

THE HOABINHIAN IN THE WAMPU/LAU BIANG VALLEY OF NORTHEASTERN SUMATRA: AN UPDATE

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The Hoabinhian, which extends from Sumatra through mainland Southeast Asia to South China and Taiwan, is not a division of time but essentially a tradition of stone tool manufacture with successive accretions (Bellwood 1979). Hoabinhian artifacts are found associated with three types of site in northeastern Sumatra (Fig. 1): open sites on limestone areas near the coast, open sites often located near ridges in the coastal plain and foothills of the Bukit Barisan mountain range, and shell middens (Appendix A).

Shell heaps and associated Hoabinhian artefacts are known from open sites on the limestone ridges immediately behind Lhokseumawe and near Kandang in Aceh Utara. Recoveries of Hoabinhian lithic materials have also been reported in the Deli-Serdang and Langkat sub-montane areas extending as far as the middle and upper reaches of the Sungai Wampu/Lau Biang valley as least as far upstream as Marijke (Van Stein Callenfels 1925). Shell middens, which are enormous accumulations of predominantly cockle shells (*kepah*, or *kerang*), with which are associated Hoabinhian monofacial pebble core tools (artefacts once referred to as "Sumatraliths"), have been identified at various sites forming an extended midden complex situated in a low-lying, waterlogged estuarine or sub-coastal wetland exploitation zone on the eastern coast of Sumatra. The area in which middens have been identified extends for about 130 km along the northeast coast of Sumatra from the Tamiang river in Aceh to Percut and Perbaungan, east of Medan. The midden sites, variously known as *bukit kerang* or *kjökkenmöddinge* are, or were, to be found between 10 and 20 km inland of the current coastline. There were once middens at Tamiang and also near Langsa in Aceh Timur as well as in the East Coast region (Van Heekeren 1972).

A relatively high water table and waterlogged conditions in many of these areas permit the survival of organic materials and faunal remains such as human and animal skeletal material. At Tamiang, for example, bones of elephant, deer, bear and rhinoceros were reported in addition to human remains (Schurmann 1928). Floral remains persist in the form of tree stems or branches, leaves, seeds and minute grains of pollen, all of which can be recovered by careful observation and excavation.



FIGURE 1: SHELL MIDDENS IN NORTHEASTERN SUMATRA

In the section of the map between Seruwai and Perbaungan the middens are, from west to east in order, as follows: Seruwai, Kampung Mesjid, Sungei Hiu, Sukajadi Pasar IX, Sukajadi Pasar III, Paya Rengas, Tandem Hilir II, Tandem Hilir, Buluh Cina, Saentis Pasar VIII, Saentis, Perbaungan.

THE HINAI MIDDEN COMPLEX

In 1974, I reported the discovery of three shell middens at Desa Sukajadi and Desa Paya Rengas, Kecamatan Hinai, Kabupaten Langkat, Propinsi Sumatera Utara. These middens were located on the north bank of the flood plain of the Sungei Wampu (Lau Biang) in an area which was formerly part of a tobacco estate (?Ludwigsberg), where a couple of smaller middens had been reported and destroyed prior to 1920 (Witkamp 1920). They were situated at locations variouly designated as Pasar III, Pasar VIII and

Paya Rengas, all in Kecamatan Hinai, immediately north of Stabat (Edwards McKinnon 1975).

The full extent of these middens, which were largely composed of shells of a brackish water bivalve mollusc, *Meretrix meretrix*, have yet to be ascertained. They appear to reach well over 100 m in diameter and to attain heights of some 10 to 12 m (see photo in Bellwood 1985: 173). The Hinai middens thus appear to be generally far more extensive than any reported previously from the East Coast area of Sumatra during the Dutch Colonial era, as discussed by Van Heekeren (Van Heekeren 1972).

The top surfaces of these middens when first discovered were from one to two metres below the current ground surfaces. Despite the depredations of the past seventy years, especially those of the last decade and a half, it may still be possible to retrieve some valuable cultural and ecological information and determine not only their full extents but also whether they developed in close proximity contemporaneously over a period of time. As a matter of relevant interest, 14th to 16th century Yuan/Ming period Chinese and Thai stonewares were recovered at Tanjung Enom (Tandem Hilir) on the right bank of the Wampu below Stabat. The ceramics, hearth and associated artefacts, including ancient bricks, beads and lead, were buried to a depth of about 60 cm, suggesting an accretion of this nature over a period of about four to five hundred years. The site was on a small island situated some 500 m behind the river flood dyke. A number of burials were reported on other small islands in the same vicinity (Milner, Edwards McKinnon and Sinar 1978; Miksic 1979).

The local ecology would appear to have been particularly congenial to the preferred lifestyle of these early inhabitants to have allowed three such large middens to develop in close proximity to each other at more or less the same period of time. This situation suggests the earlier existence of a broad estuary with mangrove, mudflats and sandbanks exposed at low tide in what is now the Hinai area.

In 1974/75, only the midden at Pasar III (II) was being actively exploited for lime. Work on the middens at Pasar VIII (IX) and Kampung Paya Rengas was in abeyance. At Pasar III, shells were being dug out at a depth of several metres and carted off to be burnt for lime at another location near Tanjung Pura, the *kabupaten* administrative centre. As only a limited area had been dug out of this midden, and the core of the exposed accumulation of shells was still largely intact, it was possible to ascertain that the top surface of the midden lay only 1 to 2 m below the current ground surface of the alluvial flood plain of the Wampu river. During the excavation of shells, the labourers found numerous unifacial stone tools, several traces of human burials and animal bones.

During the course of a number of weekend visits to the midden at Pasar VIII over a period of two to three months in 1974, I was able to recover remains of some twelve individuals, including two almost complete inhumations. An extended burial came from the upper surface of the midden, barely a metre below the the surface. Some ten metres away and slightly below it was a second burial associated with flecks of haematite. There were also numerous other fragments of human bones, skulls and teeth which had been discarded by the shell excavators. At a depth of approximately four to five metres below

the surface in midden matrix, a crushed skull was discovered, the frontal bones and teeth protruding from the working face of the shell excavation. This skull and some other bones were also recovered (Edwards McKinnon 1975). The inhumations were eventually despatched to the National Institute of Paleoanthropology at Universitas Gaja Madah in Yogyakarta, where they were later examined and published by S. Boedhisampurno (1985). All exhibited Austro-Melanoid features. Of the twelve remains, eight were identified as female and four male, ranging between the ages of 20 and 40. Estimated statures ranged from 154.1 to 157.4 cm. The pebble-core tools recovered from Hinai in 1974 were deposited with the Provincial Museum in Medan.

It has been postulated that there was seasonal movement between the estuarine shell middens and the numerous open sites to be found on riverine terraces in Deli-Serdang and Langkat (Brandt 1976). The size and disposition of the Hinai middens suggests that this complex may have formed a focus or important contemporary tripartite nucleus from which the early inhabitants of the region spread out, either for seasonal foraging or permanently to settle inland sites over the coastal plain, river valleys and foothills of eastern Sumatra.

It appears, however, that not only were terraces occupied by Hoabinhian peoples in Deli-Serdang and Langkat, but my own observations suggest that in Langkat Ulu they also used sheltered stream bottoms and rock shelters, in line with observations in Mainland Southeast Asia. Most Hoabinhian sites in inland localities are to be found near streams (Bellwood 1979). In 1963-64, I found several unifacial pebble tools at Turangie (Pondok Ulu), at Namu Tongan adjacent to Marijke and at Marijke, one of the locations where Van Stein Callenfels made his observations and collections in 1924/25.

OBSERVATIONS IN 1988.

By 1977, the Sukajadi Pasar III excavation had been abandoned, removing the core of the midden and leaving a lake some 100 x 50 metres in area (Miksic 1979). This site has remained undisturbed since then. In June 1988, the pit formed by the excavation of shell material at Pasar III was completely flooded and the miniature lake partially overgrown by reeds and water plants. It is understood that the Bupati's licence for operations at this site had expired some years ago. The operation had no doubt become uneconomic as the core of the pit flooded. Also, as work proceeded and the more accessible shells were removed, a greater depth of overlying soil had to be removed from above the shell deposits which formed the periphery of the midden. Consequently, it would appear that the lower, peripheral parts of the midden may still be intact, though to what extent it is impossible to ascertain without deep coring of the surrounding area.

Work at the midden located at Pasar IX continued on a peripheral area at a depth of approximately 8 to 10 meters below the current ground surface (Fig. 2). My original estimates of the depth (or height) to which these middens extend would therefore appear to have been inadequate. A layer of shells, visible at the bottom of the pit, was covered by a layer of dark grey estuarine mud, suggesting that this midden was established well before sea levels rose to their present state.

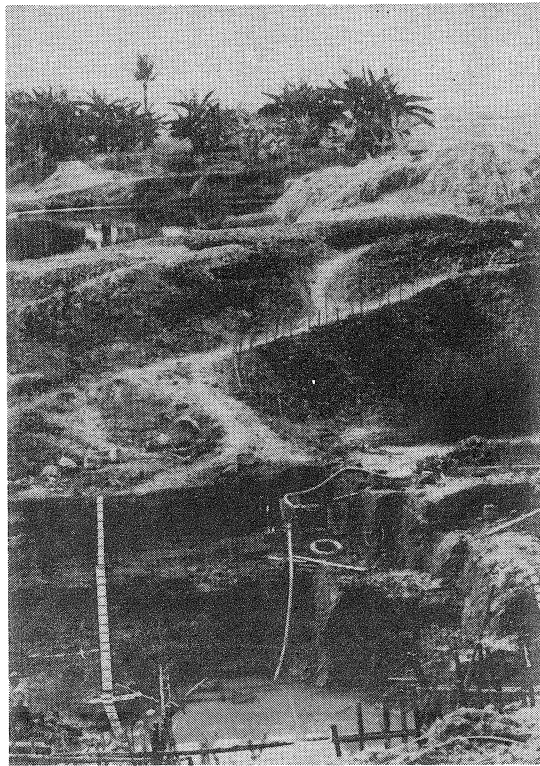


FIGURE 2: SHELL MINING AT SUKAJADI PASAR IX IN 1989

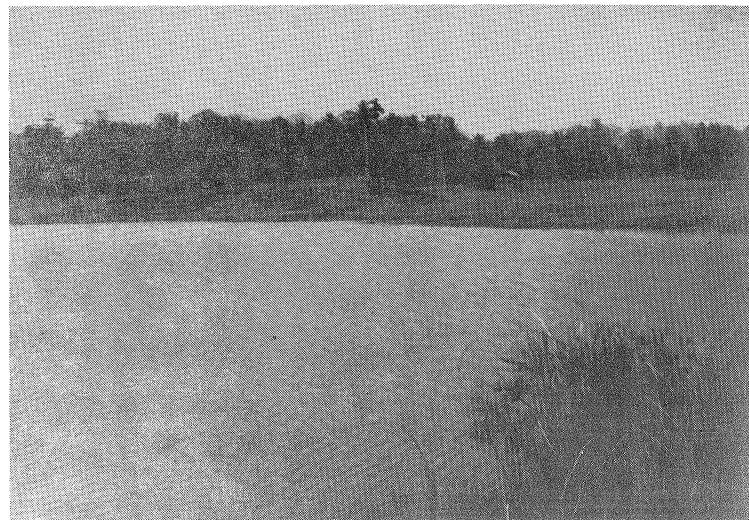


FIGURE 3: THE PAYA RENGAS EXCAVATED AREA, FORMERLY 15 M IN DIAMETER IN 1975

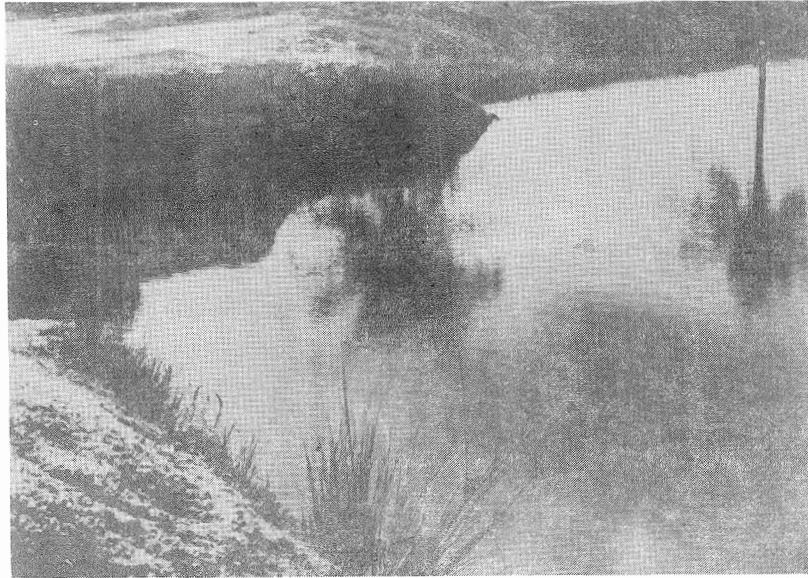


FIGURE 4: SHELL DEPOSIT STILL VISIBLE BELOW SURFACE OF WATER, PAYA RENGAS 1989

At Paya Rengas, work had also been abandoned after extensive excavation said to have been carried out between 1981 and 1986. The pit from which shells had been removed was completely flooded and had formed a small lake some 100 m in diameter (Fig. 3). The top of a compact mass of shells which had been cleared ready for excavation, however, was visible below the surface of the water on one side of the area (Fig. 4). Whether this deposit still remains undisturbed at the present time is not known.

During my visits to the various midden sites in the Hinai area, I do not recollect ever having seen remains of posts imbedded in the midden lenses or any suggestion of any kind of shelter. This does not mean that huts or shelters were not erected on these sites. My visits were intermittent and I could easily have missed such signs. I think that the existence of some kind of shelter or hut would have been highly likely in such situations.

Yet Another Midden at Tandem Hilir II

While visiting the Hinai sites in June 1988, my wife and I heard of another midden being dug at Tandem Hilir II, south of the Wampu river. This midden, which we visited briefly during our trip was, as far as could be ascertained at the time, of relatively small dimensions compared with those of the Hinai complex. The only significant shell deposit visible at the time of our visit was some 5 to 6 metres below the ground surface reportedly discovered by villagers during well-digging operations. Traces of shells were visible at various depths in the exposed soil profile (Fig. 5). A pebble-core tool and the remains of the jawbone of a crocodile were seen at this site. The Tandem Hilir II site would appear

to be not far from an earlier midden site investigated near the Tandem Hilir tobacco plantation (Witkamp 1920).

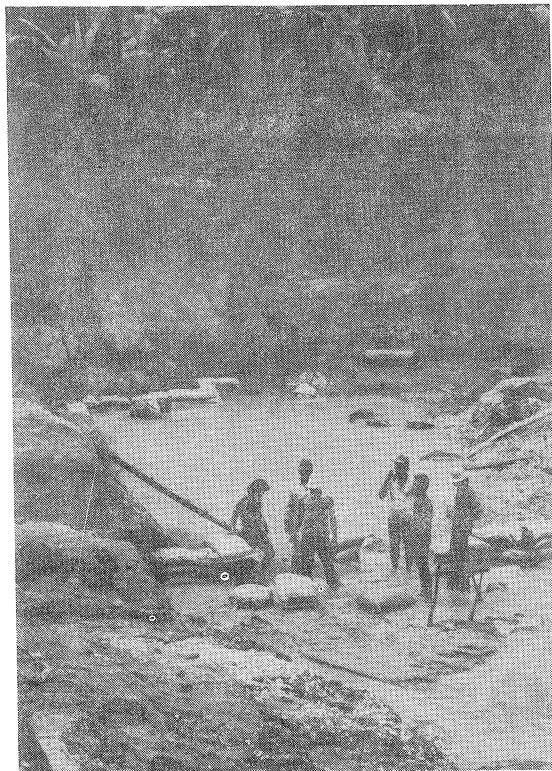


FIGURE 5: TANDEM HILIR II IN 1989

Dating of the Hinai Complex

As I have suggested above, the Hinai middens are perhaps three times the size of any reported in the colonial era. As far as is known, the bases of the Hinai middens lie some 10 to 12 metres below the current ground surface, which is also deeper than those reported earlier. This suggests that there was an accumulation of some 9 to 10 metres of shell debris from the time when these sites were first occupied. This may represent a period of some 8000 to 10,000 or more years, assuming that the C14 date of 7340 ± 360 bp [SUA-1107] obtained from a hearth level about two thirds of the way down the profile of Sukajadi Pasar III (Bronson and Glover 1984) represents a date approximately one third of the way through the life of the midden. Sea levels, however, are known to have been lower during the Pleistocene period and finally began to assume their present levels some 5000 years ago (Miksic 1977). A covering of one to two metres of alluvium over the tops

of the middens may represent approximately 1000 years of deposition, suggesting that the middens were abandoned as recently as the end of the first millennium AD. Gorman found Hoabinhian tool assemblages in northwestern Thailand associated with hunter gatherer sites dating as late as the 10th century (Hutterer 1976). An encrustation of iron found in close association with an extended burial III in August 1974 (Edwards McKinnon 1975:50) may thus indicate that midden dwellers had access to iron tools before they finally abandoned their mode of life.

A RESCUE OPERATION?

Although the core areas of these middens have been largely destroyed, with the most damage to the Paya Rengas midden inflicted as recently as 1981-86, it may still be possible using modern scientific and analytical methods to glean some valuable additional information relating to the environment of the East Coast of Sumatra from approximately 7000 to 10,000 or more years ago through to the end of the first millennium AD. It is probably impractical to try to stop the current economic exploitation of the midden at Sukajadi Pasar IX. The destruction has gone too far. The removal of shells was being conducted under licence from a local government (*kabupaten*) office. Excavated shells were fetching some Rp.25,000 per cubic metre in June 1988.

The area surrounding the middens could, however, be cored, profiles constructed and an estimate made of their original and remaining extents. Commercial coring, said to have been undertaken at Paya Rengas, indicated that the midden may exceed 1.5 hectares in extent! It may prove to be prohibitively expensive to remove such a large volume of water from the pit, simply to achieve access to the shells and to excavate at Kampung Paya Rengas. If, perhaps, it were possible to combine this venture with a small scale pump irrigation project, which would at the same time provide water for villagers to irrigate the surrounding fields, this might make the project more economically attractive to funding agencies. Any pump installation to provide irrigation water could, with suitable training and supervision, be economically viable and be maintained for several years after the archaeological project had been concluded. The pits created by the removal of shells have created considerable reservoirs.

THE UPPER WAMPU/LAU BIANG VALLEY.

The Sungei Wampu rises as the Lau Biang (the Dog River) on the slopes of Deleng Sipisopiso near Siberaya on the Karo plateau. It flows northwards in a deep cut across the Karo plateau past Kabanjahe, Perbesi and Kutabuluh through the Bohorok gap in the Bukit Barisan range, past Marijke, Namu Tongan and Turangie plantations to enter the east coast plain at Bohorok (Buah Uruk) in Ulu Langkat. From Bohorok, where it also passes through a deep ravine, the river is known as the Wampu (or Bampu). It then meanders down through marshy banks to Stabat and swings north past Tanjung Pura to enter the Selat Melaka as the Sungei Langkat at Tanjung Langkat.

The upper Wampu/Lau Biang valley was once rich in natural resources. Wild life, including elephant, tiger, deer, pigs, bear and various species of monkeys abounded even

as late as the early 1960's. The forests of Langkat were rich in fruit trees including durian and figs. Inroads were first made into this fertile territory with its abundant rainfall and relatively small indigenous human population at the turn of the century with the establishment of tobacco and rubber plantations. Most of the forest is now sadly depleted.

In the past twenty years the area northwest of the Wampu has been largely cleared for oil palm plantations (Perkebunan Sawit Seberang). I am not aware of any botanical survey having been carried out in this area prior to the destruction of the forest, though the area was heavily logged prior to its conversion to plantations. Despite the destruction of the forest and inevitable disturbances, it may now be an opportune time to survey this region to try to identify former open or habitation sites. Caves and rock overhangs in the Bohorok/Bukit Lawang area Tertiary limestone where I found a pebble core tool in 1963 may also reward further investigation, as may the banks of the Lau Biang/Wampu at Kebun Sayur, Bungara, where I recovered chert blades and sherds of coarse pottery in 1971.

CONCLUSIONS.

The Hinai midden complex appears to be relatively older and the middens more massive and extensive than any of those reported earlier from northeastern Sumatra. The accretion of alluvium over the tops of the middens compared to more modern sites in the same area and the possible presence of an iron implement suggest that the middens might have been abandoned finally only approximately a millennium ago. Extensive excavation of the shells has continued intermittently since 1974 with the Pasar III and Pasar IX middens reduced to deeply buried peripheral deposits and only one segment of the Paya Rengas midden remained undisturbed as of June 1988.

At that time, there was still a possibility that the remaining segment of the Paya Rengas midden could provide valuable data for research. Modern methods of analysis and dating allow us to do much more than was possible previously. Providing that the remaining part of the midden is undisturbed and still available to be investigated (and this now needs to be checked out), a rescue operation should be organised and launched without further delay to try to ascertain whether there are any discernible traces of early agricultural activity associated with the site. Even though the Hinai middens may not be the last surviving examples of this mode of existence, they may well be the oldest and most significant examples known in Sumatra.

APPENDIX A: INVENTORY OF KNOWN MIDDEN SITES.

Kabupaten Aceh Timur: Kecamatan Bendahara:

- 1) Kampung Mesjid: now completely destroyed (1974), reportedly 27 m in length, 25 m in diameter and some 10 m in height.
- 2) Sungei Hui: situated in a swamp some 1.5 km from the road (Bronson and Wisseman 1974). Still largely undisturbed (1974).

Kabupaten Aceh Timur: Kecamatan Langsa:

Langsa Lama, Desa Jambo Labu: reportedly 30 m diameter and some 25 m in height (Ditlinbinjarah 1981, no. 128).

Kabupaten Aceh Timur: Kecamatan Peureulak:

Rantau Panjang; Perkebunan Rantau (Ditlinbinjarah 1981, no. 131).

Kabupaten Aceh Tamiang:

Kampung Seruwai: one midden formerly situated some 100 m north of the Sungai Tamiang just above the village of Seruwai, other middens approx. 30 m in diameter, 4.5 m in height in same area (*Jaarverslag van het Mijnwezen* 1917; Schurmann 1931). Now completely destroyed (1974).

Kabupaten Langkat: Kecamatan Hinai:

- 1) A couple of shell middens on the Ludwigsberg concession were said to have been destroyed prior to 1920 (Witkamp 1920). The name Sekapuran, east of Paya Rengas may denote the site of these.
- 2) Kampung Paya Rengas: largely destroyed between 1981 and 1986. Said to cover an extensive area estimated to be some 1.5 hectares.
- 3) Kampung Sukajadi Pasar III.
- 4) Kampung Sukajadi Pasar IX. (Previously reported as Pasar VIII)

Kabupaten Deli Serdang: Kecamatan Hamperan Perak:

- 1) Kampung Tandem Hilir II (Previously unrecorded)
- 2) Kampung Tandem Hilir [Sungei Diski], on dry land, N.W. of Binjai (Witkamp 1920; Huesser and Mjöberg 1920; Hengeveld n.d.)
- 3) Kampung Bulu Cina [Sungei Diski], 20 m in breadth, 3 to 4 m in height. Situated in a mangrove swamp (Witkamp 1920; Heusser and Mjöberg 1920, Hengeveld n.d.)

Kabupaten Deli Serdang: Kecamatan Percut Sungei Tuan:

- 1) Perkebunan Saentis Kampung Pasar VIII: 13 km northeast of Medan, described as elliptical, 50 to 60 m diameter, 30 to 55 m broad and 7 m high (completely destroyed 1975).
- 2) Perkebunan Saentis, Pasar, remains of a small midden approx 15 m diameter and 1 m in height, situated 50 m to west of estate road leading from Saentis to Paluh Ibus. Human skull (fragmentary). Associated earthenware potsherds, stoneware (Thai Sawankhalok ware). Destroyed 1972.

Kabupaten Deli Serdang: Kecamatan Perbaungan

Kampung Perbaungan (Witkamp 1920; "a few middens", not seen, but presumably destroyed).

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