side of the bridge. Truck drivers are forced to spend long hours and often times days before they are cleared.

5.5 Weigh Bridge and Dry Port

Presently in-coming commercial trucks have to drive to Kafue 80 kilometres away from Chirundu where there is a weigh bridge and the dry port is in Lusaka which is 130 kilometres from Chirundu. If the truck does not conform to the required specifications and is required to go back it has to cover 260 kilometres to and from Lusaka.

5.6 Clearing Agents

There is a big number of clearing agents at Chirundu. These are necessary. Almost all of them operate from caravans which are haphazardly located. In the present arrangement they are not sufficiently contributing to the growth of the township as they have not invested in office accommodation.

5.7 Site and Service Plots

It is commendable that the Council has started providing residential plots to those who want to settle in Chirundu. This might check the growth of the squatter compound, Gabon, which has sprang up in the last

few years. If the growth of this compound is not controlled immediately, it might be a breeding ground for crime, prostitution and brewing of illicit alcoholic drinks. Majority of the squatters do not seem to have the capacity to build houses conforming to Council specifications.

5.8 Mandenga Village

Since the colonial period, the people of Mandenga Village have been moved from their land from time to time to give way to modern development. Although the present Chief Sikoongo and Headman Mandenga are not opposed to this development, they insist they should be consulted all the time so that their people are not made destitute in their own land. It should be noted that over the years the villagers have lost access to the Zambezi River which in pre-colonial times and in the early phases of colonial rule was their source of livelihood. At the moment there is only one borehole near the headman's home which caters for a small section of the village. The rest of the villagers cover long distances to water sources. Furthermore, the people of this village are about to lose access to their only remaining shrine. Headman Mandenga confirmed that his people pray for rain at the shrine near Mandenga Basic School when there is drought and the pottery we found at the site suggested that it was still an active shrine. Although the Council has left 40 metres x 20 metres of land around the shrine, it is likely that eventually they will lose access to it in the same way they lost Nankwilimba shrine when the present bridge was built. The Council site plan shows that the shrine will eventually be surrounded by houses.

5.9 Tourism

Chirundu which is part of Siavonga District has great potential for tourism promotion. In addition to the existing tourism attractions such as Kariba Dam Wall, Lake Kariba, Lusitu Settlement, Ingombe Ilede, Chirundu Fossil Forest etc, Chirundu has Otto Beit Bridge, Kanyemba Island and good landscape. The Council authorities and most of the people spoken to expressed displeasure alleging that National Heritage Conservation Commission has neglected these heritage sites.

5.10 Security

The township is growing rapidly and it is likely that crime rate will

increase. Furthermore, Chirundu is at the border area and therefore, needs tight security. It should be noted that people of all ages have access to the river. The risks of drowning are high.

5.11 Bureau de Change

As already indicated elsewhere in this report, the number of trucks passing through Chirundu has been increasing and is likely to continue increasing as peace and economic liberalization continues in the region. The cross-border trade between Zambians and Zimbabweans is growing. Despite the decline in the number of Zambians crossing into Zimbabwe to purchase merchandise for sale following the liberalization of the Zambian economy the trade has inversely attracted Zimbabwean traders to Zambia. This has attracted currency vendors to Chirundu to illegally do their business and they do not pay any tax to government.

6.0 CONCLUSION

Archaeological remains in the area under study attest to the existence of both prehistoric and later iron age civilization. However, prehistoric heritage had been greatly disturbed by earlier construction of the present building structures. Evidence to establish actual sites of settlements, manufacturing and camping may have been mixed up, scattered and destroyed during construction. Hence the archaeological remains in the area proposed for development in Chirundu have very little local and national significance. The proposed development may proceed.

On both sides of the existing bridge is evidence of Zambia's defence of the country and the bridge in particular during the Zimbabwean liberation struggle. These military structures entail some historic significance to the local area and the nation as a whole. Since there are more bunkers and trenches on the Downstream than there are Upstream, it is imperative that the proposed new bridge and border facility be put up about 100 metres Upstream of the existing bridge.

The upgrading of Chirundu as a modern border post is long over due. Given the volume of traffic and travellers entering and exiting through it the border facilities and other services ought to be improved. However, this development of both the proposed new bridge and border facility, and other services will lead to destruction of residential

and business property. Victims of this development have to be compensated and found alternative property.

7.0 RECOMMENDATIONS

Based on the archaeological, historical and ethnographic survey carried out from 21st September to 2nd October, 1997 by the Livingstone Museum, the Study Team makes the following recommendations.

1. The proposed new bridge and border facility be built upstream of the established bridge.
2. The land within 100 metres of the existing bridge be searched for land mines before the proposed development.
3. Permission be sought from Zambia Army authorities before any of the bunkers and trenches are cleared off.
4. Displaced families and property be compensated and found decent alternative quarters and structures.
5. The existing Otto Beit Bridge be retained and protected for economic and historic purpose.
6. The proposed new bridge and border facility should be accompanied by improvements and upgrading of the township to accommodate fire fighting facility, a post office, banks, markets, shopping centre, a dry port, a weigh bridge and a warehouse.
7. The squatter compound of Gabon must be demarcated into plots according to plan to encourage basic requisites of a modern compound.
8. The Immigration and Customs offices should have two clearing points, one for commercial trucks and another for smaller vehicles, buses and individual travellers.
9. All clearing agents that are operating from containers/caravans should get plots from the council on which they should build decent offices.
10. The Zambia National Tourist Board should incorporate Chirundu in its tourism promotion.
11. National Heritage Conservation Commission should take practical steps to protect the sites in Siavonga District particularly Ingombe Ilede and the Fossil Forest.

APPENDICES

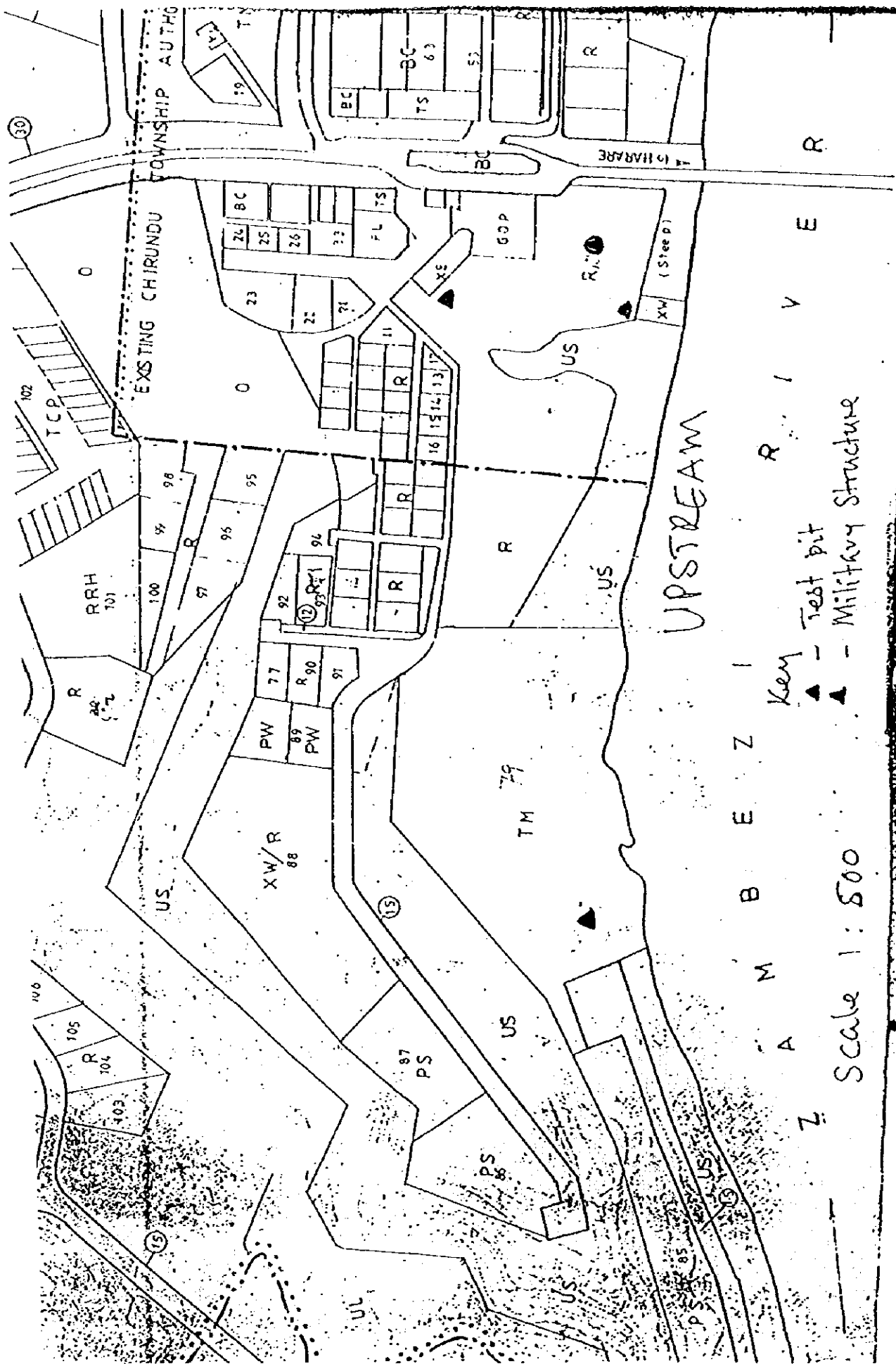
LIST OF INTERVIEWEES

| | |
|-----------------------|---|
| Mr. K. Chama | Socio-Economic Survey, Chirundu Consultant |
| Mr. L. Chanda | Assistant Customs Commissioner, Chirundu |
| Mr. M.K. Chansa | Senior Immigration Officer, Chirundu |
| Mrs T. Chibbutile | Gabon Township, Chirundu |
| Mr P. Chilimbwa | Chief Sikoongo, Siavonga District |
| Mr. C. Chinyama | Police Officer, Chirundu |
| Mrs D.P. Haandila | Gabon Township, Chirundu |
| Mr E M Hahundu | Headman Mandenga, Chirundu |
| Mrs R. Haakantu | Gabon Township, Chirundu |
| Mr. D. Halwidah | Police Officer, Chirundu |
| Mr. V. Kabayo | Office of the President, Chirundu |
| Mr. T. Kamutatwe | Gabon Township, Chirundu |
| Mr. F. Kasonde | Officer-in-Charge, Zambia Police, Chirundu |
| Mr. K. Katowa | District Statistical Officer, Siavonga District |
| Mr. E.M. Kazangarare | Administrator, Mtendere Mission Hospital, Chirundu |
| Mrs M. Kutemba | Gabon Township, Chirundu |
| Mrs A. Lubinda | Gabon Township, Chirundu |
| Mr. L. Malama | Police Officer, Chirundu |
| Mr. H. Mayatsani | District Community Development Officer, Siavonga District |
| Mr. S.G. Michelo | Headmaster, Mandenga Basic School, Chirundu |
| Mr. R. Mukonge | Gabon township, Chirundu |
| Mr. T. Musanje | Village Mandenga, Chirundu |
| Ms Beatrice Mwala | Acting Council Secretary, Siavonga District |
| Mr. J. Nalubamba | Assistant Manager, J.M.G. Filling Station, Chirundu |
| Mr. S.K. Ndunda | Senior Collector, Chirundu |
| Mr. T. Ng'ambi | Chairman, Siavonga District Council |
| Mrs C. Ngoma | Gabon Township, Chirundu |
| Mr. B. Ngoma | Gabon Township, Chirundu |
| Mrs A. Ngonya | Gabon Township, Chirundu |
| Mr. F.K. Ngwane | District Health Officer, Siavonga District |
| Mr. C.M. Nkhandu | Squatter Controller, Siavonga District |
| Mrs S. Njovu | Gabon Township, Chirundu |
| Father Benvenuto Riva | Parish Priest, Chirundu |
| Mrs M. Samaria | Gabon Township, Chirundu |
| Mr. P. Sandu | Gabon Township, Chirundu |

| | |
|------------------------|--|
| Mrs M. Sandu | Gabon Township, Chirundu |
| Mr. J. Siachinda | Gabon Township, Chirundu |
| Mr. K. Sikazwe | Acting Director of Works, Siavonga District |
| Mrs Mable Simukambe | Gabon Township, Chirundu |
| Mrs M. Simukambe | Gabon Township, Chirundu |
| Mr. C. Simwanza | Police Officer, Chirundu |
| Mr. R. Simwete | Gabon Township, Chirundu |
| Mr. F.K. Siyunyi | District Planning Officer, Siavonga District |
| Mrs Q. Tembo | Gabon Township, Chirundu |
| Mrs V. Tembo | Gabon Township, Chirundu |
| Mr. Dennis M. Vlahakis | Mwanandani Farm, Chirundu |
| Mr. Demetrius Vlahakis | Mwanandani Farm, Chirundu |
| Mr. C. Vlahakis | Demetraus Farm, Chirundu |
| Ms H. Zulu | Gabon Township, Chirundu |

TIME TABLE

| | | |
|----------------------------|---|---|
| 21st September 1997 | - | Departure by road from Livingstone to Lusaka. |
| 22nd - 23rd September 1997 | - | Research at National Archives of Zambia, Zambia information Services and Surveyor General's office. |
| 24th September 1997 | - | Departure by road to Chirundu Border Post. |
| 2nd October 1997 | - | Return to Livingstone. |
| 3rd -14th October 1997 | - | Preparation of Survey Report. |



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