

### Acknowledgements

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# Social Dynamics at the Late Predynastic to Early Dynastic Site of Kafr Hassan Dawood, East Delta, Egypt

Fekri A. Hassan (Institute of Archaeology, University College London), Geoff J. Tassie (IoA, UCL), Teri L. Tucker (Washington State University), Joanne M. Rowland (IoA, UCL) & Joris van Wetering (Leiden University).

The current excavations at Kafr Hassan Dawood (KHD) directed by Prof. Fekri A. Hassan are a joint expedition by the Supreme Council of Antiquities (SCA) and University College London (UCL), and represent the Delta's first field archaeology and conservation training centre (Hassan *et al* 2000). As a result of this collaboration 1057 graves have been excavated, including 745 Protodynastic to Early Dynastic burials, and 312 Late Period to Ptolemaic burials. It is the most extensive site so far excavated covering the period of state formation in the East Delta; the next largest is Minshat Abu Omar (MAO) with 422 contemporary graves (Kroeper & Wildung 1994; 2002). These graves were systematically excavated in order to examine the skeletal remains, the range of variability in mortuary practices, and to further develop strategies for future investigations. Kafr Hassan Dawood is located in the East Delta, 40 km West of Ismailia and 8 km East of El-Tell El-Kebir. The site is situated on the southern edge of the

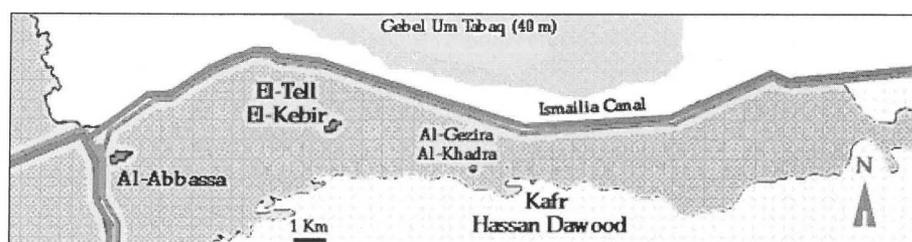
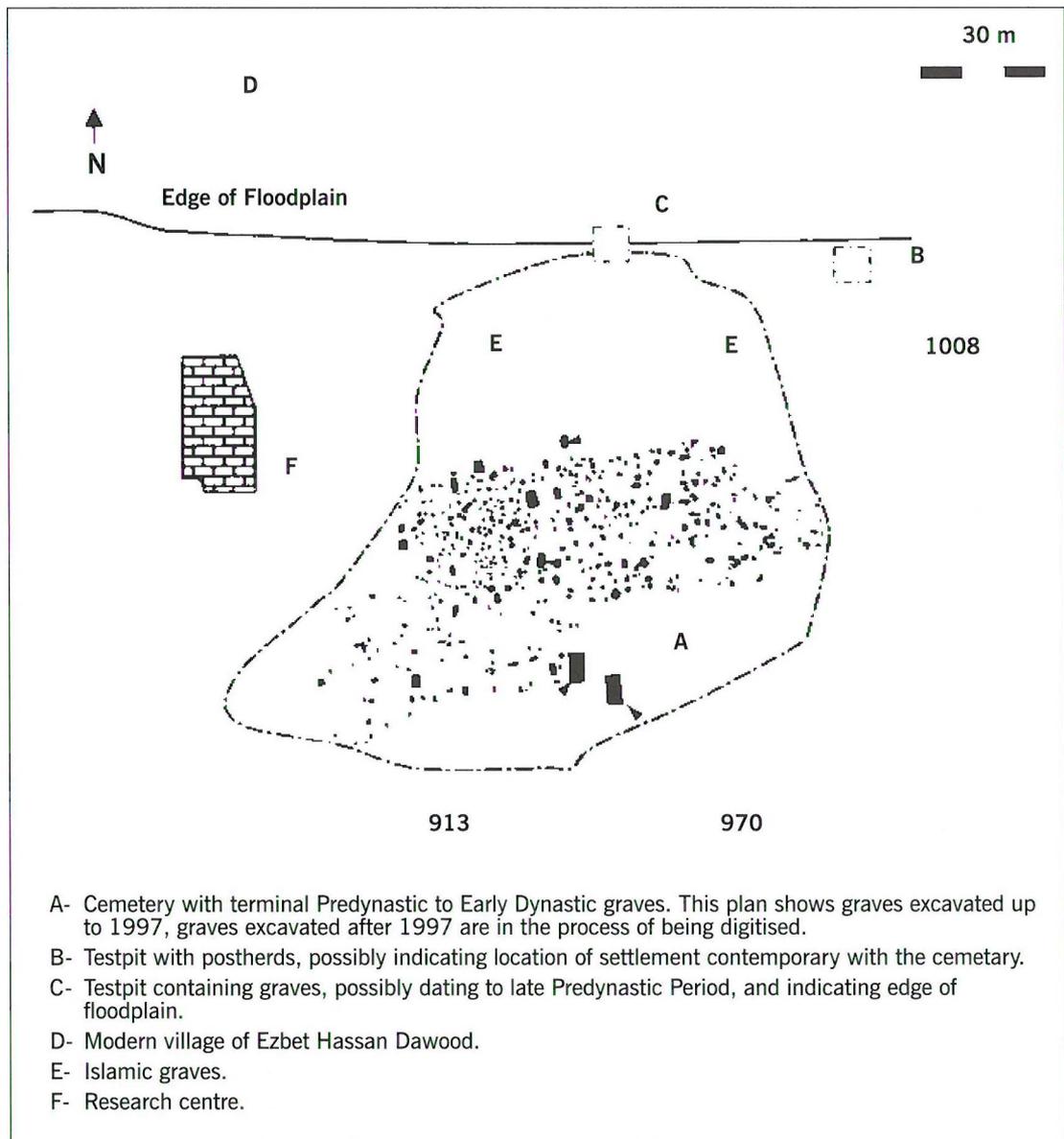


Fig. 1  
Map of the Wadi  
Tumilat.



**Fig. 2**  
Plan of the site.

cultivated floodplain of the Wadi Tumilat (Fig. 1), a defunct Nile distributary which once served as a corridor between Egypt and Western Asia. The early cemetery at Kafr Hassan Dawood covers over 16,100 m<sup>2</sup>, of which 9,900 m<sup>2</sup> have so far been excavated (Fig. 2). The graves were dug into alluvial sands of a low Nile terrace, a few metres above the floodplain (Hamden & Hassan 2002). The North of the site is overlain by two disused modern cemeteries, an Islamic and Coptic one, preventing full excavation of the 60 m wide stretch from the edge of the present excavations to the edge of the ancient floodplain. It is estimated that the cemetery would have originally held 1300 Predynastic to Early Dynastic burials. In addition to the Protodynastic to Early Dynastic graves, Late Period to Ptolemaic tombs are interspersed in the western cemetery and there is an area East of the main cemetery characterised by animal burials (including cattle) dating to the Late Period (tentatively dated as the 26th Dynasty) and a more recent burial ground for children, tentatively dated to the Ptolemaic Period. There is no evidence of reuse for the site before these periods.

The presence of archaeological remains in the area had been known to the local Inspectorate since 1977, although excavations at the site were not undertaken until 1989, following local land reclamation planning. Excavation of the site was carried out under the directorship of Mohammed Salem el-Hangouri, former Director of the Suez Canal Zone, who also attempted to construct an 'open-air museum' (Bakr *et al* 1996; El-Hangary 1992). A total of 920 graves were excavated before the project was halted in May 1995 for re-evaluation by Prof. Fekri A. Hassan (UCL) following a visit to the site at the request of Prof. Abdel-Helim El-Nour El-Din, the then Secretary General of the SCA. Alarmed at the state of the site and lack of attention to human remains, Fekri Hassan initiated a programme of research, conservation and training at the site. The programme included hands-on training backed up by lectures for Egyptian inspectors and international students, focusing particularly on bioarchaeology. A trial season was undertaken in 1995, with Dr Nancy Lovell as bioarchaeologist and co-director (Lovell 2001). In 1996, Dr. Teri L. Tucker (WSU) and Prof. Simon W. Hillson (UCL) resumed bioarchaeological investigations at the site, analysing the newly excavated skeletal remains as well as recovering limited osteological information from 33 skeletons from the previously excavated graves.

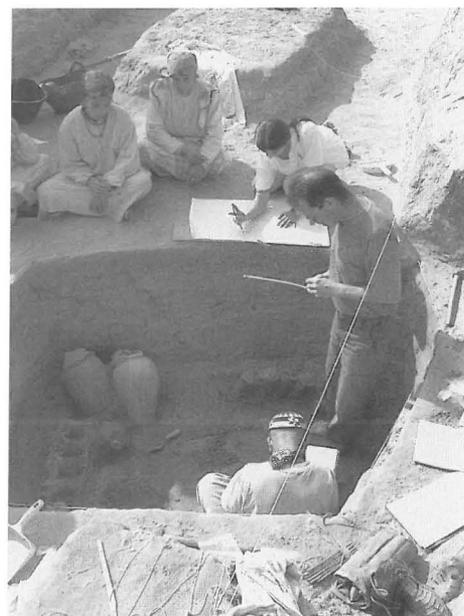
The site is overlain with a grid subdivided into units measuring 10 x 10 metres. For ease of excavation these grid units are further subdivided into four equal squares. A local datum is established for each area, tied into the site datum point. The site uses a specially developed single context recording system. This was done to show the stratigraphic relationships between contexts. After the overburden of aeolian sand was removed by plant, excavation proceeded manually by *fas* and shovel exposing a hard layer of sand and gravel. Excavation and recording of the individual contexts was then followed; arbitrary 10 cm spits were also used where necessary (Fig. 3 & 4). Once a feature was discovered, a physical anthropologist and conservator were consulted to advise on the need of the application of any special techniques during excavation. The graves were excavated using trowels, bamboo sticks and brushes. As the skeletal material becomes exposed, Primal WS24 (acrylic colloidal dispersion), diluted to a 15% v/v

**Fig. 3, on the left**

Excavation in progress in square 107, including conservator Amanda Sutherland top right (photo Joris van Wetering).

**Fig. 4, on the right**

Geoff J. Tassie (seated) and Richard Lee excavating Grave 1041 assisted by Hannia and Amil with Serena Langousa planning the grave (photo Joris van Wetering).



solution in tap water was applied by pipette, syringe or sable brush (whichever was appropriate) to consolidate the material. This individual treatment was essential due to the complex nature of many of the graves encountered at KHD, and the disarticulated multiple burials requiring particular specialist excavation and recording techniques (Sutherland In Prep.; Tucker 2002).

Geoarchaeological investigations of the site by Fekri Hassan and Dr Mohammed A. Hamden (Cairo University) identified the presence of an artificial palaeo-water channel 10 metres wide, lying just to the West of the two large graves, 913 and 970, situated in an earlier stratigraphic context than the early cemetery running in a South-North direction through the area where the cemetery was later situated. This channel substantially predates the Protodynastic to Early Dynastic settlement. The upper, eastern part of this palaeo-water channel contained freshwater mollusc shells, fish bones and teeth interspersed within a gravel layer. The lower, western half of the channel contained aeolian sand rich in phytoliths, which Dr. Arlene Rosen (UCL) identified as being of wheat, barley and other vegetation including sedge and wild grasses. Auguring by M.A. Hamden located the presence of Protodynastic to Early Dynastic potsherds 4-5 m below the surface, indicating the possible location of the settlement near to the ancient floodplain, directly to the Northeast of the cemetery (Hamden & Hassan 2002).

Most burials were tightly flexed, lying on the left side with the head to the North facing East. The majority of graves contained single burials, although multiple and secondary burials were also encountered. The grave types range from simple oval and rectangular sand pits through large oval sand pits to large rectangular, mud-lined pits. Eight ceramic coffins were recovered, all oval in shape with a simple lid with a central hole (Fig. 5). The grave superstructures consisted of either a mud cap or sand mound over the pit.

Judging from the type and number of grave goods, as well as variations in grave size and architecture, the cemetery appears to have belonged to a community

**Fig. 5**  
Pottery coffin in Grave  
1025 (photo Ken Walton).



characterised by marked social differentiation. The analysis done by Tassie & Wetering (2002), which compared KHD with MAO and Tell Ibrahim Awad (TIA), showed that although there is marked social differentiation within the KHD mortuary population, the KHD cemetery was of a lower regional social ranking than MAO and ultimately TIA (the highest-ranked of the three sites examined). This conclusion is primarily based on the absence of mud-brick mortuary architecture, the lack of large concamerated (sectioned into chambers) graves and the less prestigious grave good assemblage at KHD.

The Early Dynastic elite were buried in large rectangular tombs, mainly situated in the South-central sector of the cemetery. These contained numerous grave goods, whereas the non-elite were buried in relatively small simple oval pits with fewer, less prestigious goods (Rowland & Hassan 2002). However, some exceptions were noted, such as Grave 73, 1.20 m North-South by 0.70 m East-West, in which two gold beakers were found. The largest and richest graves of the Protodynastic Period were large oval pits - again capped with a tumulus - mainly positioned in the North-central area. Preliminary analysis has indicated temporal and occupational zoning of the cemetery. Spatio-temporal analysis of the site is currently being conducted by Joanne M. Rowland, who is writing her doctorate at UCL on the site using database and GIS technologies (Rowland in press).

Initial spatial and temporal analyses suggest that the North of the cemetery contains the earliest graves, with the earliest lying adjacent to the ancient floodplain. The northern part of the excavated area (North-central sector of the cemetery), has a relatively large number of multiple and secondary inhumations. Also located in this North-central area is one of the largest and most significant Protodynastic graves at KHD, Grave 1008, an oval grave measuring 2.30 m North-South by 1.40 m East-West (Fig. 6). It contained a siltstone make-up palette with eight faience cones beneath it, a purposely-broken copper chisel, 'basalt' vessel, Egyptian alabaster bowl, agate and siltstone beads and thirteen ceramic vessels. One of the large (Type III) storage jars had scollop decoration around its shoulder and an incised *serekh* (Fig. 7) containing the name of King Sekhen (Ka) in the lower compartment (van den Brink, 2001: typology No. 10.b.1-2). This jar is comparable to a jar found at Helwan dated to Nagada IIIB (van den Brink 1996; 2001). The cemetery subsequently expanded southwards toward a higher terrace, where the largest and richest graves are found.



**Fig. 7**  
Serekh of King  
Sekhen from  
Grave 1008  
(photo Fekri  
A. Hassan).

**Fig. 6**  
Grave 1008  
(photo Fekri  
A. Hassan).

The South-central part of the site contained the two largest Dynasty I rectangular, mud-filled tombs were discovered, adjacent to one another. One of them (Grave 913, discovered by the SCA team in 1995), held a storage jar bearing Narmer's *serekh* (mentioned by Bakr 1996, but not fully described), along with 206 other grave goods, including stone and ceramic vessels, copper bowls, a retouched pressure-flaked flint knife and beads of semi-precious stones. The other large tomb (Grave 970) was located by the UCL-SCA team in 1996. The tomb measures 6.0 m North-South by 4.0 m East-West (the same size as 913), and appears to be part of a mortuary complex with a tumulus built by dumping basket loads of sand, silt and gravel. A large deposit of pottery vessels was found in the southern part of the grave, including beer jars and large storage jars (Fig. 8). One particularly interesting large storage jar was found complete with its lid, scoop and pot-stand. Many of these pottery vessels were inscribed with potmarks. In the western-central area of the grave a group of stone vessels was found consisting of tall cylindrical beakers of Egyptian alabaster, one of which had a *mr*-sign and two crossed lines potmark, as well as bowls of Egyptian alabaster, diorite and siltstone. In the eastern-central area evidence of a robbers' pit was found at the place where the body was expected to lie, and all that was found there were a few scattered siltstone beads, broken siltstone bracelets, small stone vessel sherds and a large pot stand. A stack of five flat oval bread moulds (Hendrickx *et al.* 2002: K7 Fig. 6) and a stack of four dishes surmounted by a plate were found in the northern

**Fig. 8.**  
Part of the pottery  
deposit in Grave 970  
(photo Bram  
Calcoen).



part of the grave with associated animal bones and an exquisite bifacial retouched pressure-flaked flint knife. A total of 83 grave goods were recovered. The graves surrounding the large graves were shallow oval pits with few or no grave goods, with the exception of Grave 968, a simple oval pit 1.6 m North-South by 1.2 m East-West, which contained many ceramic vessels and a porphyry bowl and Grave 974, a rectangular mud-filled grave, 1.90 m North-South by 1.40 m East-West, which contained numerous smashed pottery and stone vessels and a limestone quern.

The graves were provided with a variety of goods including mostly ceramic vessels (some with potmarks), Egyptian alabaster tall cylindrical beakers and bowls, greenish-grey siltstone plates and bowls, porphyry bowls, siltstone make-up palettes, copper fish hooks, needles, adzes, chisels, knives, mirrors and harpoons, bracelets, beads, pendants and flint artefacts. Many of the pottery jars and stone vessels are shattered. This has been attributed to the pressure exerted by the downloading of the grave fill, and the superstructure of sand and gravel as they were soaked with rain.

Regardless of grave type, an isolated potsherd was found with most burials, either at the face near the hands or at the sacrum. In some cases only purposely-placed potsherds were present, and no other grave goods. In Grave 958 only one coarse-ware potsherd of poor quality was found, placed in the left hand touching the face, whereas Grave 1035 had four potsherds present; two placed by



**Fig. 9**  
Hisham El-Sayed  
Khattab and Joris  
van Wetering  
excavating  
Grave 1015  
(photo Bram  
Calcoen).

the knees, one by the front of the cranium and one by the spinal column. These potsherds may derive from cooking pot-stands. In graves 913 and 970 complete examples of cooking pot-stands were found, which helps to emphasise the importance of these graves' occupants.

Although the skeletal remains excavated in past seasons showed some evidence of minor dislocation due to post-burial compression, four of the graves showed distinct evidence of disarticulation (959, 1005, 1007 and 1015). The most complex burial found so far is Grave 1015, a secondary burial of four individuals: 1 male, 2 females and a 12-year old child (Fig. 9). The bones of these individuals were very mixed and disarticulated, with two bowls and a dish haphazardly placed amongst the remains. This grave overlaid and slightly cut two primary burials (1027 and 1028).

Teri Tucker concluded that the burials belong to children, juveniles, adults, and old adults of both sexes. Other than evidence of nutritional stress during childhood, there was no high frequency of diseases. However, although the majority of the KHD population appear to have enjoyed good health, the majority died at between 17-35 years old, although individuals of 50+ have been found. No evidence exists for violent accidents or warfare. Some burials were disturbed by later grave digging in the Late Period or Ptolemaic era. The bodies in many cases seem so tightly flexed that they may have been tied or wrapped in matting, and that in some cases the bones purposely arranged in the grave after the flesh was no longer adhering to the bones. It was noted that individuals interred in simple oval pits exhibited more childhood indicators of stress than individuals from larger and 'richer' graves. According to Tucker, diet indicators, such as unusual dental wear patterns, suggest that a substantial part of the subsistence strategy



**Fig. 10**

Panoramic view of the cemetery at KHD looking North, with the research centre in the background, the UCL/SCA excavations of the South of the site in the foreground and the old excavations in between (photo Geoff J. Tassie).

at KHD was focused on fishing and mollusc collecting. The presence of calculus and the lack of caries in the skeletal sample of KHD suggest a diet lacking or very low in carbohydrates and high in protein. The preservation rate of many of the skeletal remains is very poor as a result of the high alkaline water table, but with the aid of the conservators and the bioanthropologists valuable information is being retrieved from this osteological material (Tucker 2002).

Kafr Hassan Dawood is significant for interpreting the developmental stages of the Egyptian nation-state, and the role of the peripheral districts in the process of unification. The settlement at KHD was probably a village of between 200-400 people, with a chief at the head of a local hierarchy. The KHD population seems to have used subsistence strategies of fishing, mollusc collecting, fowling and herding of sheep and cattle, possibly supplemented by the small-scale cultivation of cereals. However, just before and during the reign of Narmer, the local elite of KHD were enjoying the sophisticated foodstuffs of wine, beer and bread and possibly milk products, as proven by the large amount of wine jars, beer jars, jar stands, and bread moulds found in the richer graves, such as 890, 913, 956 and 970. A small Nagada IID carinated storage jar with a small pronounced rim, characteristic of milk jars, but with a flat-bottom, was found in Grave 1043, one of the poorer graves, associated with Nagada IIIC1 vessels (see Hendrickx *et al.* 2002: 284, fig 2e for milk vessels). The pottery assemblage also indicates limited trade with both Upper Egypt and the Levant, although not to the same extent as either MAO or TIA (Tassie & Wetering 2002). The settlement, judging from the spatial distribution of poor and rich graves, appears to have gained considerable prosperity during the middle Nagada III Period, climaxing in the reign of King Narmer. However, it appears that it reduced in importance following the emergence of the Egyptian nation-state, probably in or just after the reign of King Aha, thus correlating with a reduction of Egypt's presence in the southern Levant (EBII) and the disuse of the Sinai coastal route.

There seems to have been a change in governmental policy around this time with a more exploitative hostile attitude and a possible change to sea-borne trade (Wilkinson 1999).

To date 56 of the 85 early graves excavated by the UCL/SCA mission have yielded skeletal material, which is shedding much-needed light on health, diet and disease amongst the population of KHD. However, a greater sample is necessary to confirm and expand on these findings. Although the vast majority of the site is excavated, during the 1999 research season a survey of the north of the site found an undisturbed gap of 60 x 20 m between the modern Islamic and Coptic cemeteries that are situated in this sector, creating a path from the excavated part of the cemetery to the edge of the floodplain. So far, all the graves fully investigated date to no earlier than the Nagada IIIA Period, but the preliminary investigations of this northern sector indicate the presence of Nagada II remains close to the edge of the floodplain. However, some Nagada IID pottery vessels have been found in graves of Nagada IIIA date, indicating that they may be heirlooms or that these type of vessels had a longer period of use at the site. To enable greater comparison between KHD and MAO and also other sites in the Delta and Upper Egypt, it is imperative that this undisturbed gap is excavated to acquire information on the period in which the site was founded and allow a full spatio-temporal evaluation of the site. Therefore, in the next research season and bioarchaeological fieldschool, the research design includes the excavation of the remaining accessible parts of the Predynastic to Early Dynastic cemetery, thus enabling the conclusion of the investigation of the early cemetery. ■

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