The recent archaeological research of the Shashe-Limpopo confluence zone: a perspective from, eastern Botswana

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Abstract

This paper presents the result of recent fieldwork in the Shashe-Limpopo confluence zone in eastern Botswana. Using multi-field approaches and problem-oriented data analysis techniques, the objective of the research was to ascertain the archaeological identity of the landscape, largely dominated by Mapungubwe. Preliminary results from spatial data, geochemical analysis of soil samples and comparison of sites and material evidence demonstrate that the confluence zone was part of a broader landscape that contributed to the human social, political and economic systems of the Shashe-Limpopo basin. Although archaeological research has until recently focused on the sites of Mapungubwe and nearby Schroda and Bambandyanalo (K2), research results from eastern Botswana show a broader and more varied cultural landscape that characterised the confluence zone in the past. This offers an enriched/broader understanding of how humans articulated with the environment in the confluence zone and beyond.

Introduction

The Shashe-Limpopo basin is a drainage landmass which straddles the countries of Botswana, South Africa, Zimbabwe and Mozambique (Figure 1). The Shashe and Limpopo Rivers separate Botswana from Zimbabwe and South Africa, respectively. However, archaeological data regarding the Shashe-Limpopo basin is largely based on research conducted from South African side of the Limpopo and Shashe river confluence. The recent ascension of the Mapungubwe Cultural Landscape by the South African government, to the World Heritage site status is a testimony to that. This approach is rather biased for a region that is rich in archaeological heritage spanning the three areas covered by the confluence. In presenting the archaeological characterisation of the Confluence Area, which is part of larger Shashe-Limpopo basin, the question arises whether archaeology or archaeological landscapes have visible margins of extension? Should the visible archaeological structures and materials define the dimensions or extent of human behaviour across the broader landscape? This paper presents the archaeological evidence from the Confluence Area under the control of Botswana, and the intension is to show that from the recent survey undertaken the area was a part of the cultural landscape of the Mapungubwe State and if probed further its contribution to the development and later demise of the complex state could be understood. This research survey has located sites which are not only of the same period as those across the border but show close affinity to the ones across them. The incorporation of remote sensing techniques in the form of aerial
photography has revealed crucial evidence on the not so visible archaeological signatures left by the former settlers of the basin. These signatures visible from aerial photographs confidently make us see the possible use of the confluence landscape as having provided choice to its inhabitants with hill-top and high-ground areas used for habitation and livestock enclosures, whereas the alluvial deposits of the confluence were exploited for pasturage and cropping purposes. Thus, giving us an alternative information that has always been inferred to in the interpretation of the basin dynamics from material evidence but never been substantiated. Using Strontium isotope analysis (Smith, 2005) has also shown that part of the study area was possibly used as pasturage to ease the pressure on the highly populated Mapungubwe centre. I think this was a land-use choice provided to the inhabitants by the landscape, an opportunistic dimension to
human antiquity. In this study I used remote sensing techniques in the form of aerial photographs to locate sites and then geochemical analysis of soils to try to understand the various activities undertaken on certain sites. I have also shown how similar socio-cultural and economic activities were being practiced beyond the boundaries of today’s political boundaries.

**Environmental Setting**

The physiographic pattern of the confluence zone is different from the entire part of the Kalahari because there is an “encroachment of Quaternary erosion cycles along the river courses” which “give rise to a zone roughly parallel to the rivers, between them and the uplands, of marked minor dissection and streams incision where areas of outcrops and shallow and stony sites predominate” (Bawden and Stobbs, 1963).

They are largely basaltic lavas and they give rise to a distinctive landscape pattern of the study area with recurring topography, soils, and vegetation. However, when the Limpopo River reaches the confluence it descends gradually from 3000ft (914m) to 1700ft (518m) with the confluence, making it the point of minimum altitude in the entire valley (Bawden and Stobbs, 1963) and the floodplain extends further up to
the west along the altitudinal high Shashe River forming alluvium rich levees and terraces on the Botswana and Zimbabwe side (figure 2). These fluvial terraces characterise the valley floor, which is quite distinct from the immediate Karoo sandstone escarpment above, dominated by *Colophospermum mopane* woodland. During periods of floods Shashe acts as a dam wall and makes Limpopo retreat for several kilometres Huffman (2005). The ethnographic data gathered from residents attest to this, because of the large surface area and volume capacity of the Shashe river, when it is full or angry, as 81 year old Chimangeni Mpande (interviewed 25 August 2005) prefers to put it, it pushes back water from the Limpopo river thereby resulting with massive flooding immediately at the confluence and further down upstream of the Limpopo. He says that is part of the reason why the floodplains could not be permanently settled in but instead used for cultivation and for pasturage purposes. Hence, probably explains why most of the archaeological sites located from field surveys have are on hilltops and high ground.

**The Known Archaeology**

![Site distribution of the farming communities of the Shashe-Limpopo Basin (after Huffman, 2005) (N.B. only two sites are shown from the Botswana side of the Limpopo River and a few on the Zimbabwean side)](image-url)

Figure 3: Site distribution of the farming communities of the Shashe-Limpopo Basin (after Huffman, 2005) (N.B. only two sites are shown from the Botswana side of the Limpopo River and a few on the Zimbabwean side)
The Shashe-Limpopo basin side of the Botswana political boundary has suffered from dearth of archaeological research. The 19th century interest in the outstanding monumental works at the Great Zimbabwe and later interest in the nearby K2 and Mapungubwe in the early 20th century have no parallels on the Botswana side. Lack of research in the area is attributed to the security situation in the area, the liberation struggle in the then Rhodesia and the apartheid South Africa (Tsheboeng, 2001). However, on the other side of the border there have been extensive research and numerous sites have been located (figure 3) publications are available on Mapungubwe, K2, Schroda and other sites. In Zimbabwe a number of expeditions took place in the late 1950s and several surveys were conducted in the 1970s (Manyanga, 2001). Hence, this archaeological distribution map gives us a glimpse of sites located during research surveys and whilst other areas remain unexplored. This is mainly due to poor visibility of archaeological evidence which I attribute to be a factor partly compounded by the geomorphology of the area as shown in figure 2 above.

In Botswana, the earliest documentation of the area was in the mid-1970s, when an archaeological assessment for the development of a look out hut on Commando kop (Pitsane Kopje) situated at the confluence was undertaken by Edwin Hanisch, the then professional archaeologist of the National Cultural History and Open-Air Museum in Pretoria. He produced an unpublished report which provided a systematic material evidence of this one site and concluded that it was successively occupied by Zhizo, K2 and Mapungubwe people. This site is also listed by Plug (2000) as one of the sites that fall outside the [South African] Limpopo Valley which yielded a considerable identifiable number of individual skeleton parts (NISP) as well as minimum number of individual species (MNI) which included cattle, sheep and goats and a lot more non-domestic ones. Plug (2000) agrees with Hanisch that pottery style on this site is indeed a Zhizo (Scheroda) and Leopard’s Kopje (K2 and Mapungubwe) cultural type. This is a very small, elongated site of 270m long and 130m at its widest point but it nevertheless, yielded invaluable comparative study that clearly defined the limitless borders of the broader Mapungubwe Cultural Landscape utilised by agropastoral communities for centuries of years. There is one isolated site that has received mention in the distribution map and that is Mmamagwa, first reported on the then National Museum and Art Gallery of Botswana site and monument register by Tamplin in 1977 but has since been under studied by Grant Hall (Hall, 2001) (Mashatu Newsletter website 2001 http://www.mashatu.com/newsletters/April%202001.doc) for his PhD research. This is by and large an extensive Iron Age site (40 ha) with dry stone fortification and from Hall’s preliminary results it has been continuously occupied from the Schroda/Zhizo (a confirmed earliest date of 940 A.D) times up until the -colonial times by Babirwa of Sotho-Tswana origin who were relocated to give way for the envisaged agricultural development by the Colonial Development Corporation and designated a reserve which was later sold to private individuals. These sites appear as two isolated sites within the larger complex of the Shashe-Limpopo basin side of Botswana as shown on figure 3 above.
This study has however, through surface field survey and by the aid of aerial photographs identified a significant number of sites in the area and as it is an on-going research would briefly present part of its findings.

**Preliminary and Field Survey Results**

The following became evident from preliminary investigations of the study area;

a. Landscape comprised hilly outcrops interspaced by valleys or channels, with remnant settlement located on their summits. Completely preserved from fluvial activity these highly elevated sites had considerable amount of cultural remains on the surface. The most abundant was pottery scatters even though further investigations which involved test excavations recovered human and non-human faunal remains, lithics, animal dung and iron slag. Figure 4 below shows a complete human burial recovered from a high ground, interred with complete pottery vessels.

![Figure 4](image)

Figure 4  Most sites were located on hilltops and valley floors but on high ground. Above an excavation on top of Megwe hill (a-b) revealed a 1m deposit with pottery remains separated by a white ashy layer. On the bottom of Megwe hill a test-excavation revealed a burial on a relatively high ground (c-d).

- In the low-lying areas and floodplains, sporadic occurrences of limited amount of surface scatters were observed, but overall, there was poor visibility of sites. The assumptions made were that these could imply:
• Selective and/or preferential preservation taking place as they are highly erosive depositional terrains and hence poor visibility due to accumulation/removal of deposits,
• Risk assessment measure as they are susceptible to flooding and strategic preference for elevated areas considered on long term basis,
• Economic potential as they have heavier textured soils (Bawden and Stobbs, 1963) suitable for both crop cultivation and pasturage. FAO soil classification gives it a high potential dependable yield for amongst other things; sorghum, millet and cowpeas. According to Huffman (1996), sorghum and millet just need a minimum of 350mm/year of rain in the summer growing season, which is typical of this area today (Smith 2005, O’Connor and Kiker, 2004).
• Prevalent within these low-lying areas are patches clear of trees and often associated with Cenchrus Ciliaris or other grass species. In the past Cenchrus Ciliaris was observed to predominant LIA sites and was used as an indicator to locate sites associated with livestock enclosures, particularly cattle (Denbow 1979).

Figure 5 Some of the valley sites appearing as patches of grass surrounded by trees in Botswana (left) and similar observation was made in the South African side of the confluence (right).

b. Land-use management strategy whereby the confluence inhabitants located their habitation sites along the Shashe River than the Limpopo on an area averaging approximately 350km². These sites are on average approximately 15 kilometres apart. It is assumed that this does not reflect a chance occurrence, but a management strategy where land had to be availed for purposes of grazing, cultivation, hunting and gathering, trading and other specific human activities, as it was the practice in the area from past studies.

Following the results of the preliminary study, it was considered practical to undertake a more design structured research to establish contribution of the Botswana side of the confluence to the wider
The main thesis was that the archaeology of the area at present has been delimited by the present state boundaries and despite the generally poor visibility of archaeological sites to have attracted any research interest, the study area was utilised by the prehistoric populations of the basin. The argument is propounded by the fact that geomorphic setting of the basin landscape provided certain exploitable attributes to the inhabitants, which provided for an active land-use strategic planning system to be in place more so that it is believed to have had a significant population (Huffman, 2000, Huffman, 2005) that engaged in several socio-economic and political undertakings. This research was, therefore, intended to probe the landscape further for alternative interpretation to culture-historical approach regarding the events of the basin in the past. For this paper I present the results acquired using spatial datasets and geochemical analytic techniques.

A desktop analysis of aerial photographs was conducted prior to fieldwork and a land system approach was employed to delineate certain environmental variables in order to recognise and identify certain repetitive but distinctive aspects of the cultural landscape. During the field survey these were then ground controlled and confirmed and their locations fixed with the aid of a GPS to be part of a geographical database in the
form of GIS. Other aspects of the landscape in particular vegetation distribution from these remote sensing resources were used to complement and provide clues to archaeological sites distribution in relation to the environment especially that of *Cenchrus ciliaris* and *Colophospermum mopane* which have been previously been observed to indicate culturally-nutrient loaded sites. For example, *C. mopane* is known to indicate infertile or intractable soils and it cannot establish itself on soils which carry good grass cover (Bawden and Stobbs, 1963:26). This observation became extremely useful for site locations as most of sites with *C. Ciliaris* were easily recognised as white patches frequently surrounded by *C. mopane* (see figure 5). Its (*C. mopane*) occurrence was restricted to areas with very shallow soil with impervious rocky terrain. There was virtually no *C. mopane* on the alluvial floodplains.

Most parts of the study area, away from the confluence and mainly along the Shashe river towards Tuli Circle and further inland, are covered by both low-tree and shrub savanna on the rocky and hilly terrain. Riparian woodland is limited to the margins of the riverine environment. On areas identified to posses archaeological remains which are situated on hill-tops and low-lying valley floors, the shrub vegetation predominates with mosaics of savanna glades visible, as white patches, on the landscape. In East Africa, savanna glades have been observed and interpreted to be part of the vegetation cover attributed to settlement sites of former pastoralists (Payton, 2005:48) and they have been explained as to

> “... represent nutrient-enriched patches related to abandoned cattle enclosures that become dominant by nutrient-rich grass species that are particularly palatable to wild grazing ungulates such as eland and impala. They are then perpetuated in the landscape by browsing and grazing activities that act to suppress the invasion of trees and shrubby seedlings.” (Payton, 2006:49)

This description fits very well in the observations made at the confluence where white patches of grass which appeared on aerial photographs when ground-controlled were confirmed to be archaeological sites. At Tuli Circle these white patches were also covered by pottery scatters. However, they are believed to represent cattle enclosures (Huffman 2006, per comm.). To further support this, through strontium isotope analysis Smith (2005), found this area to have been suitable for herd pasturage during the K2 and Mapungubwe occupation. As this is a nature reserve these sites are frequented by ungulates especially antelopes and other large browsers such as elephants, giraffes and wildebeest, hence Payton (2005)’s assertion above, the middens were covered by the nutrient-rich grass species.

For possible understanding of the spatial dynamics, chemical analysis in the form of soil phosphate, pH and heavy metal, elemental and trace metal analysis could elucidate on the different activities undertaken as well as the production and circulation of pottery. Since there was concentration of pottery scatters at Tuli Circle, I thought it would be interesting to find out if there were other activities undertaken within or around the supposedly enclosures. So far only one burial was located on one of the white patches and this
was not surprising as ethnographically men were buried inside the kraals. Random test-excavations on and around the glades revealed a significant amount of cultural remains which are still to be analysed and dated, but based on ceramic remains the styles are typical of the Limpopo basin during the K2 and Mapungubwe occupation (see figure 5).

Figure 2 Test excavation of a randomly selected area on and around the glades produced extensive materials.

Transects were run on an area 540m x 410m which I only sampled a 100x100sqm grid (figure 4b) for soil phosphate analysis and the results are as shown on figure 4 (c) above. Even though, the results are still inconclusive, concentration levels of phosphates indicate different kind of activities being undertaken on the site.

**Conclusion**

The preliminary results from this on-going research offer a tentative argument that the Iron Age communities associated with early agricultural subsistence mode of production constituted one large group of people who over time have occupied broad geographical and ecological zones. Their past activities are signatures left on the landscape which can be of great value in telling us more about how those people
conducted themselves. Although pottery classification and architectural styles, as well as radiocarbon dates have been used as the primary sources of interpretation, gaps still exist in understanding the behaviour of the site occupants over space. Like Cochraine and Hunt (1996), put it these classification, even though they produce good chronologies, they still remain untested. Typologies are created by archaeologists as basic measurement devices, and may just address a limited set of questions. Questions on the production and circulation of pottery have not yet been examined.

The geographical information systems dataset generated from identification and location of sites and landscape features from aerial photographs shed further light on the organisational dynamics of the Shashe-Limpopo basin beyond the political boundaries. As an agro-pastoral, society involved in trade, it is not revolutionary to think that people and animals moved back and forth to K2 between pastures, fields and settlements, which could have left pathways, dams, wells, processing and distribution sites archaeologically recoverable using remote sensing techniques. Indeed the Shashe-Limpopo confluence is covered by soils, which provided important pasture, for the pastoral practices as it still does today to flourishing wildlife undeterred by the imposed boundaries.

This research perspective is novel in southern African archaeology, and researchers working on complimentary research projects in the Confluence area will assess its appropriateness as a viable, alternative research methodology.

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