

■ TANZANIA

Stone Age observations in the Engaruka area

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Introduction

Engaruka is most famous for its vast Late Iron Age remains. However observations of the earlier prehistoric periods in Engaruka and its surroundings are less frequent. During 2002-2004, the author was involved in the University of Helsinki Department of Archaeology's "Cultural ecology of the East African savanna environment in a long-term historical perspective" project. The main emphasis of this project is on the Late Iron Age (LIA) Engaruka complex (ca. 500-200 BP). However, in the course of our field research, I was able to conduct my own small scale Stone Age research on the side, the results of which are presented here.

Archaeological and geological research history

A limited number of previous archaeological, geological or geographical studies have been carried out within the Engaruka area. These deal mostly with a later period than what I focus on. Former research has strongly concentrated on the LIA Engaruka complex, which has been studied on various occasions since the first excavations in 1913 (cf. Siiriäinen et al. 2002). Because of this discrepancy in the concentrating of research, the Engaruka complex has hardly ever been seen in its wider chronological and geographical setting.

Louis Leakey and a number of geologists working in the research area reported scattered observations of finds of Early (ESA) and Middle Stone Age (MSA) type and two Late Stone Age (LSA) rockshelters (Keller et al. 1975) from the Lake Manyara and Engaruka area. However, none of these have

been confirmed or relocated. Charles Keller and his colleagues (1975) conducted some geological and Stone Age research in the 1970s in both the Lake Manyara and Engaruka Basins. Their work concentrated on mapping the geomorphologic features and the extent of lacustrine sediments. They located some MSA and LSA find spots related to ancient shorelines and lacustrine sediments in the Engaruka Basin and along the Emugur Belek River ravine. However, these observations were limited to random sampling and unfortunately were not reported on with significant accuracy to allow for relocation. More recently, paleoenvironmental studies connected to the Pleistocene-Holocene boundary were conducted in the area by researchers from the University of Stockholm (Ryner et al. *in press*).

Fieldwork in 2002-2004

A couple of Stone Age find spots were located through preliminary visits to potential areas in the Engaruka area during the field seasons of 2002-2003. In the course of the 2004 field season, the present author continued the Stone Age survey within the limits of the main LIA archaeological site and along the ancient shoreline features located in 2003 in the presently dry Engaruka basin. During surveys, several new sites were located and one, Engaruka Basin 6, was test excavated.

Previously conducted Iron Age surveys have been mostly aimed at areas offering potential for irrigation agriculture. They were chosen on the basis of local topography, hints from local informants, and observations made by earlier researchers, especially by John Sutton. Along these surveys also various Stone Age observations were made and documented by the author.

The author's survey work in the Engaruka Basin was carried out in a more systematic manner as randomly placed tracts were situated roughly west-east across the observed shoreline features. The prehistoric find concentrations within the tracts were documented with sketch maps and the Global Positioning System (GPS). The tracts were of varying lengths according to the local topography. This was to get a fuller idea of the spatial distribution of the archaeological material. Some of the located sites were further divided into discreet find areas if find concentrations were situated within 200 m from each other and/or characterized by different lithic raw ma-

terials. A small random collection of finds was made at all the observed find places. The majority of the finds were left lying *in-situ*. A full list of the observed Stone Age sites and finds is available in Seitsonen and Laulumaa 2004.

Stone Age observations in the Engaruka area

The Stone Age observations were made within two main areas: at the foot of the western escarpment of the Rift Valley within the area covered by the vast LIA archaeological site, and down in the northwest corner of Engaruka basin (Figure 1). Six Stone Age type find locations were observed within the first mentioned area and seven in the latter.

The Stone Age sites are scarce and are limited to areas where Iron Age activities have been less pronounced, e.g. on hilltops. Stone Age finds were collected at three hilltops on both sides of the Engaruka River. Finds were mostly microlithic chert, quartz and to a lesser extent obsidian artifacts; however, a number of ESA/MSA volcanic artifacts were collected on Edonyo Emwalimui Hill which rises south of the Engaruka Jerusalem camp site. The oldest Stone Age find made at the Engaruka area is an Early Stone Age chopper found in a LIA field clearance cairn excavated in 2004. The cairn is situated about 200 meters west of the Edonyo Emwalimui hill.

In the extreme north margin of the vast Iron Age site a little north of the seasonal Lolchoro river gorge, is located a large MSA site, Lolchoro 1 and a smaller LSA site, Lolchoro 2. At Lolchoro 1, lithic finds of chert, quartz and volcanic rocks came from the deposits on the eastern side of a deep erosion gully at the depth of around seven to three meters below the modern surface. Many of the collected flakes and tools have faceted striking platforms and radial preparation on their dorsal side. The medium-density LSA-type lithic scatter Lolchoro 2 was observed on the modern surface above these MSA deposits. This consisted completely of microlithic artifacts struck from white chert.

Besides the areas outside the most intensive Iron Age activity, lithics have also been collected during the excavations of Iron Age remains (Siiriäinen et.al. 2002). These might be attributed to the Stone Age activities carried out earlier in these areas, or to stone tool using Iron Age groups.

Down in the Engaruka Basin, sites were located in two major environmental settings: on a continuous ancient terrace formation (Figure 1: 1, 5-7) and on the fringes of eroded volcanic basement rocks (Figure 1: 2-4). The terrace is two-stepped in shape for most of the observed part; this might be connected to minor fluctuations of ancient lake levels within the now dry basin. There were no other clear shore morphological formations besides this terrace. Above this terrace formation, the terrain rises evenly, and below it the floor of basin slopes slowly down towards the center of basin. Sites next to the rock formations are slightly elevated from their surroundings and are situated 20-30 m higher in elevation than the ones on the terrace. All of the sites in the Engaruka Basin have mainly LSA characteristics. Some of them might also have an MSA component, although this is fairly uncertain based on survey finds. Some find places seem to have been intermittently utilized for varying purposes to the present day.

Test excavations at Engaruka Basin

Engaruka Basin 6 (Figure 1) was chosen for test excavation. Four one to two m² trenches were excavated at the site in order to test various parts of the observed surface scatter. Excavation was carried out in circa 10 cm artificial spits, while following the observed lithological and stratigraphic changes. Three of the trenches were excavated to examine the extent of erosion on the upper terrace, which proved to be considerable, and to test the possible remains of an old *boma* or animal enclosure, a roughly circular level area about 90 meters in diameter, and its connection to the obsidian lithics observed on its surface. Local informants from a nearby *boma* confirmed our assumption about the old *boma*; the age of the abandonment of this homestead was estimated by them to have been 30-50 years. It seemed that the observed obsidian lithics are connected to the use-life of the *boma*, which interpretation was strengthened by the local informants. There were also some chert lithics deeper in the deposits. These seemed to present residue from an earlier occupational period mixed with later deposits during the use of the *boma*.

Trench 1 was the most productive of all the excavated pits. It measured 2 x 1 m and was excavated on the western side of a rock formation situated on the shoreline terrace. It was hoped that the erosion would have been less pronounced behind

Figure 1: Digital Elevation Model (DEM) showing the sites in the Engaruka Basin. The dashed line presents possible extent of the lake connected to the observed terrace formation. Modern seasonal lake is presented in light grey.

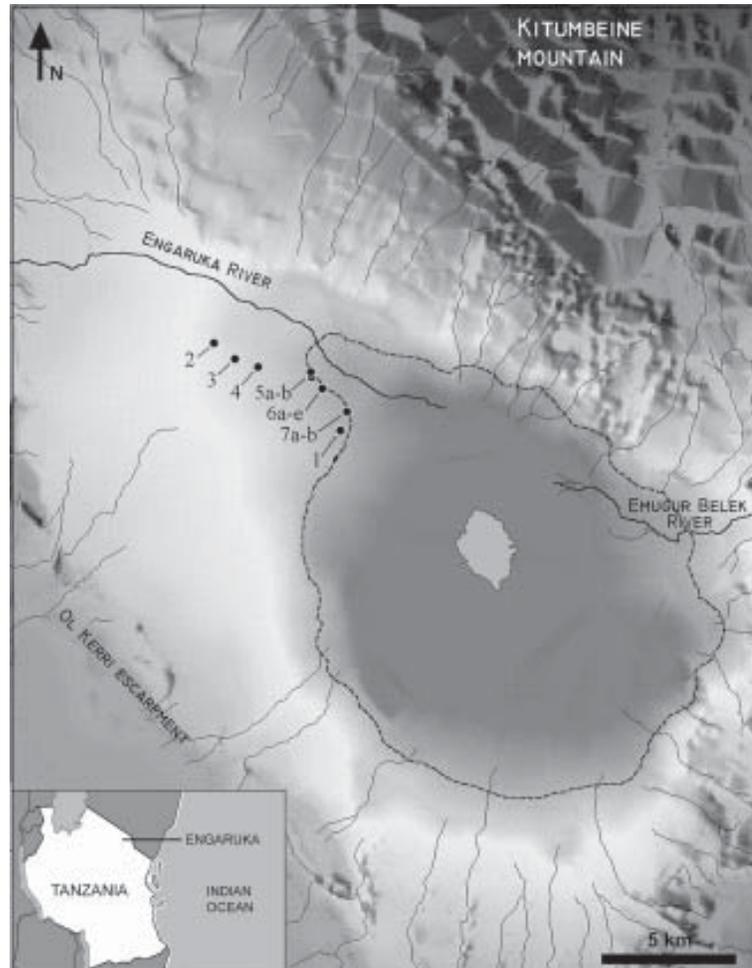
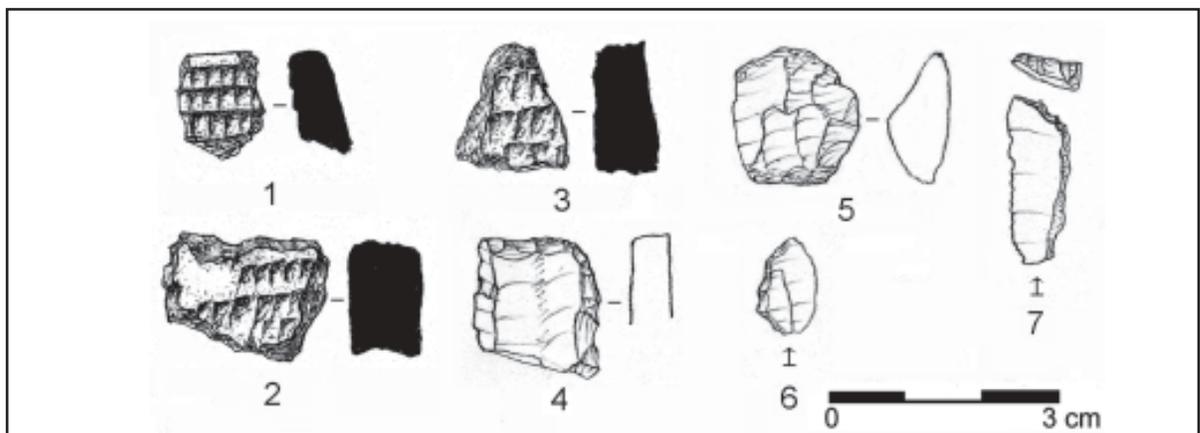


Figure 2: Finds from Engaruka Basin 6. 1-3. potsherds; 4, scraper; 5, pièce écaillée (bipolar core); 6, crescent; 7 truncated microlith. 5 obsidian, others chert. (Illustrated by O. Seitsonen).



this rock, and sediments would be better preserved, which proved to be true. Still the top of the deposit had eroded away, as had other parts of the site. There were few potsherds, one a rim sherd, encountered in trench 1. They were all decorated with closely set cuneiform stamps (Figure 2). Despite the small size of the sherds, they might be connected to Nderit Ware (formerly Gumban A; also called Olmalenge Ware). This pottery type was first described by L. S. B. Leakey in Nderit Drift and Stable's Drift in the Lake Nakuru basin. Its decoration consists usually of cuneiform impressions covering the whole exterior of the vessel. There are often, but not always, scored lines or incised grooves on the interior surface (Nelson 1995).

The encountered sherds were produced with coil technology, and have broken along the coil boundaries. Their paste contains very little visible fine sand temper and is relatively porous, which is distinctive for a number of Nderit pots. In general two kinds of paste have been used for Nderit Ware: a coarser, relatively dense, sand tempered variant, and a second more porous variant with very fine sand temper (*ibid.* 58). None of the Engaruka Basin sherds had interior decoration, which is typical for Nderit pots made from the fine, porous paste. Nderit Ware is found over a vast geographical area from Lake Turkana in the north to Seronera in the Serengeti Plains in the south. Its distribution is mainly restricted to the Rift Valley with few exceptions. If the Engaruka Basin potsherds belong to the Nderit tradition, they present the southern boundary of its spatial distribution. However the apparent scarcity of Nderit sites in the southern part of the distribution area is probably a construct of the concentration of earlier research.

Dates for Nderit tradition stretches over several millennia. Generally the dating is relatively vague, but radiocarbon dates suggest a date between ca. 3400-2000 BP in the Rift Valley; an anomalous early date from the Salasun site might be erroneous (GX-4422-A: 7255 ± 225 [Bower et al. 1977]).

A total of 84 lithics were found in trench 1, three of them small fragments of ground stone tools, originating possibly from pestle rubbers. The basis of lithic technology for all the raw materials (quartz, chert and obsidian) seems to have been flake production from platform cores. This interpretation is founded on the observed striking platforms, majority

of which display the characteristics typical for platform reduction; yet it has to be remembered that morphologically similar pieces can occasionally take form with varying reduction techniques. All the blades in the assemblage also derive from platform cores. The existence of blades and their fragments, in addition to the use of microburin technique for microlith production, suggest that at some point of the reduction sequence also formal blade/bladelet cores were utilized. Also bipolar reduction was utilized for all the raw materials.

White lacustrine chert with its typically reticulated cortex pattern is the dominant raw material at Engaruka Basin 6, as well as at all the other sites in the Engaruka area. This kind of chert is known to exist on the highlands west of the Rift scarp out onto the Serengeti Plain, such as in the Bed II exposures at Olduvai Gorge (Keller et al. 1975:375), and along the southwest shore of Lake Natron (personal observation 2004). Based on its known source areas and ease of communication the most probable source for the Engaruka material could be in the direction of Lake Natron. Quartz is an abundant local material present, for example, at the Ol Kerri escarpment (personal observation 2004).

The nearest known obsidian sources are all situated more than 100 km away on the slopes of Kilimanjaro, near Lake Magadi and around Lukenya Hill (Merrick et al. 1994). Obsidian color is often mentioned as a relatively good measure of its place of origin. The few encountered obsidian pieces are of a translucent green variant, except for one translucent grey specimen. The greenish tinted obsidians are said to origin from sources on the upper reaches of Mount Eburru and the greyish ones from lowland sources in the Sonanchi Crater area at the southwestern corner of Lake Naivasha. There is evidence of movement of obsidian over distances of more than 200 km already in MSA times in northern Tanzania. (*ibid.*:43). It is possible that the obsidian used at Engaruka originates from sources in the Eburru - Naivasha area in Kenya; it might have been obtained through the social networks of Nderit people connecting the various parts of Nderit ware's distribution area. Some ostrich eggshell beads were also found in the trench, as well as a number of faunal remains and ostrich eggshell fragments. Most of the faunal remains are semi-fossilized and belong to large mammals, although there was also one distal fragment of a fish jaw.

Conclusion

The recent studies conducted by the author have shown that there is a wide range of Stone Age occurrences in the Engaruka area. During surveys, finds ranging from the Early Stone Age to Late Stone Age were encountered. In general, the Engaruka area covered by Late Iron Age remains seems to have been also frequently exploited by the Stone Age inhabitants. Possibly some of the lithics encountered in the course of excavations of Iron Age remains could be resulting from the pre-Iron Age activities in the area (cf. Siiriäinen et al. 2002). Some of the stone artifacts encountered in the excavations might also be connected to the lithics use by the Iron Age population, or interaction between the them and their possible Later Stone Age hunter-gatherer neighbours. The find locales yielding Stone Age material in the Engaruka region are generally not datable, besides those finds with clear Early or Middle Stone Age characteristics. However, it is possible that the LSA foraging lifestyle could have survived to a relatively recent date alongside the settled food-producing Iron Age culture.

Of special interest is the relation of sites observed down in the Engaruka Basin to the ancient lake within the basin (Figure 1). Most of the sites in the basin are somehow connected to the shoreline formations, such as terraces, and one fish bone was collected in the test excavation. Yet it has to be kept in mind that the archaeological observations do not unswervingly mirror the past climatic, ecological or cultural settings. Human occupation is possible even during arid conditions, as demonstrated nowadays by the existence of several Maasai *bomas*. At any rate, the consistent association of archaeological occurrences with shore formations and lacustrine sediments at various elevations around the basin suggest that it contained water at least seasonally. On the basis of this one stage of the lake development might have existed connected to the Nderit Ware roughly between 3400-2000 BP. Also the sites situated at higher levels next to the rock formations and those observed by Keller et al. (1975) might be connected to high lake levels. The observations made during the current research will be further examined in the upcoming field seasons with additional archaeological and geological studies.

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