

## ■ KENYA

### Exchange networks, socio-political hierarchies and the archaeological evidence for differential wealth amongst Pastoralists in south-western Kenya

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This paper discusses the Elmenteitan pastoral subsistence system of south-western Kenya. In an attempt to explain variation in the size and structure of these sites, Robertshaw (1990) developed a model of Elmenteitan economy and socio-political structure. This model postulates the development of a socio-political elite who were wealthier and occupied larger sites than other Elmenteitan pastoralists in the same region because they were able to control the obsidian exchange and re-distribution networks and use their economic and political power to accumulate more livestock (Robertshaw 1990:296-298). This paper outlines a series of potentially testable markers developed from this hypothesis, and discusses their archaeological expectations. This includes a consideration of the features of the faunal assemblages from two Elmenteitan sites located in the Lemek-Mara area that might yield information about the postulated presence of a socio-political hierarchy.

The appearance of pastoralists in south-western Kenya can be tied to the appearance of the Oldishi tradition, which is established in the Lemek Valley from around 2,700 BP (Robertshaw *et al.* 1990:45). Around 2,350 BP, the Oldishi is replaced by the Elmenteitan, a tradition also found in other areas of Kenya (Robertshaw *et al.* 1990:45). Because Elmenteitan pottery, stone artifact industries and lithic sources are markedly different from those of the Oldishi tradition, Robertshaw *et al.* (1990:45) propose that the beginnings of Elmenteitan settlement around 2,350 BP in the Lemek Valley were due to “the immigration of people who replaced, or absorbed into their culture, their Oldishi predecessors”.

While the density of artifacts on Elmenteitan sites is variable, the size of sites appears to show a bimodal, or possibly trimodal, distribution (Robertshaw *et al.* 1990:42-43). Four of the six larger sites are located in the Lemek Valley and two are situated on the edges of the Mara Plains close to the Oldorotua stream (Robertshaw *et al.* 1990:43). Only two of these large sites, Sugonya and Oldorotua 3, contain extensive deposits of animal dung indicative of central livestock enclosures (see Figure 1 for site locations). None of the other Elmenteitan sites, small or large, have major dung deposits, although smaller dung accumulations were found at Ngamuriak and GuJf28 (Robertshaw *et al.* 1990:43). Therefore, Elmenteitan sites in the Lemek-Mara area are either small, with little or no accumulations of dung, or are large and contain extensive dung deposits (Robertshaw *et al.* 1990:43). Robertshaw *et al.* (1990:43) argue that this patterning could reflect economic specialization, and view “the sites with central livestock enclosures as the settlements or camps of those who specialized in the management of livestock, while the inhabitants of other settlements pursued a more agricultural way of life, even if, as is evidenced by the faunal remains, they obtained a substantial part of their subsistence from livestock produce”. It has also been suggested that Elmenteitan society may have been hierarchical, as only two sites have extensive livestock enclosures and the location of these sites does not seem to be tied to ecological or land-use concerns (Robertshaw *et al.* 1990:43).

Information about the size hierarchy of Elmenteitan sites, the presence of dung deposits representing central livestock enclosures, shifts in settlement patterns and associated changes in the use of stone raw materials was used by Robertshaw (1990:297) to formulate a model for the development of Elmenteitan economy in the Lemek-Mara area. Elmenteitan pastoralists settled the Lemek Valley about 2,350 BP. Initially, they may have been agropastoralists, cultivating tropical cereals like sorghum and finger-millet, as well as herding domestic livestock (Robertshaw 1990:297). By amassing larger herds and therefore wealth, a few communities no longer needed to cultivate to supplement their diet (Robertshaw 1990:297). The ability to control the obsidian exchange and redistribution network may have been the means through which these communities were able to accumulate more livestock than other groups (Robertshaw 1990:297). Robertshaw

Figure 1: Location of archaeological sites in the Lemek-Mara region (adapted from Robertshaw 1990)



(1990:297) suggests that elders within these communities were able to control the distribution of obsidian through “the exercise of authority invested in them, perhaps as a result of ascribed rather than achieved status”, and they may have acted as “middlemen” in the movement of obsidian from the quarries to the rest of the Elmenteitan region, as well as specifically between Elmenteitan settlements in the Lemek Mara area (Robertshaw 1990:297).

Around 1,800 BP, iron-working agriculturalists settled in neighbouring areas and may have traded their surplus grain to Elmenteitan groups in exchange for small stock (Robertshaw 1990:297). The ability to obtain grain through trade would have eliminated the need for cultivation among Elmenteitan groups and they could then have engaged in specialized livestock production (Robertshaw 1990: 297). This shift in subsistence patterns is “based on the assumption that Elmenteitan peoples placed a strong cultural emphasis upon livestock such that their economic ideals were rooted in the possession of livestock and in a diet consisting entirely of domestic animal products” (Robertshaw 1990:297).

According to Robertshaw (1990:297), the shift in subsistence to specialized pastoralism would have had many consequences. It would have, for example, enabled the diffusion of Elmenteitan people from the Lemek Valley across the Mara Plains, and settlements would have been more temporary as specialized pastoralists are likely to have been more mobile than their agro-pastoralist predecessors (Robertshaw 1990:298). In addition, the probable increase in the total numbers of livestock may have resulted in a decrease in the differences in wealth between settlements (Robertshaw 1990:298). Combined with the diffusion of iron tools and weapons into the region, this would have led to the breakdown of the obsidian exchange network, eventually leading to the collapse of the Elmenteitan political system (Robertshaw 1990:298). Following the decline of the obsidian exchange network but prior to the widespread use of iron technology, Elmenteitan pastoralists would have experienced difficulty in acquiring stone raw materials, and this explains why later Elmenteitan sites do not exhibit a predominance of green obsidian, but contain a mixture of raw materials, including several varieties of obsidian which might have been acquired by collecting discarded artifacts from abandoned settlements (Robertshaw 1990:298). Once iron implements had superseded stone artifacts, a

transition which may not have occurred until 800 BP, many pastoralist groups became archaeologically invisible (Robertshaw 1990:298).

Robertshaw (1990:298-299) suggests a number of different ways in which future research can serve to refine his model of Elmenteitan social and economic organization. He identifies a number of features, which might be suggestive of the presence of a socio-political elite within Elmenteitan society. One of the ways in which he suggests the model may be tested is through the analysis of the faunal remains from the sites with large livestock enclosures. He suggests that these sites may contain different proportions of cattle and caprines and exhibit differences in culling practices to those observed at other Elmenteitan sites in the Lemek-Mara region. He notes that “if the accumulation of cattle was the hallmark of the elite, then one might predict a greater predominance of cattle over small stock and possibly also different slaughter patterns” (Robertshaw 1990:299).

Robertshaw suggested that the presence of a hierarchical socio-political structure during the Elmenteitan might be tested through detailed comparative analysis of sites with large dung accumulations thought to represent the settlements of wealthy ‘elite’ pastoralists and sites with small, scattered dung accumulations that were probably occupied by less wealthy groups. At the site of Sugunya, located in the Lemek Valley, Robertshaw *et al.* (1990) recorded the presence of large dung accumulations, which Robertshaw (1990) argued were likely to represent the presence of wealthy pastoralists at this location. Therefore, the site of Sugunya was excavated in order to determine if the material remains from this site could be distinguished from those recovered from other previously excavated sites in the Lemek-Mara region at which dense dung accumulations were not identified. Oldorotua 1, an Elmenteitan site located on the edges of the Mara Plains, only contains small dung accumulations and is not thought to represent the settlement of wealthy pastoralists. The faunal assemblage from Oldorotua 1 was analysed so that it could be compared to the faunal assemblages from Sugunya and other Elmenteitan sites in the area, such as Ngamuriak, the faunal remains from which were analysed by Marshall (1990). The aim was to determine whether there are any indicators that different subsistence practices were pursued by inhabitants of sites of different size and with different amounts of

dung accumulation, and between those located in different areas of the Lemek-Mara region.

Drawing on Robertshaw's (1990) characterization of the Elmenteitan system and his suggestion of a socio-political hierarchy, a number of archaeologically testable hypotheses were formulated. These structure the way in which the sites were investigated and the analysis and interpretation of the faunal assemblages recovered from them were undertaken. The first of these is the relative numbers of cattle and caprines in the faunal assemblages. Robertshaw's model predicts that the faunal assemblage from a site with a large dung accumulation, like Sugunya, should contain a predominance of cattle over small stock. In addition, reconstructed herd compositions should reveal larger cattle than caprine herds. On the other hand, it might be expected that sites with small, scattered dung accumulations, such as Oldorotua 1 and Ngamuriak, will reveal different taxonomic abundances and herd compositions.

In fact, none of these assumptions are supported by the faunal data. Caprine remains are more abundant than those of cattle at Sugunya, and the faunal assemblage actually contains a smaller proportion of cattle remains than the Ngamuriak assemblage. Oldorotua 1, which was expected to exhibit similar proportions of small to large stock as Ngamuriak, actually produced a faunal assemblage containing a much smaller proportion of cattle. Herd composition calculations have shown that, while both Sugunya and Ngamuriak have a higher proportion of cattle in their herds than caprines, the proportion of cattle at Ngamuriak was slightly higher than at Sugunya. Herd composition at Oldorotua 1 differs dramatically, with caprine herds dominating over cattle herds.

Taken at face value, these data indicate that the pastoralists at both Sugunya and Ngamuriak may have been wealthy, maintaining large herds of cattle and small herds of caprines. It also suggests that, in terms of cattle, the inhabitants of Ngamuriak may actually have been wealthier than those at Sugunya. The data from Oldorotua 1 seem to indicate the presence of poor pastoralists or perhaps an economy based mainly on caprine herding. However, a number of alternative scenarios can also be offered that fit the observed patterning (Simons 2004), and issues of equifinality mean that the information generated about taxonomic composition of the herds at these

sites is not sufficient to assess Robertshaw's model at present.

The second testable hypothesis involves the ages of offtake of domestic stock. Culling patterns at Ngamuriak suggest that both cattle and caprines were allowed to reach maximum meat weight before slaughter, suggesting a late-offtake strategy in which resources were not in short supply (Marshall 1990). Robertshaw (1990:299) argues that different offtake strategies, such as the conspicuous consumption of juvenile cattle, may have been employed at wealthy settlements such as Sugunya, whereas similar patterns to those seen at Ngamuriak might be identified at Oldorotua 1. Analysis of the faunal assemblages has shown that more juvenile cattle were slaughtered at Sugunya than at Ngamuriak. Furthermore, of all the cattle that died as juveniles, only 12% of the cattle at Ngamuriak died in the first year of life compared to almost 46% of the cattle at Sugunya. Because of the low numbers of cattle in the Oldorotua 1 assemblage, this site has not been included in this discussion.

These differences could result from a number of different herd management practices. The presence of large numbers of immature cattle may reflect a form of conspicuous consumption by an elite at the site. However, even though it is clear that the inhabitants at Sugunya were slaughtering more young cattle than at Ngamuriak, they were still slaughtering more prime age adults than animals of any other age, indicating that young cattle were slaughtered relatively rarely. The relatively small numbers of juveniles in the Sugunya assemblage do not indicate that the slaughtering of young cattle was a regular and continuous activity, and may therefore not represent a form of conspicuous consumption.

There are a number of other scenarios that may explain the observed patterns at Sugunya, including the establishment of a bimodal pattern of rainfall, a focus on milk production rather than meat production, the absence of castration, site size, and the preference of an early-offtake strategy in times of stress (Simons 2004). However, none of these alternatives provide an adequate explanation for the difference between the age profiles of the cattle from Sugunya and Ngamuriak. This lends some support to the hypothesis that the presence of larger numbers of immature animals at Sugunya compared to Ngamuriak results from differences in status and wealth of the

two settlements. Therefore, it is argued that the higher numbers of juvenile cattle in the Sugunya assemblage do provide tentative support for the presence of an elite at this site.

The third testable hypothesis generated by this project involved the analysis of butchery and culinary practices. If the possession of large herds of cattle was the means by which some groups within Elmenteitan society differentiated themselves from the rest of the population, it is reasonable to propose that wealthier settlements may have treated the carcasses of cattle in different ways to those employed by the inhabitants of less wealthy settlements. Overall, there are many similarities in the butchery patterns that were practiced at all three sites. However, there are some differences and these do have implications for Robertshaw's model. The bones at Sugunya were less intensively processed than those at the other two sites. The assemblage from Ngamuriak shows a much higher frequency of cut-marks on the cattle bones, especially those with high meat content, and more effort was made to disarticulate cattle limbs here than at the other sites. At Oldorotua 1, there is evidence to indicate that more effort was made to remove meat from caprine bones than was made at the other two sites. The assemblage from Oldorotua 1 is more fragmented than the other assemblages and there are more large fragments at Sugunya than at Ngamuriak, indicating that bone grease may have been more important to the inhabitants of Oldorotua 1 and Ngamuriak than it was to the inhabitants of Sugunya. All of this suggests that at both Ngamuriak and Oldorotua 1, more effort was made to remove meat and to extract grease from bones than was made at Sugunya. This may indicate that the inhabitants of Sugunya were less inclined to extract all the nutrients potentially available from the bones of the animals they butchered, perhaps because they were richer and under less economic or food stresses and could therefore afford such incomplete processing of carcasses.

In conclusion, the aims of this project were to generate fundamental information about Elmenteitan subsistence practices and economy in the Lemek-Mara region and to use this as a basis from which to assess Robertshaw's model. The data from the comparative faunal analyses have added significantly to our understanding of Elmenteitan pastoral adaptations. In particular, while suggesting a basic cohe-

siveness to Elmenteitan economy, as reflected in fundamental similarities in subsistence activities, herd management strategies, butchery and culinary practices at different sites, they have also highlighted the heterogeneity that existed within the Elmenteitan pastoral adaptation. However, the possible explanations for the observed variations are numerous and their potential interactions complex. Issues of equifinality mean that the identification of the presence of a socio-political hierarchy amongst the Elmenteitan, while not disproved by the data, and indeed potentially supported by it, remains equivocal.

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