Bone implements

Przemysław Bobrowski

Introduction

The paper is to present all bone tools that have been found in a Neolithic cemetery as well as in the Kadero 1 settlement. Some of the artefacts have already been presented by Lech Krzyżaniak in short descriptions or illustrations contained in publications on Kadero (Krzyżaniak 1978; 1991; 1992a; 1992b). So far however the artefacts have not been described in detail or presented entirely.

At the archaeological site of Kadero 1 a total of 22 bone tools or parts thereof were discovered. Only four of these were found in a group in the Neolithic cemetery and the remaining 18 were scattered archaeological findings found during excavations, especially during the research in the northern part of the settlement.

The finds in the cemetery

A group of bone artefacts was discovered in the cemetery in grave 66[1]. In Grave 66 a young man age 18 – 25 was buried whose skeleton was arranged in a Gd position on the W-E, with the head towards the W (compare A. Krzyżaniak – catalogue this volume). The grave was well equipped[2] with various artefacts amongst which were two harpoons and two bone points described below.

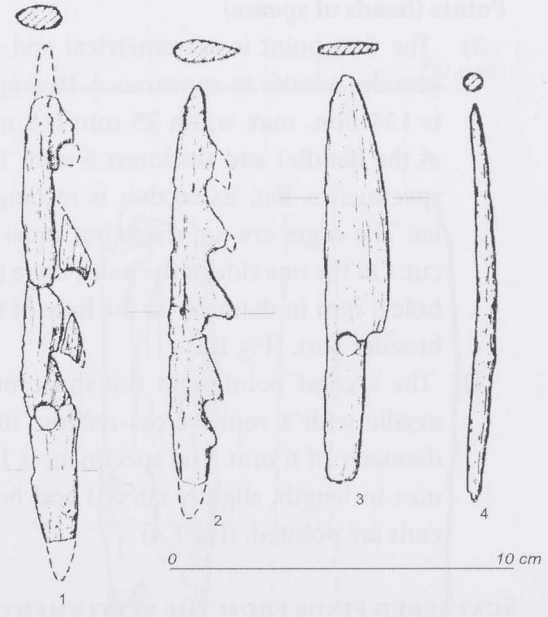

Fig.1. Kadero 1. Cemetery (Grave 66). 1-2 heads of harpoons; 3-4 bone points

Heads of harpoons

1) The first specimen is a one-sided, with 3-barbs. The preserved length is 146 mm, max width 20 mm, and max thickness 11 mm. The specimen is oval in section. It has two holes (8 mm in diameter) and was perforated from both sides of the butt close to the first barb (the butt is bro-

1 The harpoon was already described in the literature (see Krzyżaniak 1978;1991; 1992a; 1992b; Sadig 2010)

2 In grave 66 were found, apart from bone tools, pottery, a stone mace head, a stone palette, some lumps of ochre and malachite, numerous beads made of Red Sea snail shells or bone, Nile mussels, as well as flint segments and chips.

ken across the perforation). The second hole must have been located below the first (top) barb. The tips of the point, the end of the butt and of the tips of the barbs are all missing. The specimen is severely damaged. (Fig 1.1).

2) The second harpoon is one-sided, with 5-barbs . Its present length is 132 mm, max 21 mm in width and of max thickness 9 mm, with a lens-like (asymmetrical) section. The harpoon has no perforation preserved. The butt is damaged and the tips of two barbs (under point) are missing. The top is sharp. The specimen is severely damaged. (Fig.1.2).

Points (heads of spears)

3) The first point is asymmetrical and resembles a knife in appearance. Its length is 134 mm, max width 25 mm (18 mm at the handle) and thickness 5 mm. The specimen is flat, its section is rectangular. The edges are not sharp but squarely cut. On the one side of the point there is a hole 6 mm in diameter at the base of the broader part. (Fig 1.3)
4) The second point is in the shape of a needle with a round-cross-section, max diameter of 6 mm. The specimen, is 130 mm in length, slightly curved and both ends are pointed. (Fig 1.4)

Scattered finds from the settlement

Another 18 tools were found during excavations in the northern part of the settlement (first of all during excavation of trench VIII in 1980). A group of eight bone axes (preserved wholly or fragmentarily) and four awls are the most distinctive. Another three tools might be fragments of bone points, and two others might be chisels. Also found were fragments of a small needle/perforator were found.

Axes

1) One large axe reconstructed from numerous fragments is, 218 mm in length, 43 mm in max width, (at 2/3 of the length) and 19 mm in thickness. At the head it is

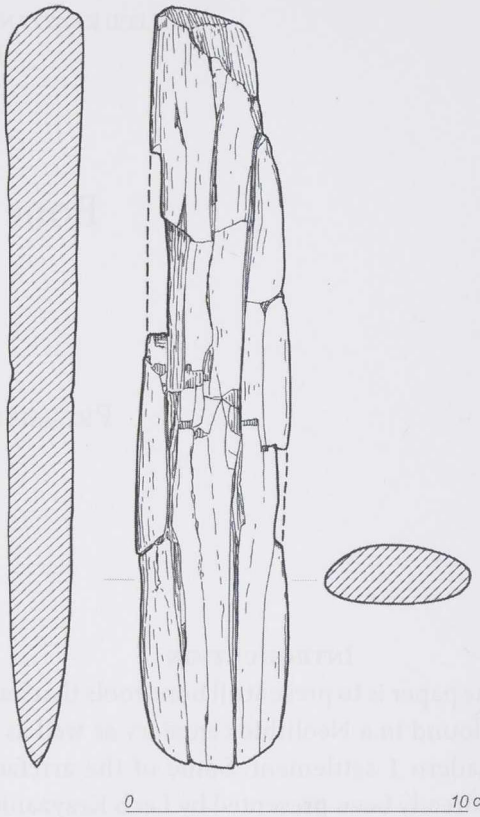

Fig.2. Kadero 1. Settlement. Bone axe

31 mm and at the edge 37 mm in width. The cross section of the axe was oval. The symmetrical edge was meticulously worked and ground. The head is slightly damaged. Along most of the length the specimens front and lateral surfaces are ground. The surface is severely corroded. (Fig 2.1)

2) A small axe is 88 mm preserved length, 41 mm max width at the edge, 25 mm in width at the head, and 20 mm in thickness. The specimen is apparently wider at the edge and its section is tear-like. The slightly asymmetrical edge was meticulously ground. The head is damaged and the surface is severely corroded. (Fig 3.1)
3) The fragment of an axe is preserved to 83 mm in length, 32 mm in max width tapering at the edge to 27 mm, and 15 mm in thickness. There is no head on the specimen which is broken along one side. The cross-section of the axe is lens-like, the edge is meticulously worked and ground. (Fig 3.2)

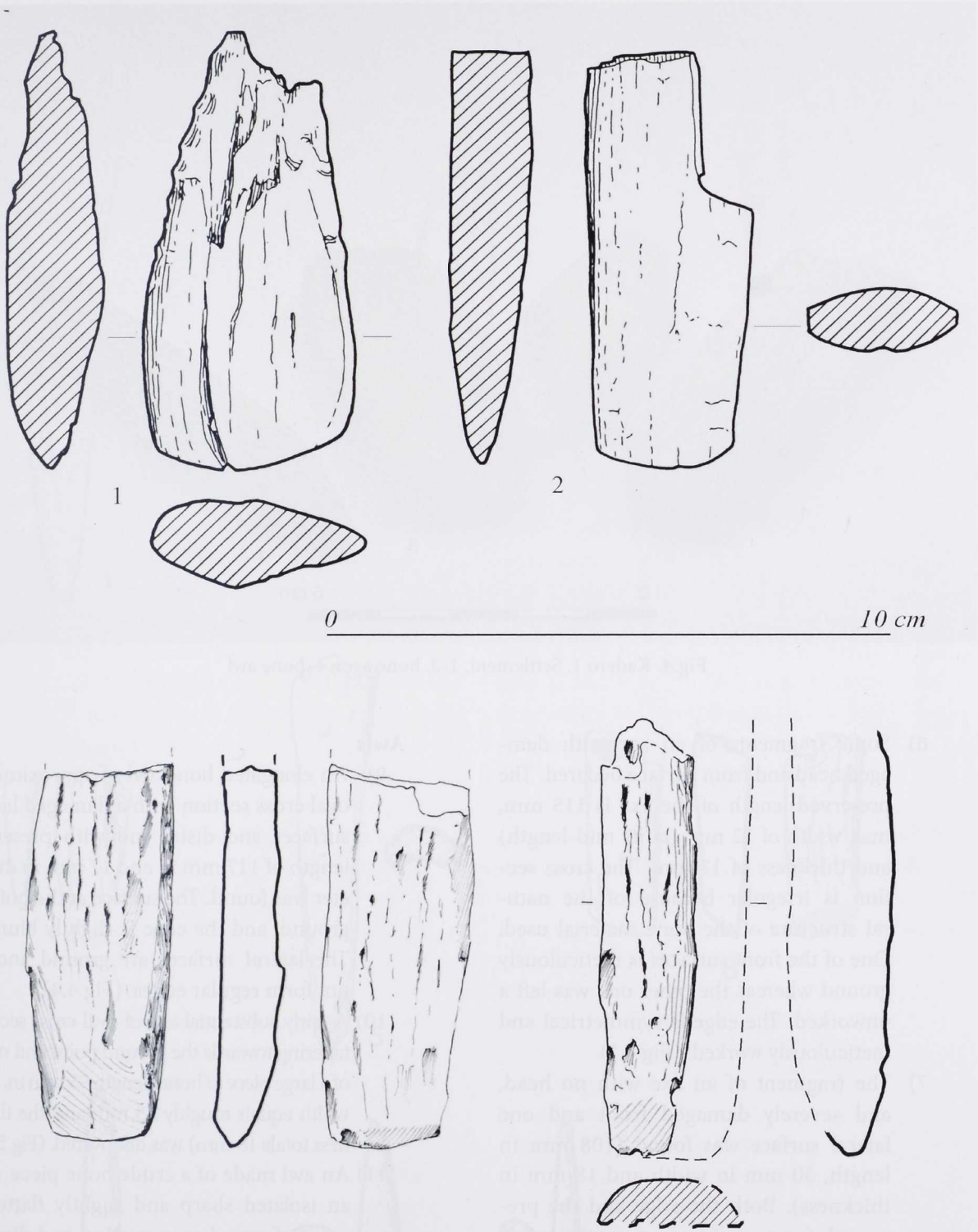

Fig.3. Kadero 1. Settlement. Bone axes

4) Fragments of an axe are preserved to 75 mm in length, a max width of 30 mm, 23 mm at the edge, and 12 mm in thickness. The edge is meticulously worked and ground. One surface is ground, the other one unworked. (Fig 3.3)
5) Some other fragments of an axe with no head and damaged all along one rim side was found . The edges of the specimen were more or less parallel and slightly tapering towards the edge. The cross section must have been oval. The preserved length equals 87 mm, the width is 18 mm and the thickness 12 mm. One of the surfaces is meticulously worked by grinding. (Fig 3.4)

Fig.4. Kadero 1. Settlement. 1-3. bone axes; 4. bone awl

6) Some fragments of an axe with damaged head and front surface occured. The preserved length of the axe is 115 mm, max width of 32 mm (at its mid-length) and thickness of 17 mm. The cross section is irregular because of the natural structure of the bone material used. One of the front surfaces is meticulously ground whereas the other one was left a unworked. The edge is symmetrical and meticulously worked. (Fig 4.1)
7) The fragment of an axe with no head, and severely damaged front and one lateral surface was found (108 mm in length, 30 mm in width and 18 mm in thickness). Both the edge and the preserved front surface are meticulously ground. (Fig 4.2)
8) Some fragments of an axe tapering at the head with preserved length equals 89 mm, width total 29 mm and thickness is 17 mm was found. There is no edge on the specimen. The front surfaces was ground, the other one was unworked. (Fig 4.3)

Awls

9) An elongated bone awl of approximately oval cross section with a damaged lateral surfaces and distal end with preserved length of 117 mm in and 17 mm in diameter was found. The surface at the point is ground, and the edge is slightly blunted. The lateral surfaces are ground and do not form regular edges. (Fig 4.4)
10) A fairly substantial awl of oval cross section, tapering towards the ground point and made of a large piece of bone (length 95 mm in, max width equals roughly 25 mm and the thickness totals 18 mm) was discovered. (Fig 5.1)
11) An awl made of a crude bone piece with an isolated sharp and slightly flattened point of round cross section and dimensions of 6 x 7 mm occured. The preserved length of the specimen is 60 mm and its max width is 13 mm (Fig 5.2)
12) An awl made of a halved bone with preserved dimensions of 68 x 10 x 5 mm occured. The point of the specimen is sharp and ground and its section is rectangular at one of its ends. (Fig 5.3)

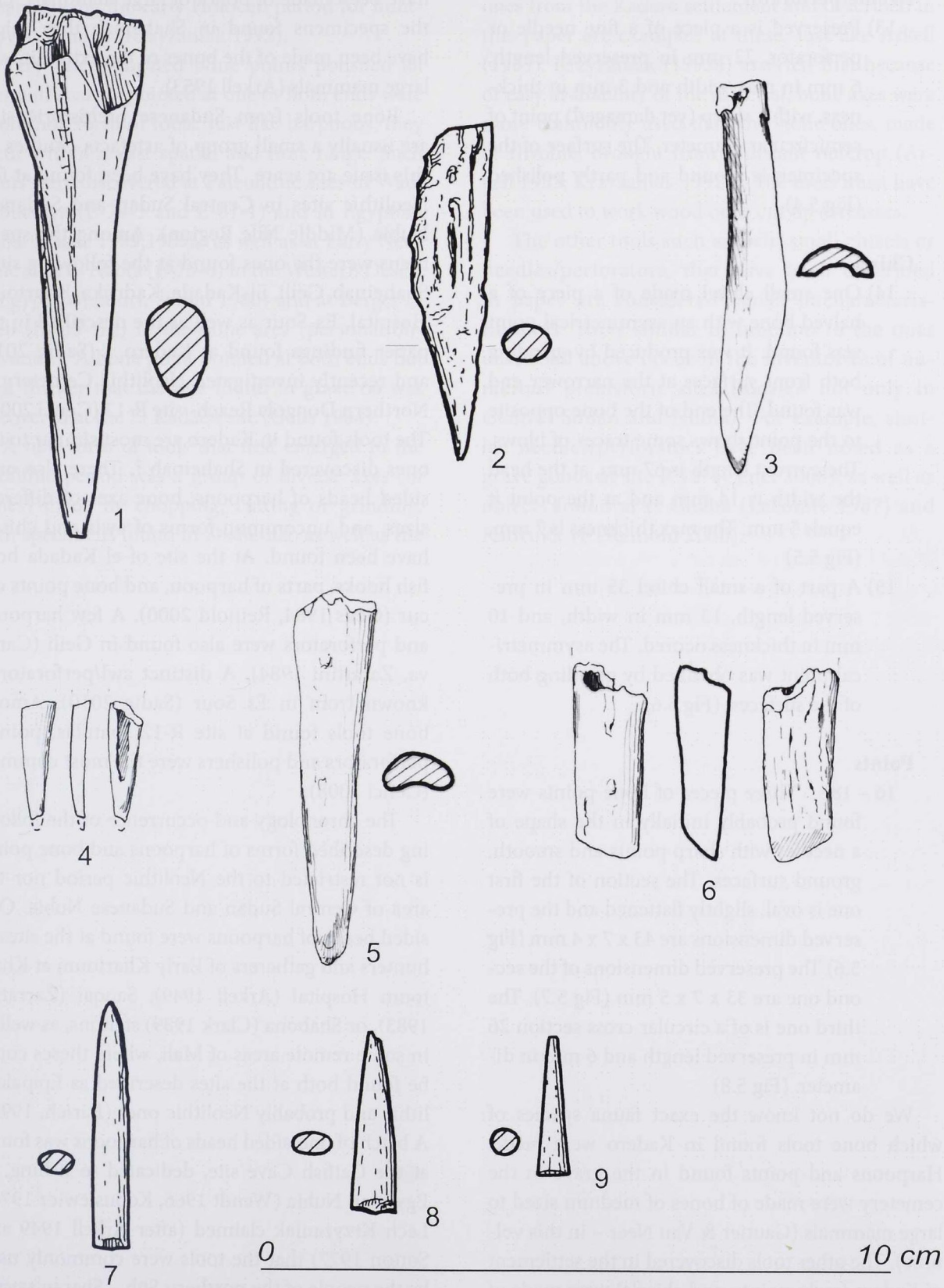

Fig.5. Kadero 1. Settlement. 1-3. bone awls; 4.needle/perforator; 5-6. chisel; 7-9. bone points

Needle/perforator

13) Preserved is a piece of a fine needle or perforator, 22 mm in preserved length, 6 mm in max width and 3 mm in thickness, with a sharp (yet damaged) point of semicircular diameter. The surface of the specimen is ground and partly polished (Fig 5.4)

Chisel

14) One small chisel made of a piece of a halved bone with an asymmetrical point was found. It was produced by grinding both front surfaces at the narrower end was found. The end of the bone opposite to the point shows some traces of blows. The current length is 67 mm, at the head the width is 14 mm and at the point it equals 5 mm. The max thickness is 7 mm. (Fig 5.5)

15) A part of a small chisel 35 mm in preserved length, 13 mm in width, and 10 mm in thickness ocured. The asymmetrical point was obtained by grinding both of the surfaces. (Fig 5.6)

Points

16 – 18) Three pieces of bone points were found probably initially in the shape of a needles with sharp points and smooth, ground surfaces. The section of the first one is oval, slightly flattened and the preserved dimensions are 43 x 7 x 4 mm (Fig 5.6) The preserved dimensions of the second one are 33 x 7 x 5 mm (Fig 5.7). The third one is of a circular cross section 26 mm in preserved length and 6 mm in diameter. (Fig 5.8)

We do not know the exact fauna species of which bone tools found in Kadero were made. Harpoons and points found in the grave in the cemetery were made of bones of medium sized to large mammals (Gautier & Van Neer – in this volume). The other tools discovered in the settlement of Kadero (awls, points, and chisels) were made of similar materials. The axes[3] found at the site might have been made of bones of large mammals. Like the specimens found in Shaheinab they might have been made of the bones of the extremities of large mammals (Arkell 1953).

Bone tools from Sudanese prehistoric sites are usually a small group of artefacts. Studies on this issue are scare. They have been found at few Neolithic sites in Central Sudan and Sudanese Nubia (Middle Nile Region). Among the specimens were the ones found at the following sites: Shaheinab, Geili, El-Kadada, Kadruka, Khartoum Hospital, Es-Sour as well as the described in the paper findings found at Kadero 1 (Sadig 2010) and recently investigated Neolithic Cemetery in Northern Dongola Reach- site R-12 (Cenci 2008). The tools found in Kadero are most similar to the ones discovered in Shaheinab ?. There also one-sided heads of harpoons, bone axes of different sizes, and uncommon forms of awls and chisels have been found. At the site of el Kadada both fish hooks, parts of harpoon, and bone points occur (Geus 1984, Reinold 2000). A few harpoons and perforators were also found in Geili (Caneva, Zarattini 1984). A distinct awl/perforator is known from in Es Sour (Sadig 2010). Among bone tools found at site R-12 spatulas, points/perforators and polishers were the most common (Cenci 2008).

The chronology and occurrence of the following described forms of harpoons and bone points is not restricted to the Neolithic period nor the area of Central Sudan and Sudanese Nubia. One sided heads of harpoons were found at the sites of hunters and gatherers of Early Khartoum at Khartoum Hospital (Arkell 1949), Saqqai (Zarratini 1983), or Shabona (Clark 1989) stations, as well as in some remote areas of Mali, where theses could be found both at the sites described as Epipaleolithic and probably Neolithic ones (Barich, 1992). A batch of one-sided heads of harpoons was found at the Catfish Cave site, dedicated to fishing, in Egyptian Nubia (Wendt 1966, Kobusiewicz 1976). Lech Krzyżaniak claimed (after Arkell 1949 and Sutton 1977) that the tools were commonly used by the people of the northern Sub – Sharan savannah at the Nile and on the teritory of what is today

3 In the case of the axes (items 2 – 4, 6,7), L. Krzyżaniak suggested on their specifications that they might have been made of bones of a hippopotamus.

Sahara during the early Holocen period for hunting water fauna (Krzyżaniak 1992).

Very fine elongated bone points polished all over and sharply pointed at one or both ends were a common form of tools. Just like harpoons, they occur within a vast spatial and time range. Such forms were discovered at Paleolithic sites in Wadi Kubbaniya (E-78-3 and E-81-1) and in Egyptian Nubia (Close 1989;1989a) as well as at Early Neolithic sites in Nabta (E-75-6) in the Western Desert of Egypt (Wendorf, Schild 1980) and at Berget El Sheb (E- 05-1/2) in the same area (personal observation). A bone point pointed at both ends but a bit thicker that the one found in grave 66 was discovered at the El Kadada site (Geus 1984).

A new form of tools that first emerged in the Neolithic period was a group of diverse axes (of bones) made by chopping, cutting or grinding. Both specimens found in Shaheinab as well as the ones from the Kadero settlement and described in this paper are examples of these. Just like Arkell (1953), Krzyżaniak (1992a) asserted that because of easy availability of the material, bone axes were more commonly used than the stone ones, made of rhyolite, brought from a distant outcrop (Arkell 1953; Krzyżaniak 1992a). The tools must have been used to work wood or to cut up carcasses.

The other tools such as awls, small chisels or needles/perforators, that have been described in paper are considered banal, uncharacteristic tools. Tools similar in function to the ones described above occur in the inventories of numerous prehistoric sites (located not only in Central Sudan and Nubia). For example, similar needles/perforators have been noted as a grave goods at site R 12[4] (Cenci 2008), as well as objects found at el Ghaba (Lecointe 1987) and Kadruka 18 (Reinold 2000).

4 Graves: 48, 48B, 55, and 111 (Cenci 2008)