

■ SOUTH SUDAN

BIEA Archaeological Surveys in the Juba-Nimule Nile Region of South Sudan 2009

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Introduction

In mid 2009 the British Institute in Eastern Africa (BIEA) was contacted by an Australian construction company with regard to conducting a preliminary Heritage Impact Assessment (HIA) as part of a feasibility study into dam construction along the Nile between Juba and Nimule in South Sudan. This contact resulted in four weeks of baseline foot survey and site mapping conducted in late 2009 by a small BIEA team led by the author¹. The survey region was limited to the banks of the Nile along a 160km stretch of the river south of the capital Juba and adds significantly to the extremely limited amount of research conducted elsewhere in South Sudan. Indeed, archaeological research in South Sudan has been almost non-existent, the exception being a number of preliminary surveys conducted by the British Institute in Eastern Africa in the gap between civil wars in 1977-1981 (David 1981; David et al. 1981; Mack and Robertshaw 1982; Philipson 1981; Robertshaw 1982; Robertshaw and Mawson 1981) and more recent surveys of slave trading *Zariba* by Paul Lane (Lane and Johnson 2009). This past research, alongside that presented here, suggests that the archaeological potential of South Sudan is large and may contribute substantially to broader debates concerning a range of ‘big

topics’ such as the emergence of complex hunter-foragers during the mid-Holocene, the spread of food production and metal working, agricultural intensification and the colonial encounter.

The Juba-Nimule Survey Region

The survey work was conducted in three zones corresponding to three proposed dam sites at Shukoli, Laki and Bedden (Figure 1). Survey was conducted by systematic foot transect with 3 to 4 people walking 1-2m abreast where possible, but often constricted to single file by the vegetation. We experimented with a range of transect lengths and spacing depending on the nature of vegetation, topography and other factors. The effectiveness of the survey was greatly lessened by the existence of dense vegetation across all transects, and at Shukoli by topography, and Bedden by the dangers of unexploded land mines. Nevertheless, the combined surveys identified some 110 clusters of three or more features, most of which likely date to the 18th, 19th and 20th centuries but which provide an important record of the Sudanese landscape prior to the civil wars that began in 1956 and ended (with a short gap 1973-1983) as recently as 2005. Stone Age finds were extremely scarce although more extensive survey under less dense vegetative regimes at different periods of the year might be more successful. In general the results demonstrated extensive past agricultural activity across all transects, represented by a rather continuous low density of landscape features such as small field terraces, field clearance cairns and granary bases, and punctuated by more dense concentrations of similar features, as well as stone-walling and surface artefacts that might be thought of as villages. That said the boundaries of sites were extremely difficult to define due to the way in which features tend to extend into the dense bush and as such estimates of the size and number of features at many of the sites recorded should be taken as preliminary minimum estimates.

The survey results are important as they demonstrate that this landscape was subject to various acts of anthropogenic manipulation through

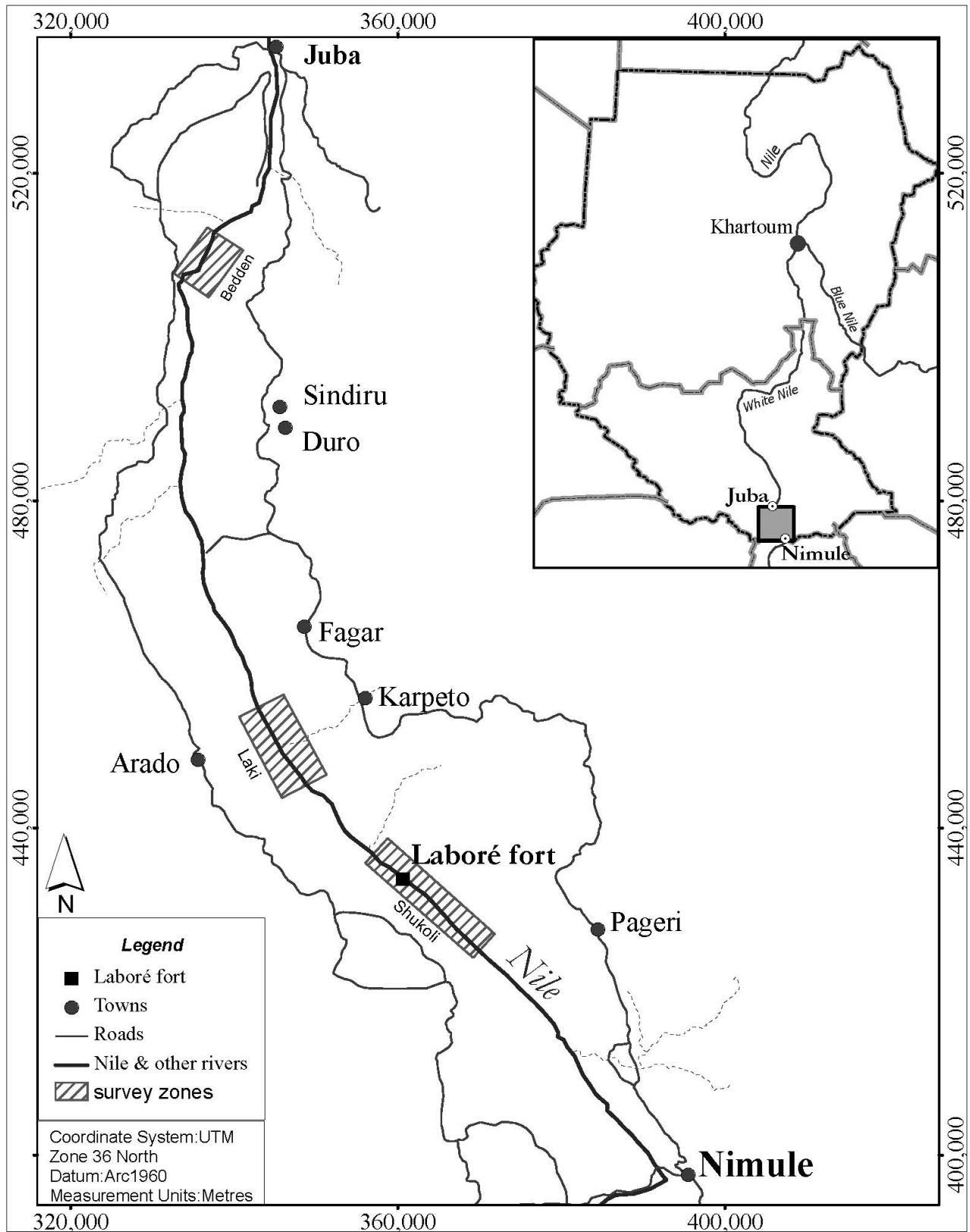


Figure 1: The survey region and Shukoli, Laki and Bedden survey zones (South Sudan inset).

time. Over historical timescales we know that this stretch of the river played host to the 19th century slave and ivory trades and later the expansion of Turko-Egyptian forces southward. Nineteenth and early 20th century accounts also describe the region as relatively densely inhabited by both farmers and herders (Baker 1895 [1874]; Mounteney-Jephson 1890). The current physical geography of the region, particularly the dense uninhabited vegetation and the riverbank populated by only a handful of fishermen is therefore a historical anomaly, a situation created by decades of civil war. Prior to the 1950s the region was much more densely occupied and cultivated and was also much more cosmopolitan having become, if only temporarily, home to numerous ethnolinguistic groups (Seligman and Seligman 1932) as well as Arab traders, colonial officers and soldiers, and religious missionaries (Moorehead 1960).

This region is now being resettled by refugees and so these sites may provide an important sense of place for new residents, but they also risk the danger of destruction as building materials are cannibalized. The survey also located a major Turco-Egyptian garrison fort at Laboré, which not only holds significant potential as a major historical monument for the new nation but also has the potential to tell rather unique stories about South Sudan's imperial past. Deeper discussion of this fort is not presented in this paper but further details can be found in Davies (2009) and Davies and Leonardi (2012). This paper presents an overview of the survey results as a prelude to further research and publication. The full impact assessment on which this outline is based is available from the British Institute in Eastern Africa (Davies 2009), which also holds extensive photographic and other records.

The Shukoli Survey Zone

The Shukoli survey zone is densely vegetated and situated within a fairly deep gorge created by the Nile. It was therefore necessary to confine our survey to passable paths and tracks along the riverbank. The four separate survey transects (A-D;

Figure 2) located a number of sites of interest.

Survey A on the east bank of the river recorded some thirteen sites (A01-A13) ranging from small scatters of pottery or iron slag to the extensive remains of abandoned villages. The most significant sites were A03, a large concentration of iron slag – probably a furnace base, and A09-11, which is an extended village complex. This village covers some 0.5ha or more and comprises a number of neat drystone platforms (c. n=8; Figure 3) as well as numerous simple circular stone cairns (n=8) (both features likely relating to agricultural field clearance), distinctive notched standing stones representing granary bases (c. n=20), and a large number of small field terraces. Roulette decorated ceramics were also abundant, as were a few small pieces of iron slag.

Survey B was also located on the east bank of the river. Here a series of basalt outcrops run parallel to the river and form a large number of potential rockshelters. Some 50 plus potential rockshelters were located; however, very few of them possessed intact deposits and or signs of use. Consequently, only fourteen shelters were GPS recorded (B01-B14) and of these only eight presented any archaeological surface finds. Shelters B03, B04, B05, B12 and B13 produced a handful of non-diagnostic body sherds between them. The body sherds from B12 were especially robust and come from a large vessel more than 0.5m in diameter. B02 produced a single cord roulette sherd while B11 produced one everted rim sherd. In addition, a few pieces of fine white quartz were collected from B03, B04 and B13, but none of these were clearly worked. The only clear stone tool came from a disturbed context on the talus just below B03 and is tentatively categorised as a Late Stone Age chert scraper.

Survey transect C followed a riverside path on the west bank of the river. Eleven sites were recorded (C01-C11) most being small scatters of ceramics or iron slag. C01 is notable for a number of cord-roulette decorated sherds including one with a herringbone pattern. C08 produced similar sherds,

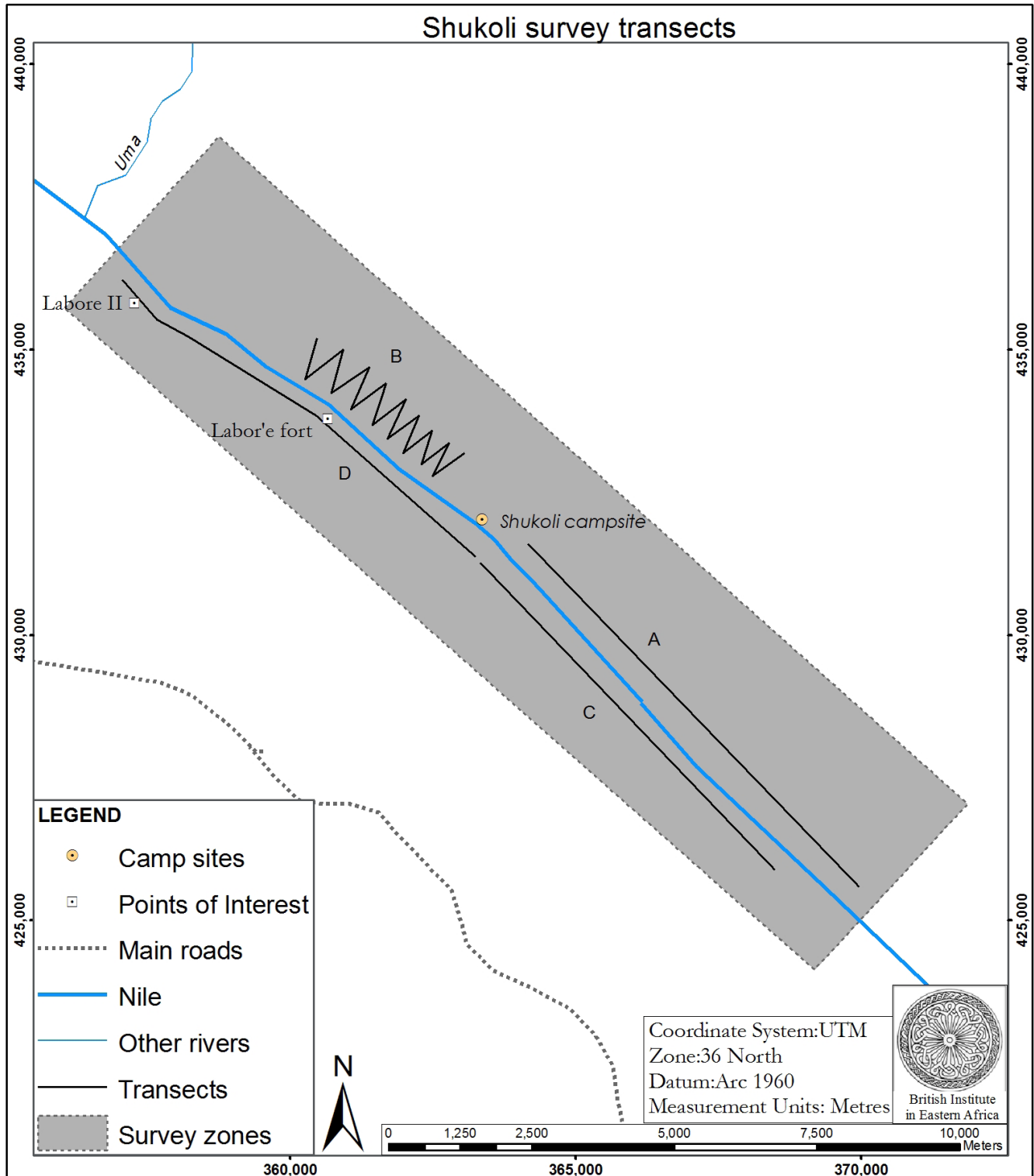


Figure 2: Shukoli survey transects.

though the pattern was slightly different and might have been made by mat impression rather than rou-
 lettering. C06 is notable for a small concentration of

fine ceramic sherds including five fine rim sherds
 5mm in thickness and tapering to a rounded edge.
 These are among the only ceramics encountered



Figure 3: Rectilinear stone cairns/platforms at A09-A11.

that might be considered to be from a different tradition to the recent roulette decorated ceramics that are found throughout the survey area and which are still largely used within present-day households.

C10 encompassed the remains of an early 20th century homestead and there were a number of stone cairns extending into the dense bush in this region. C11 was a larger and seemingly older ‘village’ area with numerous simple cairns (c. n=10), a few neat rectilinear platforms (c. n=5), some granary bases (c. n=10) and small field terraces, extending over at least 0.25ha. This area is very similar to A09-A11 and other ‘villages’ described below.

Survey D followed the same path as survey C, but it was downstream and in the opposite direction. The vegetation along this path was a little denser which reduced the opportunity to lo-

cate more substantial sites. Very few artefacts were encountered comprising only a handful of isolated ceramic sherds and a few pieces of iron slag. However, the Laboré Fort and surrounding features are located along this transect and will be discussed in more detail in future articles.

The Laki Survey Zone

At Laki the vegetation was less dense and the topography flatter, which allowed for the conduct of more extensive transects (Figure 4).

Survey E was comprised of two 2km long transects running inland and perpendicular to the river. Only two sites were recorded (E01-E02) and both were relatively isolated large grinding stones surrounded sporadically by a small number of stone cairns. Although no major sites were located, it is



Figure 4: Laki survey transects.

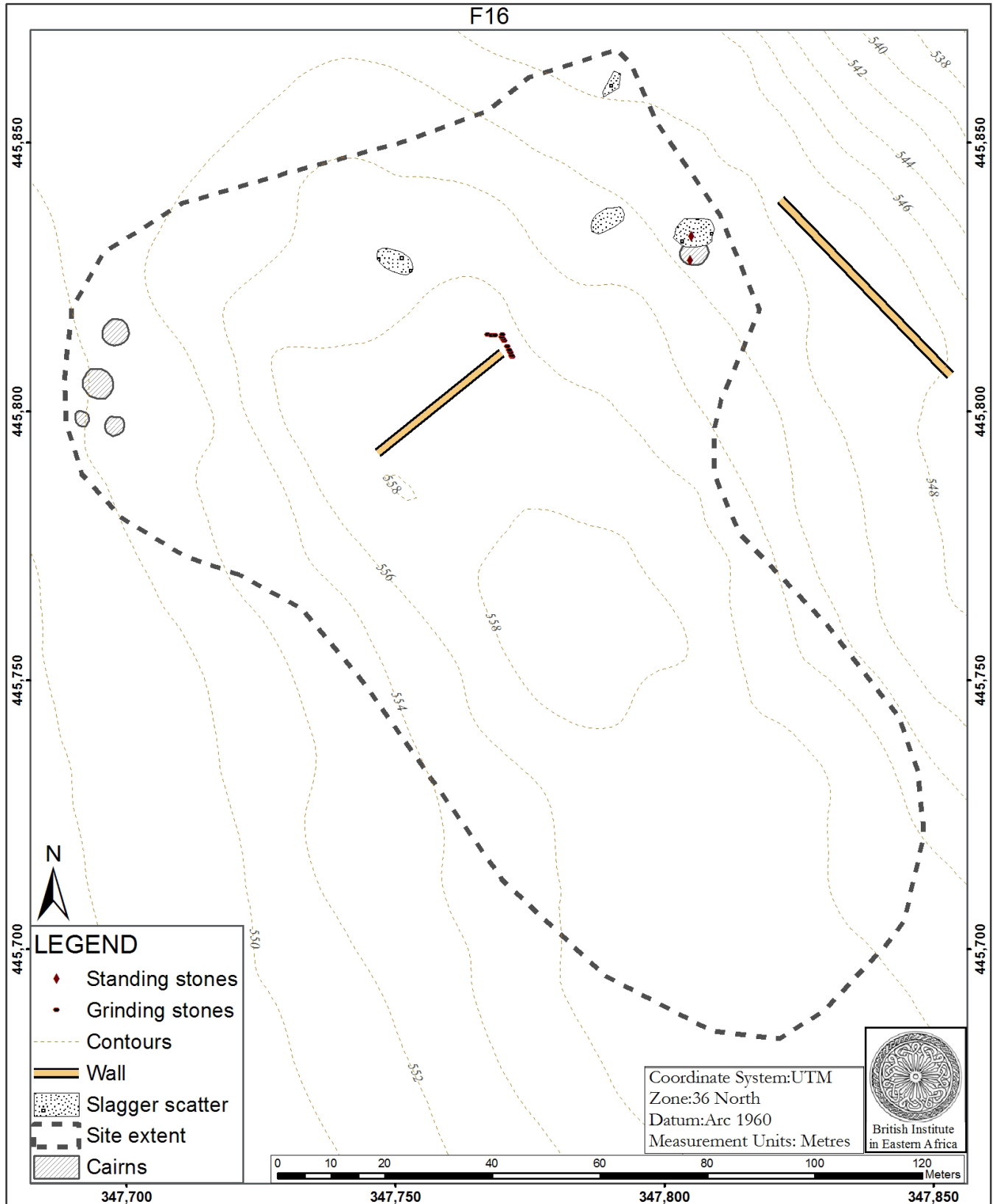


Figure 5: Plan of F16 showing concentrations of slag and stone cairns and the northern end of the 2km long ‘wall’.

important to point out that dense grass abounded along these transects and that this likely had a major impact on the surface finds located. We assume that the grindstones and cairns located are potentially symptomatic of a much larger range of finds.

The location of survey F was chosen based on an initial reconnaissance of the river by boat that located a linear feature (some kind of wall) running parallel to the shore. This linear feature was therefore taken as the starting point for a series of three transects some 2km long and parallel to the river. The linear feature itself is nearly 2km long and consists of small sections of drystone walling built around the natural bedrock. At times there were sections of neatly coursed walling (reminiscent of that at Renjuk, see below) and occasionally there were neat kerb stones at the base of the 'wall'. However, at other points the walling consisted of very rough piles of stone and natural rock outcrops. The purpose of this 'wall' is highly uncertain; it may have served as some form of defence from the river or alternatively it may have marked the boundary between the river and areas of settlement inland. What is certain is that there is good evidence of a considerable amount of activity around this wall, particularly on its western inland side.

Sites F01 to F15 represent features associated with this wall, mainly short lines of standing stones marking the line of the wall as well as some roulette decorated ceramics and grinding stones carved out of the bedrock. F16 is a large area of 'agricultural/village features' at the northern end of the wall (Figure 5). It includes a general scatter of ceramics and iron slag, a single large standing stone, some field clearance cairns (n=5), low field terraces, notched stone granary bases (n=5), a line of grinding stones worn into an outcrop and concentration of iron slag. One of these large concentrations of slag was nearly 2m in diameter and probably represents a large furnace base. Many lumps of surface slag were large with some over 5kg in mass, and a few fragments of tuyere were present also. Again this area seems to represent a variation on a 'village' site such as at A09-A11 and C11. However,

absent here are the large rectilinear cairns/platforms found at the other two sites.

The remaining sites located during survey F are all set somewhat apart from F16 and the linear wall feature. However, they attest to a general sense of dense cultivation in the region. Sites F17, F18, F20, F21, and F23 all represent a number of small field clearance cairns, while F22 represents a few standing stone granary bases in dense bush.

Survey G located some fourteen sites (G01-G14) most of which relate to general agricultural activities. Field clearance cairns were found at G01, G12 and G14; small field terraces at G01, G02, G07, G09 and G12; notched granary stones at G03, G06, G08, G09, G14; grindstones at G06 and G10; and roulette decorated ceramics at G05, G11 and G14. None of these areas demonstrated the dense concentrations of features as was found at A09-A11, C11 and F16; however at a lower density they are very similar and again support the notion that the vast bulk of the area covered by these surveys was formerly occupied and cultivated.

Survey H was situated on the east bank of the river and comprises another three 2km perpendicular transects. The third of these also abutted the Karpeto River, one of the largest tributaries in the region. The area covered by most of transect H was relatively sparsely vegetated allowing much better visibility. Consequently some 63 sites/features were recorded (H01-H63), however, almost all of these relate to small clusters of stone cairns or small field terraces. H08 and H09 represent find spots of roulette-decorated ceramics while H24 to H26 include grindstones, and H39 had a large standing stone. H58 and H59 both represent dense concentrations of iron slag, but are not recognisably furnace bases. Other finds include a relatively recent glass bead at H01 and a quartz scraper at H02.

After discussions with a local chief, one of the H transect lines was extended resulting in the locating of a large village in an area known as Renjuk. The village covered at least 1ha and consisted of a double line of stone walling (Figure 6, lower

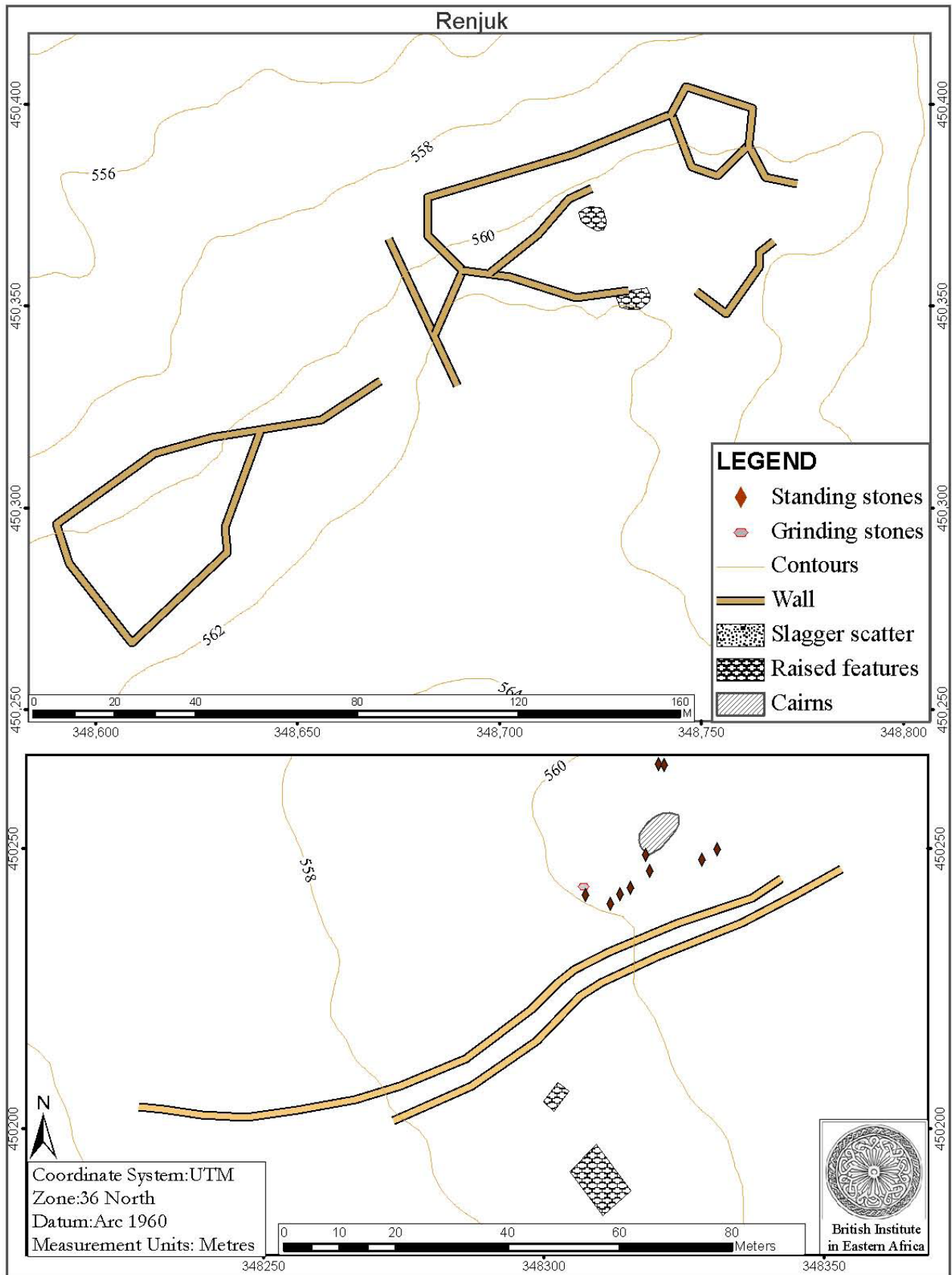


Figure 6: Plan of Renjuk showing stone-walled enclosures (the lower plan attaches to the left of the upper plan).



Figure 7: Walling (A and B) and terracing (C) at Renjuk.



Figure 8: Granary bases (A), surface ceramics (B) and standing stone (C) at Renjuk.

plan) and a series of interconnected drystone walled enclosures (Figure 6, upper plan), surrounded by dense concentrations of low field terracing, small field clearance cairns (10+), rectangular stone platforms (5+; as found at A09-A11, C11), notched stone granary bases (20+), a variety of large standing stones (10+), a number of grindstones (5+), and some roulette decorated ceramics (Figures 7 and 8). In places, the methods of stonewalling were similar to those employed at the Laboré Fort, consisting of a neatly coursed inner and outer wall constructed around a rubble core. However, in other places a quite different technique was used consisting of large flat stones, set upright into the ground and enclosing a rubble core. Still in other parts the walling appears to consist solely of a gravelly rubble bank (Figure 7). Also evident was a semi-circular bank, some 200m from the main enclosures which

itself circled a semi-circle of large standing stones, each well over 1m in height and some 0.4-0.5m in width. This feature was extremely interesting but unfortunately we lacked time to investigate more fully (these standing stones might bear some resemblance to those found at Y03, see below)². Overall, the Reinjuk site is intriguing; the standing stones certainly warrant further explanation, while the stonewalled enclosures may represent a semi-fortified village – perhaps a reaction to the 19th century slave trade. Reinjuk should certainly be subjected to further investigation, as it will most likely shed significant light on the pre-1950 inhabitants of the region.

Surveys X and Y were conducted in an attempt to locate the Muggi ‘old fort’ recorded on the 1975 survey of Sudan maps. Although the fort was

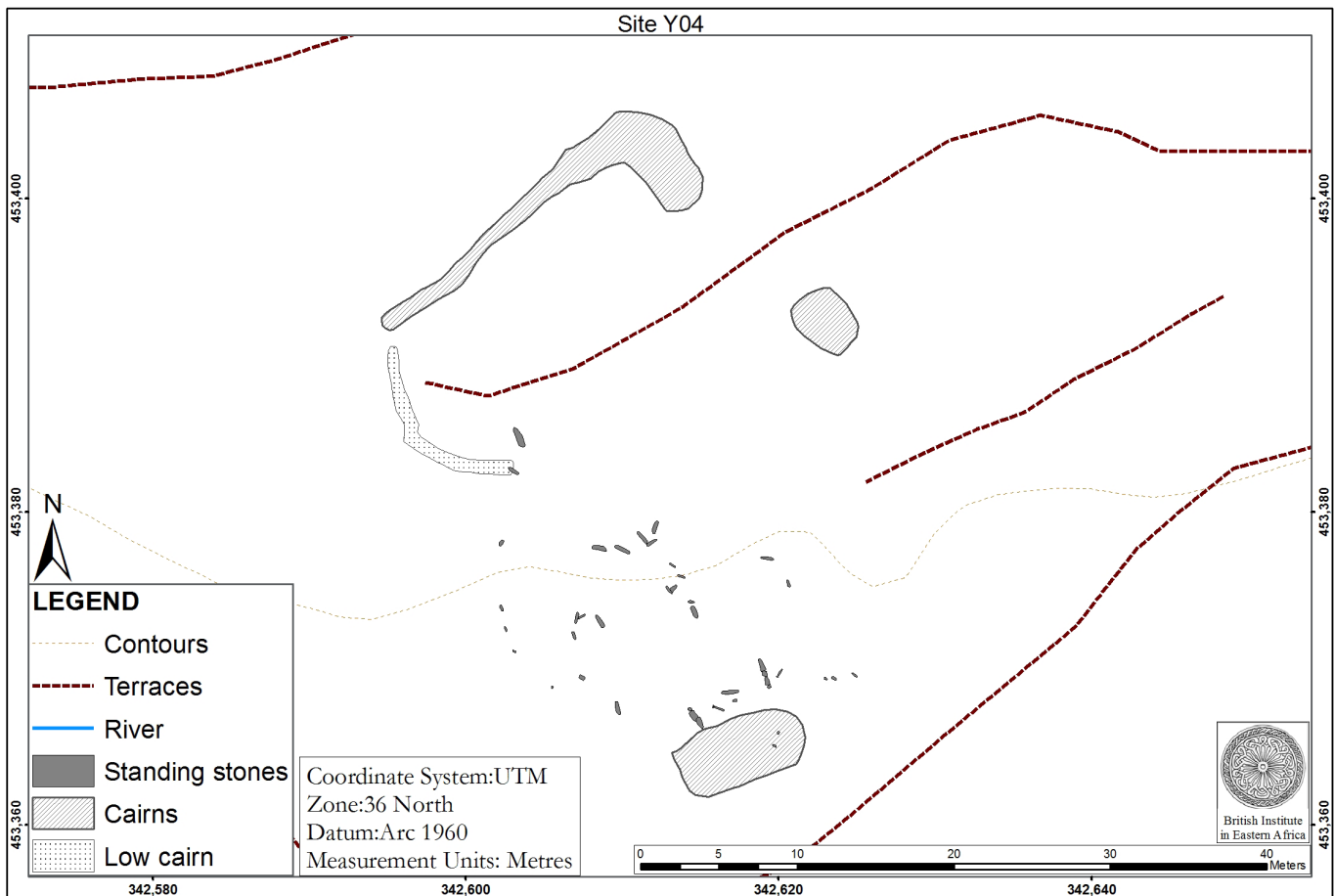


Figure 9: Plan of Y04.



Figure 10: Granary base (A), cairn with small standing stones (B) and fallen standing stones (C) at Y04.

not located, some seven other sites were encountered including X01 and X02, which are large grindstones in dense grass, and field clearance cairns and low field terraces at Y01 to Y03. Y02, Y03 and Y05 also displayed a number of small isolated standing stones while at Y03 there were numerous roulette decorated pottery sherds of at least two variants, as well as one fine rim sherd, one sherd with intricate cross hatching and another with incised dots, both of which were made with fine black clay. These sherds might hint at a different ceramic style to that commonly encountered elsewhere.

Y04 is a highly interesting site the extent of which was principally revealed because the grass had recently been burned (Figure 9). At the centre of the burnt area were three large stone cairns built of piles of relatively small stones and gravel. One of these is particularly striking because it is 'L' shaped and some 1m high and 3m x 8m in length with the

longer arm gradually reducing in size and tailing off into a narrow low terrace-like linear feature. Another stone cairn contained two small standing stones projecting from its upper portion while some 20 larger fallen standing stones, (some as much as 1.5m in length) are found scattered between the cairns (Figure 10). These discoveries potentially suggest some kind of ritual or burial site, however, further investigations identified an extensive network of low field terraces spanning a large area, some 400m x 300m around the central cairns. In addition, within these terraces were a number of notched stone granary bases, as well as a handful of grindstones, and numerous small clearance cairns. Another interesting aspect of this site is the almost total absence of any surface finds – only five pottery sherds were recovered, each with a roulette decoration, although two slightly different types of roulette are present. Y04 therefore possesses many

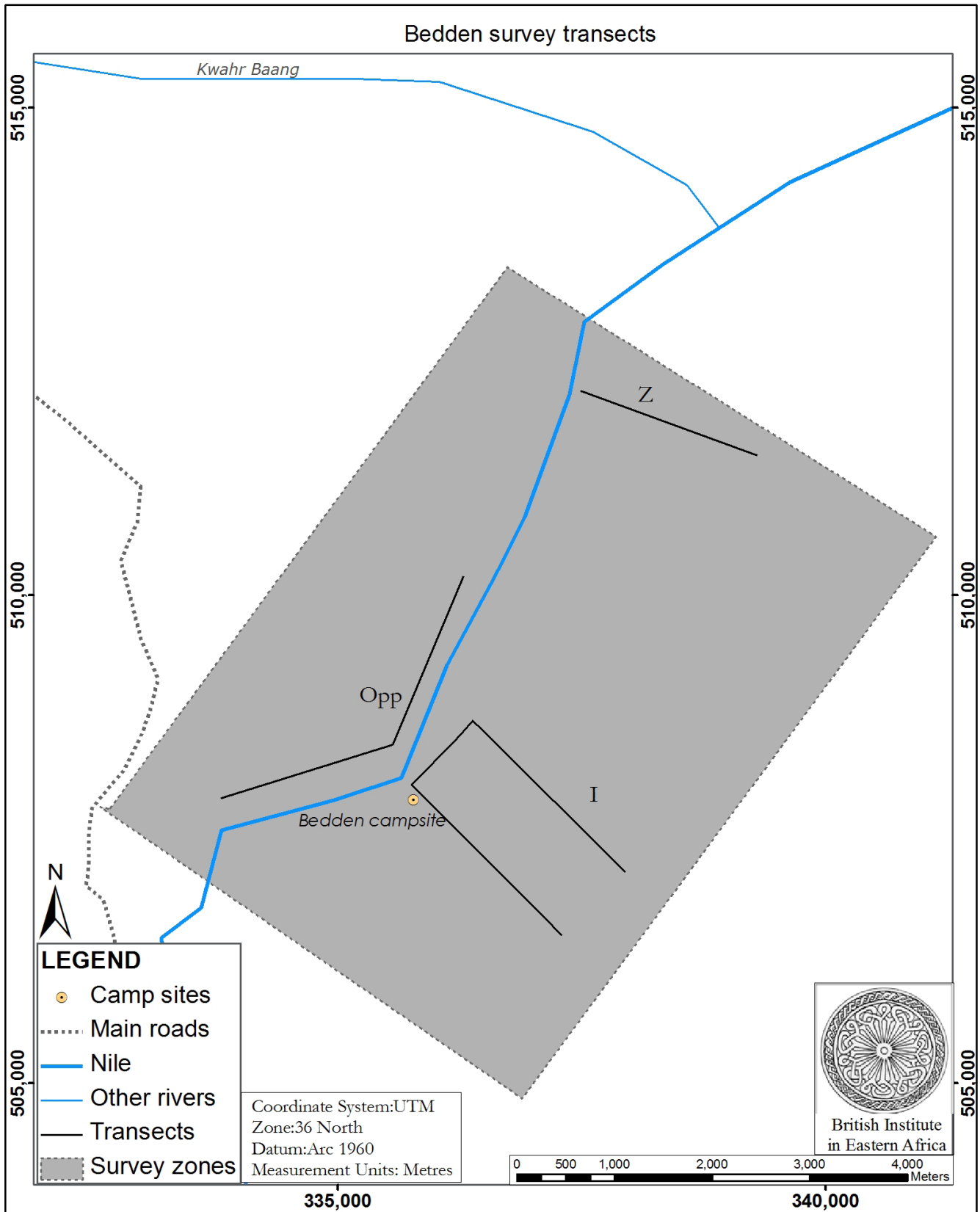


Figure 11: Bedden survey transects.

of the features of a densely occupied domestic agricultural landscape, but the central cairns and standing stones are somewhat atypical and might suggest alternative activities. Naturally, there is no reason why all of these features should be contemporaneous and until further investigations can be made it would seem premature to make any speculation on the nature of the site.

The Bedden Survey Zone

At Bedden the area was potentially more subject to land mines and as such survey was restricted to access roads (Figure 11). Survey I recorded some twenty sites (I01-I20) mostly comprising scatters of roulette decorated ceramics, as well as some iron slag and some fragmentary bone. The most substantial scatters of these were I04 to I08, which appeared to be large interlinked concentrations of cultural material each of which merged into one another. Also at I01 and I05 there were quantities of clear white quartz. The road grader had exposed much of the material and it seems likely that with further disturbance more artefacts would have been located. The density of artefacts encountered along each transect, once again attests to the region having been densely populated at some time in the past.

Survey Z was conducted in an attempt to locate the Bedden old fort also located on the 1975 Survey of Sudan maps. However, the nature of the vegetation and terrain forced the abandonment of this endeavour. Nevertheless, the survey did locate some five sites (Z01-Z05) of which Z01 was a sequence of four notched stone granary bases, similar to those located elsewhere, Z02 was a large elongated cairn and Z04 and Z05 were small scatters of pottery and iron slag.

In addition to survey Z, a section of the riverbank around our Bedden campsite was surveyed by boat. When suitable landing points presented themselves, a brief survey of the area around the landing point was conducted. Of four landing points surveyed only two sites were worthy of re-

cording. The first was a small rockshelter directly on the riverbank and with some potential deposit but no clear finds; such small rockshelters are likely numerous along this stretch of the Nile and a more concerted effort to locate them may prove fruitful. At Opp 22 a large open grassy area immediately adjacent to the river, evidence was found of granary stones, a grindstone and some fairly recent ceramics. A large island opposite our Bedden camp was also extensively field walked. The island was some 800m long by 400m in diameter, with a small hillock on the southern side and a large flat open area in the central part and north side. Scatters of roulette-decorated ceramics were found on the hillock, as were some small pieces of iron slag. A few small mounds were also found surrounding the large open area and although there were no signs of artefacts, these might have been small middens. The island shows plenty of evidence of pre-1950s activity and certainly warrants further investigation, not least because it is known that villagers and slaves often inhabited such islands.

Forts, Historic Sites and Opportunistic Survey

A range of historic maps of the study region (including the 1975 Survey of Sudan maps), suggested that there were four 'old forts' located within the general survey region at Laboré, Muggi, Kirri, and near Bedden (Figure 1). A reading of the historical sources (Moorhead 1960; Mounteny-Jephson 1890; Stanley 1890) confirmed that these were likely forts constructed by Colonel Charles Gordon and garrisoned by his successor Emin Pasha making them of particular historic interest. The search for forts at Kirri and Bedden has been discussed above but was unfortunately unsuccessful. A member of the Australian construction company had however, already located the fort at Laboré within the Shukoli survey zone. This extensive fort has the potential to become a major heritage site within the new South Sudan. Space precludes further treatment in this article, but it is suffice to say that fuller details will be presented in forthcoming articles (see also Davies 2009; Davies and Leonardi 2012).

Where possible a range of local informants was questioned although the region was generally very sparsely inhabited. Nevertheless various pieces of information led to the opportunistic discovery of a small number of potential historic sites within the vicinity of Nimule. These include a site known locally as 'Mt Gordon' and situated on a small hill some 300m from the main Juba-Nimule road and just before entering Nimule. The site is said to have been Colonel (General) Gordon's residence while he was governor of Equatoria and comprises of large amounts of brick rubble and some relatively unclear foundations. Surface finds comprise of only a few sherds of 19th century glass and little else. This site is potentially very interesting giving the general impression of a late 19th century dwelling in a European style. Indeed the location of the site is somewhat upstream from the Dufile Fort that was Gordon's main base (Posnansky 2007). Just outside of the gates to Nimule National Park are the graves of two medical officers, Edward Stoney (d. 1905) and Edwin Sly (d. 1903). The graves are well constructed and consist of a raised stone platform some 0.5m high, and each topped with a large inscribed cross. Also close to the National Park and at a sharp bend in the Nile is Nimule landing, the spot where steamers on the Nile used to dock. The metal frame of a large old warehouse is still erect and a single landing point is visible. Within Nimule itself, a large tamarind tree is said to have been a stopping point where both Gordon and Baker rested on reaching Nimule. A ring of standing stones once circled this tree, marking this 'historic' point, however, only a very small number of the stones remain. A small stone platform/monument also exists at the tree but any original inscriptions/plates are lost. A number of other sites from the British period were recorded but are not presented here (see Davies 2009 for further details).

Discussion: Sites, Features and Material Culture

While highly preliminary and lacking much in the way of broader frameworks, we nevertheless hope that the large number of sites and features located by this project serve as a clear demonstration

of the archaeological potential of the Juba-Nimule region and of the South Sudan more generally; as well as a guide to future research. Some significant trends are briefly worth highlighting. Firstly it should be noted that Stone Age finds were extremely scarce especially relative to later Iron Age features. However, this apparent disparity may be a factor of extremely challenging vegetation and the much higher visibility of Iron Age agricultural features under such conditions. Certainly further Stone Age research should be conducted in this region.

Secondly, it is clear that the region was very densely occupied with agricultural communities formerly and seemingly with a settlement pattern comprising small hamlets and larger villages. Unfortunately no dating material has yet been recovered and local ceramic sequences are non-existent, so it is difficult to assess the contemporaneity or otherwise of the sites and features discovered (excepting the historic forts and related imperial sites). Evidence of agricultural practice was ubiquitous across the survey transects and a number of interesting features should be highlighted. These include numerous neatly revetted rectilinear stones cairns, generally 1-2m² at the base and 1-1.5m high, with a loose rubble core. They likely relate to agricultural clearance although their 'well built' nature might suggest an alternative purpose. Also widely found is a range of small standing stones generally with, but occasionally lacking, U-shaped 'notches' at their upper end. These short standing stones (c. 40cm in height) are most commonly found arranged in small circles of 1-2m in diameter but also in rectangular alignments. They almost certainly represent granary bases and indeed a few modern examples were observed in villages close to the survey region. These general agricultural features tend to be found in combinations with smaller circular clearance cairns and low field terraces, many of which are no more than the piling of small stones and gravel along the line of what must previously have been field boundaries.

However, a range of large circular and irregular stone cairns were also recorded and these

may be more than simple field clearance features. Particularly notable are the large 'L' shaped cairn at Y04 and the large circular cairn at the same site which contains two small upright standing stones. Similarly a number of larger standing stones, occasionally in combinations but generally singular, are intriguing and likely mark or symbolically represent burials as attested by informants. Indeed, while most features observed may be attributed to 'agricultural activities' a number of these features may attest to other purposes relating perhaps to death or burial and therefore warrant further careful consideration. The extensive walling at Renjuk found in combination with the common suite of agricultural features as well as various standing stones is a particularly interesting combination. Iron smelting and/or smithing was also very much in evidence with the discovery of a number of furnace bases and large amounts of iron slag at various locations (c.f. Birch 1937). Finally certain features, such as the 2km linear 'wall' terminating at F16, confound any present interpretation.

The material culture of the region is dominated by rough roulette decorated pottery, with a number of roulette types (and possibly matt impression) in use. Full ceramic analysis is yet to be conducted but large (c. 30-50cm) diameter globular pots with wide mouths, everted rims and bands of decoration seem common. Indeed a small number of such pots were encountered in present-day settlements. A much smaller number of other ceramic types were encountered; most notably some fine rim sherds at C06 and fine cross-hatching decorated sherds at Y03. These two types are not similar and currently it is difficult to place them into local sequences. At the various historic sites and at Laboré Fort a range of imported Eurasian materials including glass and porcelain were recovered but their discussion awaits future articles.

Conclusion

This report has presented an outline of the extensive results of BIEA surveys in South Sudan during late 2009. These results represent merely

the tip of the iceberg with regard to the potential for archaeological research in the region and a vast amount remains to be done before we can make even the most basic of chronological and typological assessments of the materials recovered. Further analyses of the survey results, especially the surface materials recovered, are ongoing and we hope that with further survey and the addition of test excavation, that we may be able to begin laying the foundations for an archaeology of South Sudan.

Acknowledgements

Many thanks are due to all members of the survey teams especially Dr. Paul Lane and David Conway. David Conway also greatly assisted by systematising the survey records. Benson Kimeu constructed the maps and GIS. Special thanks are due to the Ministry of Culture, Youth and Sport, Government of South Sudan especially Youssef Onyalla the Senior Inspector for Museums and Monuments and Aluel Isaiah. I must also thank the Snowy Mountains Engineering Corporation (SMEC) for facilitating this research, particularly Len Drury, Penny Geerds and especially Michael Clarke who first located the Laboré Fort. Finally, I must thank the BIEA for funding and logistical support and Dr. Justin Willis for initiating the BIEA's involvement.

Bibliography

- Baker, S.
1895 [1874] *Ismailia: A narrative of the Expedition to Central Africa for the Suppression of the Slave Trade.* London: Macmillan.
- Birch, J.P.
1937 Madi blacksmiths. *Uganda Journal* 5: 48-49.

- Davies, M.I.J.
 2009 *Archaeological and Historical Sites Impact Assessment: Bahr El-Jebel Hydropower Project*. Unpublished Consultancy Report, on file at the British Institute in Eastern Africa.
- Davies, M.I.J. and C. Leonardi
 2012 Gordon's fort at Laboré and issues of developing archaeology in the new South Sudan. *Antiquity Bulletin* 86 (334) (December).
- David, N., P. Harvey, and C.J. Goudie
 1981 Excavations in the Southern Sudan, 1979. *Azania* 16: 7-54.
- David, N.
 1981 The BIEA Southern Sudan Expedition of 1979: interpretation of the archaeological data. In J. Mack and P. Robertshaw, editors, *Culture History in the Southern Sudan: Archaeology, Linguistics and Ethnohistory*. Nairobi: British Institute in Eastern Africa, pp. 49-58.
- Lane, P. and D. Johnson
 2009 The archaeology and history of slavery in South Sudan in the 19th century. *Proceedings of the British Academy* 156: 509-537.
- Mack, J. and P. Robertshaw
 1982 *Culture History in the Southern Sudan: Archaeology, Linguistics and Ethnohistory*. Nairobi: British Institute in Eastern Africa.
- Moorehead, A.
 1960 *The White Nile*. London: Hamish Hamilton.
- Mounteney-Jephson, A.J.
 1890 *Emin Pasha and the Rebellion at the Equator: A Story of Nine Months Experiences in the Last of the Soudan Provinces*. London: Sampson Low.
- Phillipson, D.
 1981 A preliminary archaeological reconnaissance of the southern Sudan, 1977-8. *Azania* 16: 1-6.
- Posnansky, M.
 2007 *Dufile: The excavation of Emin Pasha's Military station, Moyo district, Uganda, 2006-2007*. Unpublished Report: Uganda Museum Kampala [copy at BIEA, Nairobi].
- Robertshaw, P.T.
 1982 Eastern Equatoria in the context of later eastern African prehistory. In J. Mack and P. Robertshaw, editors, *Culture History in the Southern Sudan: Archaeology, Linguistics and Ethnohistory*. Nairobi: British Institute in Eastern Africa, pp. 89-100.
- Robertshaw, P.T. and A. Mawson
 1981 Excavations in eastern Equatoria, Southern Sudan, 1980. *Azania* 16: 55-96.
- Seligman, C.G. and B. Seligman
 1932 *The Pagan Tribes of the Nilotic Sudan*. London: Routledge.

Stanley, H.M.

1890 *In Darkest Africa or the Quest, Rescue and Retreat of Emin, Governor of Equatoria.*
London: Sampson Low.

Footnotes

¹The survey team included Dr. Paul Lane, Mr. Benson Kimeu (BIEA archaeological surveyor), Mr. Joseph Mutua (BIEA archaeological assistant), Mr. David Conway (BIEA graduate student), Miss Jessica Petts (BIEA graduate student), and Miss A. Aluel (GOSS archaeologist).

²Our local guide also decided to set fire to the vegetation at the site forcing us to flee from the flames!