

TRADE AND SITE DISTRIBUTION IN EARLY HISTORIC-PERIOD KEDAH:
GEOARCHAEOLOGICAL, HISTORIC, AND LOCATIONAL EVIDENCE

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Nearly one hundred archaeological sites and isolated finds have been recorded over the past century and a half in south central Kedah, on the northwest coast of Peninsular Malaysia (Fig. 1). Based on stylistic evidence, virtually all the sites, as well as the isolates (primarily sculptures and inscribed tablets), date to the early historic period, between AD 100 and 1500.

The sites are distributed across a relatively small (360 km²) area served by two large rivers, Sungai Merbok and Muda, and their estuaries (Fig. 2). Dominated today by a broad coastal plain, the landscape also incorporates lowland and upland stream terraces, beaches, inland sand ridges, hills, and, in the north, the 1217-meter-high forested massif of Gunung Jerai.

Many of the Kedah sites are Hindu and Buddhist shrines and other stone and brick structures that display Indian stylistic characteristics; these structures have been interpreted in the past as evidence for Indian domination of the area during the early historic period. Both the sites and the claims that they represent Indian domination - so-called "Indianization" - need reassessment.

One of the goals of my 1979-1980 dissertation research was to plot the patterns made by the Kedah sites across the current and palaeo-landscapes, both cultural and physical, the underlying assumption being that site networks would reveal far more about cultural process, and about Kedah's early historic-period cultural system, than could be revealed by individual sites. The locational, geoarchaeological, and historic evidence reported here suggests that all of the Kedah sites functioned within a Malay state integrated by traditional, redistributive exchange.

THE HISTORICAL RECORD

Hundreds, perhaps thousands, of foreign sea captains, merchants, priests and adventurers visited the ports of the Malay Peninsula during the early historic period, some staying for several months. A few of these visitors left the earliest written descriptions still in existence concerning several important coastal Malay states involved in extra-regional

exchange (Braddell and Douglas 1980; Gerini 1909; Hill 1977; Wheatley 1959, 1961). Indian, Middle Eastern, European and especially Chinese visitors described native life in Malay coastal exchange centres, and listed the products these centres exported to foreign lands - products including cardamom, cinnamon, gharuwood, ivory, sandalwood, and tin (e.g. Hirth and Rockhill 1966; Wheatley 1959).

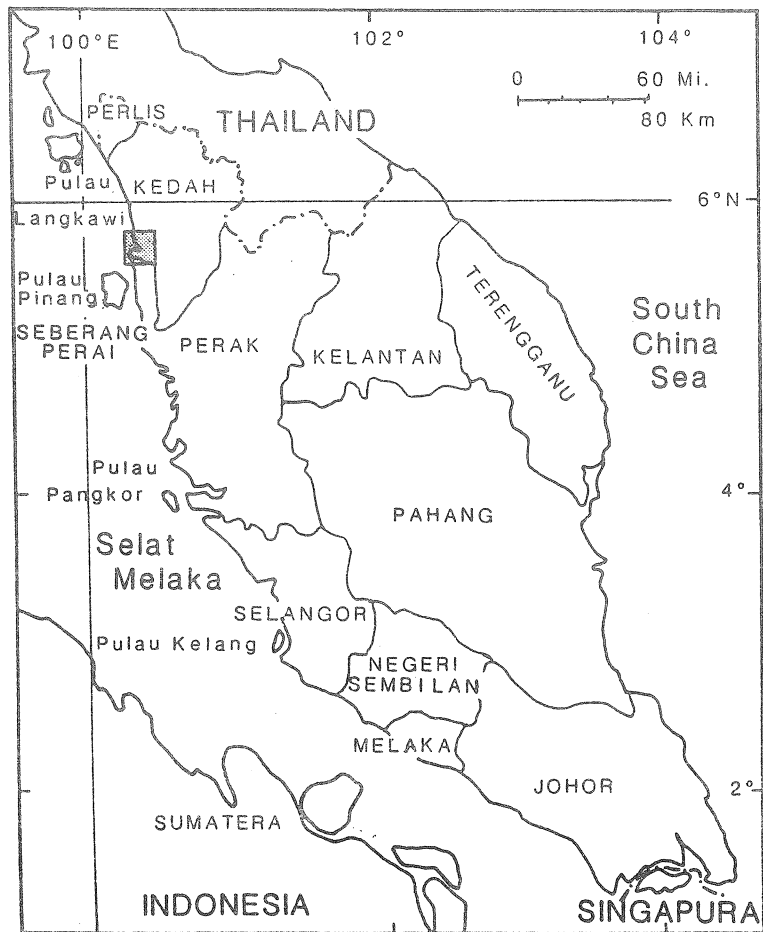


FIGURE 1: LOCATION OF THE STUDY AREA WITHIN PENINSULAR MALAYSIA

The majority of these items had to be collected in the interior by Malays or by forest-dwelling Orang Asli, who offered them to Malays at upriver locations in exchange for needed coastal items. The forest products were then trans-shipped downstream by the Malay entrepreneurs and bulked at coastal and downstream centres for both local redistribution and export to foreign lands.

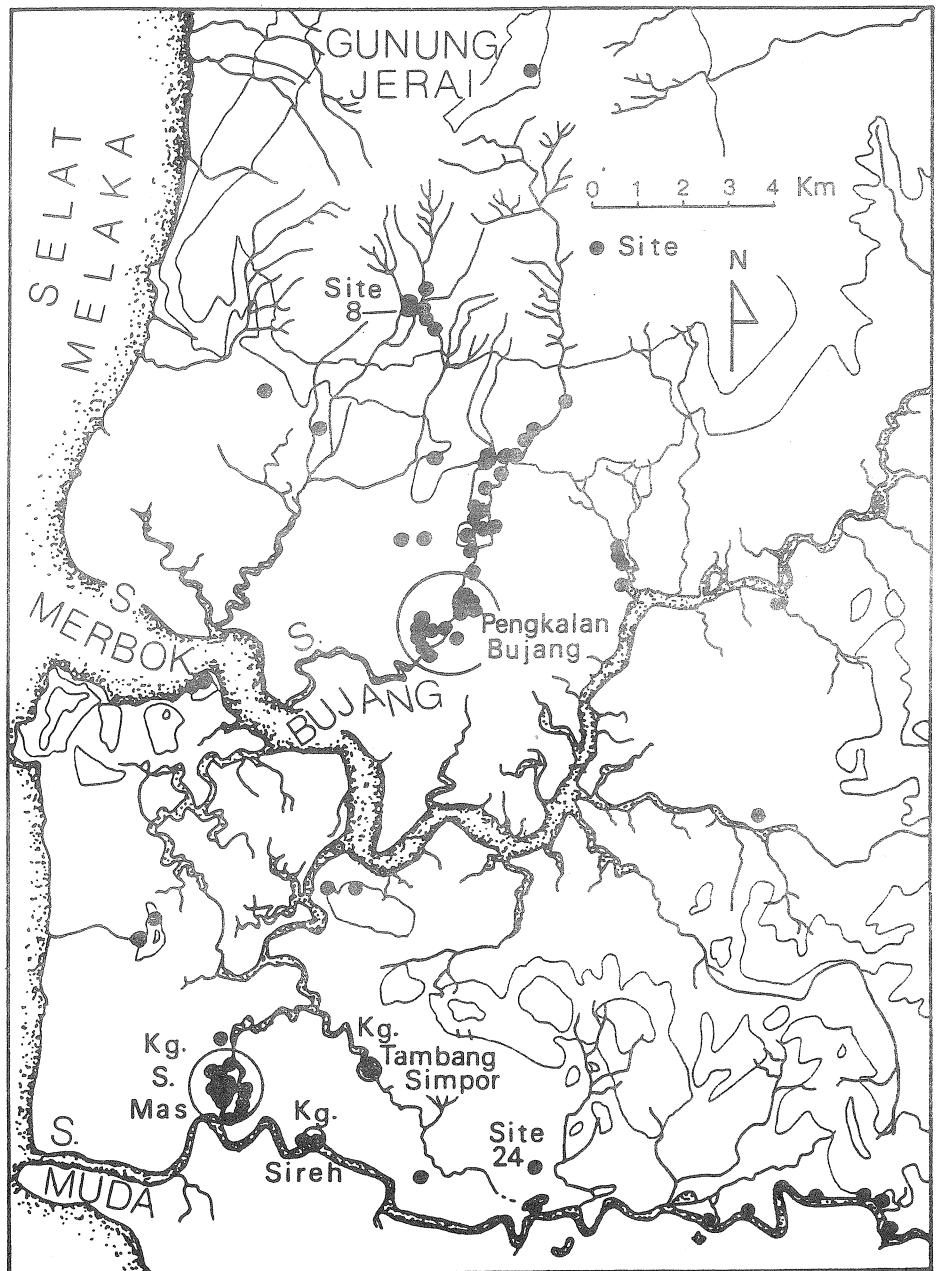


FIGURE 2: THE MERBOK-MUDA AREA, SOUTH-CENTRAL KEDAH, SHOWING SITES MENTIONED IN THE TEXT (15, 90 and 914 meter contours indicated)

The longstanding and well-organized Malay practice of internal exchange was critical to the development of the area's early historic-period extraregional trade (Bronson 1977; Dunn 1975) and to the emergence and success of the Malay states that controlled that trade. No evidence exists to suggest that any foreign group was able, prior to the colonial era, to control Peninsular Malaysia's internal trade, which required intimate familiarity with inland areas or, more usually, the conduct of silent barter with Orang Asli groups.

At least two early historic-period emporia of international stature were located on the northwest coast of the Malay Peninsula: Takola, probably located at Trang or Takuapa in Peninsular Thailand; and Kataha. Based on the available historical and archaeological evidence, Kataha was located in south central Kedah (Allen 1988:208-223).

The Archaeological Evidence In Historical Perspective

Between the 1840s, when Colonel James Low (1849) described Sivaite temples and other sites in the area, and the 1980s, eighty-seven sites and isolated finds were mapped and described in the literature for south central Kedah (e.g. Adi 1983; Allen 1986-1987, 1988; Evans 1927; Lamb 1961, 1963, 1982; Leong 1973; Low 1886a, 1886b; Peacock 1970; Persatuan Sejarah Malaysia 1978; Quaritch Wales 1940, 1970; Shuhaimi 1980; Sullivan 1958; Wales and Quaritch Wales 1947; Wang 1958).

The earliest investigations were conducted during the British colonial period by researchers who had been strongly influenced by the British experience in India. These researchers focussed on sites with traits that could be assigned to certain Indian art historical schools, attributing the stylistic traits to Indian control of the area. Quaritch Wales (1940; Wales and Quaritch Wales 1947) interpreted at least twenty-four of his thirty-one sites as evidence for Indian domination. Sites of more mundane, probably indigenous types, such as midden concentrations and ceramic deposits, were virtually ignored.

Foreign cultures including that of India have been credited with introducing to Southeast Asia numerous developments including irrigated rice agriculture, extraregional exchange and state formation (see reviews in Allen 1988; Kennedy 1977; van Leur 1967; Welch 1985). Even since the end of the colonial period it has often been claimed that the south central Kedah sites represent political, religious and economic control by Indians (e.g. Ahmat 1984:9; Wheatley 1961:275; Zaharah 1969, 1970; Stargardt 1983:33, 219 [citing Srivijaya as the intermediate power]). The area is said to have constituted an agrarian, Hindu/Buddhist derivative state, involved in Indian- and Chinese-dominated exchange and supported by Indian-introduced irrigated rice agriculture practised on the floodplain that dominates the area today.

In 1961, Alastair Lamb, working at Candi Bukit Batu Pahat, a Hindu shrine midslope on Gunung Jerai (Fig. 2: Site 8), argued for stylistic ties between Kedah and other Southeast Asian areas, disputing claims for Kedah's subordination to India. Lamb recognized the significance of extensive tradeware deposits, evidence for extraregional exchange, at Pengkalan Bujang, today located several kilometres upstream from the Sungai Merbok estuary, and at Kampung Sireh on the Sungai Muda. Lamb's evidence

suggested that the Kedah sites had functioned within a cultural system deeply rooted in the conduct of both internal and external exchange.

Lamb published evidence that suggested the rapid infilling of the Merbok estuary with terrigenous sediments during the early historic period - evidence that had also been recognized indirectly by Low, and by Quaritch Wales (1940), who had projected a sixth-century shoreline well inland from today's coast. Encountering harbor sediments at Pengkalan Bujang, Lamb suggested that the trade centre there had occupied the shore of a bay or estuary until the thirteenth century. After this the entrepôt moved south to Kampung Sireh on the Muda, where he recovered post-thirteenth-century tradewares, because the Merbok had silted in, making it useless for internal exchange.

Indian Sites and Southeast Asian States

In spite of the impressive trade sites described for Pengkalan Bujang and Kampung Sireh, and now also for Kampung Sungai Mas and Kampung Tambang Simpoh (Fig. 2), south central Kedah's exchange sites are far outnumbered by Indian-style structures. Of the eighty-seven sites I recorded or re-recorded, at least fifty-five are permanent structures with Indian traits, raising questions as to how (and whether) the shrines, exchange sites, and other sites had actually interacted; and what the different site types may reflect in terms of Kedah's sociopolitical organization, economic base, and autonomy. Were Kedah's early population centres governed by Indians? Was Indian religion dominant, with native residents, both élites and commoners, worshipping at Hindu and Buddhist shrines and learning classical Indian languages and art styles? Did (could) Indians have controlled the exchange conducted at Pengkalan Bujang and Kampung Sireh?

Sites in certain Southeast Asian areas display Indian influences that may indeed have pervaded the entire socioeconomic and political fabrics of the societies they represent. Angkor, for example, was an inland, agrarian state. Its rulers assumed Indian names and titles and remained relatively permanently seated at courts in the population centre, which was laid out according to Indian cosmological principles. Ruling families remained closely associated with the centre at Angkor for long periods. Inland central Java is often cited as another such state.

In contrast, native Malay states were characteristically coastal and river-based, operating extensive exchange networks that traditionally transported upland forest products along rivers to the coast, and coastal items upstream. Hypothetically, at least, settlements should have formed dendritic networks, each network occupying a single stream catchment and focused on a single coastal exchange gateway.

The rulers of Malay states tended to move frequently: Low (1849:257) commented that "the Rajas of Kedda seem to have been given to locomotion. Almost every reign was followed by a change in the seat of government." When the Malay ruler moved, most subjects followed, often, as at Singapore (Tumasik) and Melaka, founding an entirely new centre (Andaya 1975:2; Meilink-Roelofs 1962:27). Even in central Java, an inland state, the political seat moved in its entirety to eastern Java c.AD 929, presumably relocating not only the political structure but also the governed population (de Casparis 1986:50).

LANDSCAPE CHANGE AND THE KEDAH SITES

Two main problems have affected archaeological interpretations of the Kedah sites. First, many shrines and three of the four main exchange centres are surrounded today by the broad coastal floodplain. Although both Malay traditional history (Malaysia, Kementerian Pelajaran 1973) and archaeological researchers from Low onwards have recognized the likelihood that the Kedah coast has prograded significantly since the early historic period and did not exist during the earliest period, interpretations of the area's sites continue to be tied to the concept of an irrigated, floodplain rice-based economy.

Second, as indicated, Kedah's sites have generally been investigated singly, rather than as components in functional networks. I used geoarchaeological and locational analyses to investigate whether landscape change throughout the area might explain the inland locations of the isolated shrines and the four main tradeware deposits, and whether the sites formed networks of Christaller's (1966) symmetrical, floodplain-based Central Place type or, alternatively, dendritic hierarchies focused on exchange gateways.

The Geoarchaeological Evidence

The evidence suggests that the south-central Kedah floodplain, 10-12 km wide in the project area, did not exist in any significant size until perhaps AD 1400. Historic maps compiled by Ptolemy in the first or second century AD (Wheatley 1961: Fig. 28) show a western coastline markedly different from that of today, although the differences have generally been explained away in the past as mapping inaccuracies (Allen 1988:619-645). Eighteenth-century maps of the Merbok-Muda area (Mills Collection 1936a, 1936b), apparently based on earlier representations, depict offshore islands where headlands now exist. Quaritch Wales (1940) suggested that the sixth-century shoreline of the Merbok estuary had been located 4 km up the Sungai Bujang from the 1935-1940 shoreline.

The *Hikayat Merong Mahawangsa* (Kedah Annals: Malaysia, Kementerian Pelajaran 1973) claims that the coastal plain did not exist and that Gunung Jerai was an island (Pulau Jerai) when the first "colonists" arrived. Hills further north are also described as islands. Isolated hills in the project area, several occupied by Indian-style shrines, were probably harbor islands near one of the two main exchange gateways, Kampung Sungai Mas and Pengkalan Bujang, when the structures were in use.

Sedimentological evidence also suggests that the broad coastal plain did not exist until relatively recently. Thick coastal deposits of terrigenous silts and clays eroded from hills inland, and broad belts of mangroves and mangrove soils, indicate that the western shoreline of the Peninsula is still prograding rapidly into the Selat Melaka (Carter 1959; Courtier 1962; Tjia 1973:19-20). Although no radiocarbon dates are yet available from the floodplain itself, a charcoal sample which I recovered 228 cm below surface at a midslope locality on Gunung Jerai, 46 m above sea level (Allen 1988:599-601), produced an AD 675-930 calibrated date range. At a minimum, 2.28 m of sediments from farther upslope have therefore been deposited at this upslope locality, which has probably lost far more than it has received, since the tenth century.

Coastal progradation in the Sungei Dinding area of Perak has been calculated at 1 km in 80 years. Braddell (1939-1940) estimated an even more impressive rate for an area just south of Kedah: 1 km in 62.5 years. Batchelor (1977), further south on the west coast in Selangor, calculated the rate to be 1 km in 54 years. If the Merbok-Muda coastal accretion rate can tentatively be estimated at 1 km per 100-years during recent centuries (a lower rate than those cited), then very little floodplain existed until sometime after AD 1300, relatively late in the historic era.

Therefore, the archaeological sites that appear floodplain-associated were not. They were associated with two types of higher ground found throughout the plain. Some, as mentioned, are situated on hills that were once islands. Others occupy sand beach ridges - *permatang* - which accumulate seaward in long bands paralleling the coast as newly-transported hill sediments breach existing ridges, enter the littoral zone, and are reworked into new barrier beaches; intervening swales trap new terrigenous silts and clays (Bradford 1972:52, 57; Field and Duane 1976, 1977; Nossin 1964; Smart 1976; Stargardt 1983: Figs 15, 17). Certain ridges created barriers that changed the stream flow direction in such major streams as the Sungai Muda.

Although now completely landlocked within an ever-widening floodplain, the ridges occupied by the main site concentrations at Kampung Sungai Mas and Pengkalan Bujang were active coastal or estuarial beaches during the earliest centuries of the historic period. None of the four largest site clusters was an inland center; all were coastal or riverine.

In the absence of a broad floodplain, little irrigated rice could be grown around the sand *permatang* sites. The floodplain segments that existed were covered with acid mangrove clays hostile to plant growth. No evidence exists until after AD 1500 for widespread floodplain rice, or for a foreign-introduced subsistence base.

Kedah's subsistence base was provided by traditional Malay agriculture, practised further inland in river valleys and on hillslopes in the piedmont zone of the Main Range. Although irrigated rice was probably grown in well-watered areas (Zaharah 1969), evidence suggests strongly that the slopes were used primarily, and extensively, for permanent or short-fallow dryland rice and/or millet agriculture. Evidence for this widespread, unirrigated cereal subsistence base includes historical accounts (Hill 1977; Zaharah 1969), sedimentological evidence, archaeological evidence (e.g. seven agricultural burns in succession at the Gunung Jerai locality that produced the AD 675-930 date) and botanical evidence - vast stands of secondary forest and grasslands on slopes and hill summits where primary forest once existed.

Overuse of dryland fields increasingly depleted the vegetation cover on the slopes, allowing or accelerating erosion of fragile hillslope topsoils. Silts and clays were transported downslope in ever-increasing quantity, creating the floodplain and completely blocking the Sungai Merbok, sealing its estuary and Pengkalan Bujang, the entrepôt, from large areas of inland forest.

The Muda, which flows southward through north Kedah and has emptied westward into the Selat Melaka through a southward-moving succession of at least three drainages, including the Merbok (Bradford 1972:6), then captured the Merbok and gradually cut a

new drainage at the current Muda estuary. Since access to forest products and the ability to ship them downstream were critical to Kedah's exchange-based economy, the trade centre moved south to the Sungai Muda between the thirteenth and fifteenth centuries, as suggested by Lamb. Alternative explanations for the move, for instance that the populational shift was necessitated by a search for more floodplain ricelands needed to feed dense populations (Zaharah 1969:7), appear unsupported by the current evidence. An analogous series of river shifts has been documented (Koopmans 1964) for the Sungai Dinding estuary in Perak, where the historic-period site of Beruas declined c.AD 1511.

Based on my findings, the populational shift from Pengkalan Bujang in the Merbok network to Kampung Sireh on the Sungai Muda was only the latest in a series of shifts that were necessitated by the ever-accelerating infilling of streams used as exchange routes with silts and clays eroded from overused hillslope fields. The first major local shift, from Kampung Sungai Mas to Pengkalan Bujang, had probably been brought about by the blockage of another stream, later captured by the Muda, that had once drained northward into the Merbok estuary (LANDSAT 1981; Wales and Quaritch Wales 1947:11).

The various riverine shifts explain the locations of today's landlocked, but once coastal, primary centres of Kampung Sungai Mas and Pengkalan Bujang; the success of Kampong Sireh and Kampong Tambang Simpor, which apparently functioned primarily as second-rank exchange nodes controlling major river routes; and the seemingly anomalous existence of sites like Tikam Batu (Fig. 2: Site 24), isolated on an inland hill summit some distance from current streams but at one time located near a major river exchange route (Allen 1988:521-523, 607-619).

Locational Evidence

Of eighty-seven recorded sites, eighty-six were closely associated with streams or coastal waters during the early historic period; these include six (one north of Gunung Jerai) located on hills overlooking stream confluences or the coast. The eighty-seventh site, probably a beacon, occupies the summit of Gunung Jerai, commanding a view up and down the Kedah coastline and far out to sea. The sites - whether shrines, exchange deposits or midden concentrations - formed dendritic, river-oriented networks focused on the coastal gateways at Kampung Sungai Mas and Pengkalan Bujang. What remains to be explained, or at least suggested for further testing, is how the Indian-style shrines and other permanent structures participated in this exchange-based system.

Twenty-eight of the fifty-five structures were isolated in upstream, upslope forests. Twenty-seven were located in downstream and harbor areas - nineteen within the site clusters at Pengkalan Bujang, Kampung Sungai Mas and Kampung Tambang Simpor. A few of the downstream structures might have been secular; if so, they may reflect the active adoption of Indian architectural and stylistic traits by élite members of the local population. The vast majority of the permanent structures, whether up- or downstream, are shrines. These apparently represent a process most simply and plausibly explained by ethnographic information from other areas such as India and Thailand where shrines built

for the attainment of personal merit are common both in population centres and in isolated locations throughout the countryside.

The Kedah shrines apparently served Indian visitors associated with, but not culturally integrated within, the Malay exchange-oriented system. They were built or commissioned by visiting ships' captains, priests and merchants to acquire merit or simply to commemorate a successful voyage (as does an inscribed tablet from the area [Allen 1986-1987; Lamb 1963; Low 1886a]). The construction labor may have been arranged by the Malay ruler as a favor granted to a generous merchant or priest, but there is no evidence that the shrines represent Indian political or even religious domination of the Kedah Malays. Maps and historical documents indicate that few foreigners ventured into the inhospitable inland terrain during the early historic period. Those who did so must have been guided and closely supervised by Malays, if only for their own protection in unfamiliar and dangerous territory.

Historical accounts indicate clearly that Malay control of foreigners in port towns was very effective. In Melaka, the best-documented precolonial trade gateway, documentary evidence (Anderson and Vorster 1983; Birch 1880:87-88; Brown 1970:45-46; Cortesão 1944:90:268; Meilink-Roelofs 1962:42-52) indicates that foreigners were welcomed but were supervised closely by Malay officials. In particular, four *syahbandar* supervised all storage, overland transport of goods, customs payments, the presentation of gifts to the ruler and other officials and most other trade-related activities. These *syahbandar* were responsible to and for distinct ethnic groups of visitors, who lived in supervised communities separate from those of the local people.

Trade at Aceh and Banten was organized similarly (Miksic 1979:4-8; Reid 1975:50). So, undoubtedly, was trade in Kedah, whose autonomy and control over foreign visitors remained impressive even during the later colonial period. The economic autonomy that distinguished Kedah from most others on the Peninsula during the colonial era is generally attributed to the maintenance of traditional Malay patterns which developed much earlier for the conduct of exchange (see Ahmat 1970; cf. Lewis 1975).

CONCLUSION

The evidence presented here suggests that the Kedah coastline prograded dramatically during the early historic period; that no broad floodplain yet existed for widespread irrigated rice agriculture; and that the early historic-period sites formed dendritic, exchange-oriented networks. The landlocked and floodplain-based locations of many of Kedah's sites today are misleading, produced by coastal progradation; the sites were riverine or coastal when they were in use.

Kedah's early historic-period subsistence base was provided by permanent or short-fallow, dryland cereal agriculture, which was practised so extensively on slopes inland that the vegetation cover was stripped from large areas, leaving topsoils exposed and fragile. Today's floodplain was created as these inland soils were eroded downslope and transported to the coast by the streams of the area, blocking important streams in the process.

Kedah's varied and seemingly disconnected site types are best explained as parts of networks that functioned within an integrated, Malay cultural system. The combined archaeological and historical evidence makes it clear that both shrines and secular sites functioned within a coastal and riverine exchange-oriented polity. That polity was, based on the available evidence, a traditional Malay state of the type that is represented archaeologically and historically at coastal sites around the Thai-Malay Peninsula.

ACKNOWLEDGMENTS

The dissertation research reported here was completed at the University of Hawaii. Fieldwork was conducted with the much-appreciated assistance of the Universiti Malaya, the Muzium Negara and the Muzium Arkeologi Lembah Bujang in Kedah. Many thanks to crew members Norain binti Md. Noor, Chan Sean Keong and Chew Han Ngin, and also to the Indo-Pacific Prehistory Association members who provided comments when this paper was presented at the 14th Congress in Yogyakarta.

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