CHAPTER 11. GARASSIK (MAKASSAR)

In its heyday Makassar was an entrepôt-city at a major delta - the archetypal location of Southeast Asia's historical entrepôts (Kathirithamby-Wells, 1990:3-4). European descriptions of the city include several eye-witness accounts, plus three sketches made of Makassar at c.1638 (Photo 1-1), 1660 (Boxer, 1967: Plate III) and 1667 (Bassett, 1958: Plate 2). Although not all details are immediately clear,[1] the sources demonstrate the general organisation of the city into quarters for foreigners near the north oulet of the Garassik (Jeknekberang), Makassar settlements near the south outlet, and Benteng Somba Opu on the deltaic island betwixt (Reid, 1983a; Bulbeck, 1990).

Shortly after his conquest of Somba Opu in 1669, Speelman wrote that the only part which should properly be called the city of Makassar was the constellation of individually named villages between Somba Opu and the Garassik's south channel (Reid, 1983a:146-8). Speelman's description precisely matches a cluster of sites at a density which would appear to be semi-urban. This "Makassar cluster" is flanked at the immediate south by a lesser cluster strung along the Aeng river (11.2). Both clusters can be treated together under the covering label "Garassik" - an independent kingdom prior to being swallowed by its neighbours, then a major karaengship during the 17th century (4.3).

11.1 Physical Setting and Fortifications

20th century Dutch topographic maps, along with air photographs taken in the 1940s (Allied Geographical Section, 1945) and afterwards, show the continual growth of the

[1] Contradictions between the three sketches occur, as in the location of the Portuguese quarter, and none depicts the fortifications as the archaeological record shows them (Bulbeck, 1990). Nonetheless the c.1638 sketch (Photo 1-1) is the most detailed and realistic of the sketches, and can be followed so long as we remain awake to its apparent simplifications. The other detailed sketch, of Makassar at 1660, includes at least three errors: a location of the Portuguese quarter too far northwards, the mislabelling of Benteng Barombong as "Fort Bayoa", and the mislabelling of Benteng Ujung Pandang as "Fort Bontecouge [Bonto Keke]".

Jeknekberang's delta to the point where it now impinges on Ujung Pandang's harbour. Large quantities of sand are carried to the Jeknekberang's mouth, while the sea transgresses the growing delta. Consequently the prevailing southwards currents deposit south-running sandbars which block the main outlet and force it to migrate gradually northeastwards (Sobur, 1984/85; see Figure 11-4a).

The main body of sandbars mimics the cheniers on which colonial Makassar (Ujung Pandang) was built, while the curved outlet mimics the northeast directed spit of raised land once occupied by Benteng Tallok (12.1). The comparison implies that these cheniers had been deposited by an ancestor of the Jeknekberang which, at some stage after the mid-Holocene transgression, debouched where the Tallok inlet now is (Reid, 1983a:119). The late Holocene date is shown by the point that most of the surface of the cheniers is less than five metres above sea level, i.e. below the level to which the sea levels rose at approximately 4300 BP (cf. Whitten et al., 1987:19-20). As a further consideration, SSPHAP's sites Somba Opu, Benteng Garassik and Bayoa 1 appear to fall along a low, dissected ridge identifiable as the southwest bending tail of the prehistoric Ujung Pandang cheniers. Five flaked stone artefacts were recorded at Garassik (Figure 11-15a), and so by stamping the site's landform as prehistoric, allow us to date the formation of the Ujung Pandang cheniers to between 4000 and 1000 BP (Figures 11-1b and 11-1c).[2]

Evidence reviewed previously suggests that the lower Sungai Garassik may have followed the Anak Gowa until straightening its course past Benteng Tua by the 17th century (8.1; 9.9.3). The Paknakkukang-Pattukangang chenier, to the south of the Jeknekberang, confirms the suggestion by

[2] A piece of volcanic stone from Bayoa, which resembles a bipolar core even though Johann Kamminga (pers. comm.) recommends "smashed stone aggregrate" as the more parsimonious classification, offers further possible support for this interpretation.

The course of the late prehistoric Jeknekberang, shown in Figure 11-1c, follows the present-day Sungai Bantimurung above Bontomanaik, based on what appears to be a remnant channel leaving the present-day Jeknekberang directly upstream from Bissua and articulating with the Bantimurung (see Figures 5-2 and 5-6).

mimicking the form of the modern delta on a much reduced scale (Figure 11-19). It would have been largely deposited by the 15th century, the date of the oldest tradewares recorded on the chenier (11.5.3). Hence the stage at which the Garassik breached the south tail of the Ujung Pandang cheniers can probably be dated to around the early 16th century. Even then, the Garassik was probably still a modest river, with its drainage basin restricted to the coastal plain, and its entry to its delta marked by the course of the modern Anak Gowa (Figure 11-1d). So when Tunipalangga built Somba Opu's first brick walls in the mid-16th century (SG:26), the fort would have sat on the shore directly north of the Garassik delta, towards the south of a large bay enclosed by the old cheniers (cf. Figure 11-2).

As a next stage the Garassik would have begun the process of northwards delta formation, leading to the situation of two channels, north and south of Somba Opu respectively, as depicted by the 17th century European sketches. The coastline at Somba Opu and southwards must have prograded somewhat by this stage (see Figure 11-2), so the European sketches would be slightly inaccurate in depicting Somba Opu right on the shore.[3]

The approximate course of the south outlet of the Garassik, likewise its status as a navigable river and the main outlet, is clear from the European sketches (e.g. Photo 1-1) and all the other sources of evidence. The latter include Speelman's description of Makassar, and his citation of Patto [Pattung] as one of the villages along the channel (Reid, 1983a:146); the account of the assault on Somba Opu (Andaya, 1981:131); the 1693 map (Figure 5-5); and the position of the channel's counterpart in the modern delta. In Figure 11-2 I locate the south outlet to follow a peculiar remnant channel, shown on the Dutch land-use maps, between Lekokbodong and Bonto Lakja.

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[3] My "reconstruction of Makassar 1667" (Bulbeck, 1990:Figure 2) had accepted the position of Somba Opu right on the beach front as depicted by the sketches. But this is because I misinterpreted the old chenier line as the 17th century coastline.

However, it is harder to determine the course of the outlet north of Somba Opu. The c.1638 sketch has the channel running due west along the fort's north wall before passing the Portuguese quarter (Photo 1-1). Contrast that with Speelman's description, written in 1669.

'... As you look at [Somba Opu], along the north side flows a river, named the new river or Binanga-beru, because this was dug by the father of Karaeng Pattingalloang, Tumenanga ri Agama or Karaeng Pattingalloang, from this bank to Sambong Jawa and further to the north of Sombaopu to the Portuguese quarter.' (Reid, 1983a:146).

Speelman's words suggest a northward course. The toponym he cites, Sambung Jawa or "Extension for Foreigners", was located well north of Somba Opu by at least 1693 (Figure 5-5). True, Sambung Jawa as shown on the 1693 map had either moved north from its 1669 position, reflecting the relocation of local administration from Somba Opu to Fort Rotterdam, or else covered a large area. But the 1693 map also shows that the north outlet, which by then appears to have been inactive, did not abut Somba Opu so much as follow a course halfway between Somba Opu and Mariso (Figure 5-5). Moreover the toponym Balang Baru, which seated a karaengship between 1634 and 1659 (LB:95,121), is today approximately halfway between Mariso and Benteng Somba Opu (Figure 11-4). By analogy with the use of the name "Balang Beru" for the Jeknekberang's most recent channel forged in 1977 (Photo 11-1; see also Suaka, 1986/87:Photo 5), the 17th century toponym probably also sat on the "new river" of the Garassik.

In one interpretation, then, the c.1638 sketch erred in giving the channel a due west course rather than the northwest course it had (see Figures 11-5c and 11-5d). In the other interpretation, the c.1638 sketch correctly depicts the 1638 course, but by 1669 it followed a new outlet further to the north. The latter interpretation is not unnecessarily complicated, rather it fits today's pattern in which the prevailing currents force the Jeknekberang's north outlet to migrate gradually northeastwards (Sobur, 1984/85). In either

interpretation, the north outlet followed a northwest course by 1667, along the lines shown in Figures 11-5c and 11-5d.[4]

A further channel shown in Figure 11-2 follows Speelman's report of Hasanuddin's "last ditch" which he excavated between Garassik and Somba Opu after the Dutch briefly occupied Paknakkukang in 1660 (Reid, 1983a:146; Andaya, 1981:49).

While the 1660s witnessed the frenetic fortifying of Makassar (Andaya, 1981:49-60), an equally pronounced campaign occurred in the early 1630s, corresponding to an interlude of Dutch aggression as seen from Makassar (LB:95-96). The renovation of Macinnik Dangang (Somba Opu) for the Gowa raja and his family (LB:92-93), along with some of the coastal fortifications, can be attributed to Gowa's Alauddin (Table 11-1). But an equal number of works are ascribed to Tallok's Abdullah after he was rethroned in 1634 (LB:95). As I pointed out previously (Bulbeck, 1990:92-93), interpreting these works depends on reading the relevant passages in LB and ST together, contextualised within SSPHAP's archaeological documentation of the coastal defence works. The latter includes an earthen fort at Paknakkukang backed by a snatch of brick wall (Figures 11-3b and 11-19), no less than 1.2 km of brick wall from Pattukangang to Barombong, and snatches of brick wall at Garassik (Figure 11-3a) and Bayoa which had apparently once connected as a wall extending along the chenier towards Somba Opu.

Now confirmed as BSO!

Data on brick sizes (Figure 11-2) demonstrate that the Barombong and Bayoa bricks, and the "smaller" bricks at Paknakkukang and Garassik, constitute the same type which was slightly larger, and in particular thicker, than the

[4] For further discussion see 12.1, including my argument that Speelman was probably confused in attributing this north outlet to the earthworks of Abdullah (Kg Matoaya). Note also that I had earlier suggested a north-north-west course for the Garassik's north outlet (Bulbeck, 1990), but this is because I had believed the 1660 sketch in its location of the Portuguese quarter far to the north of Somba Opu (see footnote 1). Note also that if the north outlet had migrated northeastwards between 1638 and 1669, as the totality of the evidence suggests, then the Portuguese had also relocated their quarters when the outlet moved, and Balang Baru could have moved too. Localised relocation is of course a common experience for communities living on a delta's edge.

TABLE 11-1. FORTIFICATION WORKS AT GARASSIK (MAKASSAR)

Works	Sponsoring Ruler	Date	References
Somba Opu's first brick walls	Tunipalangga	c.1550	SG:26
Somba Opu's additional brick walls	Alauddin	1631-2	LB:92-93
Somba Opu's town gate	Abdullah	1635	ST:17-18; LB:96
Coastal wall from Ujung Tana south to Somba Opu	Abdullah	1634	ST:17 (Bulbeck, 1990); LB:95
Coastal wall Somba Opu to Paknakkukang	Abdullah	1634	ST:17 (Bulbeck, 1990:92)
Benteng Paknakkukang	Alauddin[a] or Abdullah	1634	LB:95
Barombong wall strengthened	Alauddin[b] or Abdullah	1635	LB:96
Channel between Somba Opu and Garassik	Hasanuddin	c.1660	Speelman (Reid, 1983a)
Pattukangang wall	Hasanuddin	1661	LB:124
Second Barombong wall	Hasanuddin	1662	LB:126

[a] The passage mentions that the 'Raja', i.e. Alauddin, stayed at Paknakkukang while its walls were being built.

[b] The work was reportedly carried out by 855 people from Somba Opu, which might implicate Alauddin rather than Abdullah.

"smaller" bricks at the palaces (E.1). The suggestion, that these stretches of coastal wall were all built in the same programme, confirms the interpretation that Abdullah built a coastal wall from Ujung Tana to Paknakkukang in 1634, followed by the construction of Barombong's first brick wall in 1635 (Table 11-1). According to my model in which bricks tend to have gradually decreased in size during the same works (E.3), construction of the wall between Paknakkukang and Garassik started at Paknakkukang,[5] and construction of Barombong's wall also started at the south. The earth forts at Garassik (11.5) and, apparently, Bayoa (11.6) were possibly also made at this juncture.

The unusually thick bricks SSPHAP measured at Pattukangang (Figure 11-2) suggest a different programme, one which might match the record of a brick wall built on the south side of Benteng Paknakkukang in 1661 (LB:124). Accepting this identification would mean that only Barombong's second wall, reportedly built in 1662 (LB:126), remains unmatched with a particular archaeological expression. Now note that the total length of the Barombong wall amounts to 800 metres, but SSPHAP's brick measurements sampled only the 400 metres at the south. As my scenario argues that unusually thick bricks were used in the early 1660s to complete the wall between Paknakkukang and Barombong, I infer that Barombong's "second wall" refers to some or all of the 400 metres at the north, and hence I predict this section should contain unusually thick bricks. If not, parts of my scenario may need modification.

11.2 Site Clustering Analysis

Figure 11-4a labels the "North Polombangkeng" and "Garassik" historical sites, along with the historical toponyms to the direct north (12.3). The North Polombangkeng sites are not dealt with in this thesis, and I include their clustering analysis to show that they form their own clusters distinct from the Garassik sites (Table 11-5; Figure 11-6).

[5] Here confirmed by the presence of some "large" bricks at Paknakkukang which were already technologically obsolescent by that stage and absent from any later brickworks.

Figure 11-4b shows the the recorded land-use topography in 1969, the modern administrative divisions established by 1973, and the lower Jeknekberang pre-1977. Before the 1977 flood the south outlet of the Jeknekberang used to run north of Somba Opu, but during the flood it straightened its course south along Somba Opu (Photo 11-1), washing away the former site of Lekokbodong (hence now treated as a historical toponym) and much other settlement besides. The outlet now debouches directly north of Paknakkukang, dumping large amounts of sand which the prevailing southwards currents have reworked into longshore bars west and south of Paknakkukang (Photo 11-2). This geomorphic remodelling notwithstanding, the dominant land-use patterns shown by the 1969 map - rice fields, settlement and some fish ponds - persist in those areas most affected by the 1977 flood as elsewhere.

The 1977 destruction of Lekokbodong, and the small size of many of the recorded sites, indicate that only an impoverished sample of archaeological sites along the lower Jeknekberang is available for recording.[6] What remains may well be restricted to those examples perched on resilient enclaves of raised land which have survived the rigours of channel alteration. While site clusters corresponding to Speelman's "Makassar city" can be reconstructed, the demonstration would presumably be more incisive in an undisturbed landscape.[7]

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[6] For instance Bonte Keke, mentioned by Speelman as one of the larger villages along the Garassik's south outlet (Reid, 1983a:146), has vanished even as a toponym. Andaya (1981:319) notes that it and another nearby village attacked in 1669, Tana-Tana, do not appear on the 1693 map, which he ascribes to the prediliction of the Makassar not to resettle disaster-struck sites. However, Speelman's description of Bonto Keke postdates the attack on the village, and Tana-Tana was the karaengship of Mohammad Ali's daughter Fatimah (1673-1739).

[7] By the same token, the lack of sites and scarcity of historical toponyms directly north of Somba Opu cannot be taken at face value. The area would be largely constituted of recently formed and, hence, recently occupied land surfaces. A survey immediately north of Somba Opu, carried out by Muttalib (Suaka) and Albertinus (archaeology student, Hasanuddin University), found only European and recent tradewares. Granted that most of the archaeological record may well have been destroyed through deltaic remodelling, nonetheless much of this would refer specifically to the 17th century foreigners' quarters centred in this area. Hence we

To gauge the possible effects of river channels on site clustering patterns (6.6.2), we use the inferred 1660s' channels.[8] The issue whether or not to count fortress wall as site (6.6.2) does not affect Somba Opu and Paknakkukang/Pattukangang, which both count as one site either way. But it does suggest coastal wall as an analogue, both the recorded and the inferred lengths.

Hence four approaches are used: (A) site excluding walls, river channels ignored; (B) all recorded site, river channels ignored; (C) site excluding walls, joins prevented across inferred channels; and (D) all recorded and inferred site, joins prevented across inferred channels. As three classes of site are entertained, intersite distances are given thrice (Tables 11-2 to 11-4). But the same pattern of sites consistently emerges regardless of how the data are projected. The sites between Somba Opu and the Aeng river, or between the south Garassik outlet and the Aeng river if inferred channels are treated as barriers, join together in a "supercluster" (Figure 11-5).

Treating the inferred channels as barriers looks suspect. Even if I have located the 1660s channels precisely, they were of course in flux. The delta channels undoubtedly operated more as highways than as barriers, while the inconveniences for pedestrians were probably remedied by strategically located ferries (cf. Photo 11-1). The value of the exercise, as it were, is its identification of Somba Opu as a "central place" (Figure 11-5c). Somba Opu's 17th century name Macinnik Dangang ("Watch the Trade") betrays its central location to supervise the trade occurring along the Garassik outlets, both at the north where foreigners were mainly involved and at the Makassar-dominated south.[9] But clearly Somba Opu's rôle as a central place was neither to administer local communities after the manner of Benteng Tua (6.7), nor

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are spared the quandary of deciding whether or not such places should be ranked alongside SSPHAP's Makassar sites.

[8] Hasanuddin's defensive channel dug in 1660 is here ignored as too trivial for consideration.

[9] I could have simply noted that Somba Opu sits centrally within Garassik island and left it at that. However, treating the channels as barriers simulates the same result within the site-clustering procedures followed here.

TABLE 11-2. GARRASIK INTERSITE DISTANCES IN METRES - WALL IGNORED

	R	M	B	J	B	B	B	B	S	P	L	B	B	B	B	B	K	G	M	T	B	M	B	G
Rappocinik																								
Mariso	2190																							
Bonto Rannu	2750	840																						
Jongaya	2710	1700	1190																					
Bonto Tangnga	3160	2470	1930	780																				
Balang Beru	3550	2340	1600	840	790																			
Bonto Kapette	2580	3130	3000	1630	1650	2420																		
Bontomanaik 1	3530	4120	3900	2540	2240	3020	1005																	
Somba Opu	(4580)	(3300)	(2480)	(1880)	(1520)	(1070)	(3050)	(3360)																
Pattung	(5200)	(3670)	(2840)	(2360)	(2130)	(1530)	(3610)	(3800)	340															
Lekokbodong	(4630)	(3700)	(2980)	(2070)	(1480)	(1370)	(2770)	(2880)	670	930														
Bonto Lakja Selatan	(5460)	(4480)	(3725)	(2890)	(2305)	(2150)	(3470)	(3410)	(1110)	(900)	(820)													
B. Lakja Timur Daya	(5310)	(4320)	(3580)	(2740)	(2175)	(2030)	(3350)	(3320)	(950)	(800)	(680)	140												
B. Lakja Barat Daya	(5405)	(4350)	(3610)	(2810)	(2260)	(2030)	(3490)	(3485)	(935)	(720)	(760)	170	165											
Bonto Lakja Barat	(5510)	(4450)	(3680)	(2920)	(2380)	(2140)	(3620)	(3610)	(985)	(710)	(905)	240	250	125										
Bayoa 2	(5830)	(4510)	(3840)	(3170)	(2685)	(2360)	(4100)	(4190)	(1080)	(770)	(1250)	600	660	530	380									
Kaccia	(6180)	(4690)	(4070)	(3480)	(3050)	(2520)	(4340)	(4470)	(1310)	(980)	(1660)	1050	1070	950	790	420								
Gotong	(6230)	(5200)	(4410)	(3645)	(3080)	(2870)	(4150)	(4125)	(1670)	(1370)	(1600)	720	870	820	690	650	725							
Makam Kg Papok	(6660)	(5580)	(4800)	(4060)	(3500)	(3260)	(4595)	(4555)	(2030)	(1690)	(2020)	1150	1300	1240	1150	940	730	340						
Timbuseng	(6840)	(5760)	(5000)	(4270)	(3680)	(3480)	(4820)	(4640)	(2210)	(1870)	(2235)	1330	1480	1420	1330	1110	900	510	180					
Bilaya Lama	(7360)	(6340)	(5550)	(4800)	(4180)	(4020)	(4750)	(4915)	(2790)	(2450)	(2740)	1850	2010	1970	1850	1710	1440	1100	760	570				
Mamampang	(6300)	(4100)	(4170)	(3815)	(3340)	(2750)	(5010)	(5140)	(1610)	(1405)	(2280)	1790	1805	1670	1450	1210	780	1530	1530	1620	2040			
Bayoa 1	(5800)	(4210)	(3410)	(3180)	(2720)	(2250)	(4120)	(4670)	880	690	1820	(1760)	(1720)	(1620)	(1520)	(1320)	(1070)	(1860)	(1950)	(2080)	(2475)	(530)		
Garassik	(5380)	(4000)	(3170)	(2620)	(2310)	(1790)	(3870)	(4440)	690	920	1590	(1495)	(1410)	(1310)	(1230)	(1070)	(930)	(1670)	(1870)	(2020)	(2560)	(860)	215	
Paknakkukang/Pat.	(6150)	(4380)	(3580)	(3530)	(3450)	(2740)	(4840)	(5110)	(1410)	(1630)	(2370)	2380	2330	2210	2120	1890	1510	2290	2250	2320	2700	720	(310)	(750)
Makam Tuan Biraeng	(7350)	(5700)	(4880)	(4650)	(4110)	(3620)	(5830)	(6080)	(2410)	(2330)	(3210)	2600	2750	2610	2450	2100	1610	2230	2170	2190	2470	940	(1160)	(1650)
Tangaya	(7480)	(5850)	(5040)	(4610)	(4220)	(3750)	(6050)	(6140)	(2550)	(2430)	(3300)	2730	2790	2650	2510	2130	1630	2310	2110	2120	2400	1010	(1310)	(1820)
Saukang Parasangang	(7560)	(5950)	(5140)	(4720)	(4320)	(3870)	(6110)	(6220)	(2650)	(2510)	(3380)	2820	2860	2720	2550	2210	1685	2360	2150	2130	2395	1110	(1410)	(1910)
Barombong	(7720)	(6120)	(5290)	(4890)	(4590)	(3990)	(6225)	(6300)	(2790)	(2630)	(3470)	2880	2950	2800	2640	2320	1750	2330	2140	2090	2230	1230	(1540)	(2040)
Bontoa	(7220)	(6030)	(5200)	(4490)	(4410)	(3930)	(5780)	(5850)	(2570)	(2290)	(3050)	2350	2430	2315	2050	1810	1220	1790	1530	1400	1685	1030	(1510)	(1880)
Ujung Kassik	(8160)	(6680)	(6010)	(4540)	(5320)	(4810)	(6740)	(6730)	(3440)	(3190)	(3970)	3280	3370	3230	3070	2730	2145	2650	2350	2250	2270	1850	(2260)	(2710)
Aengtoa	(8330)	(6910)	(6200)	(5310)	(5370)	(4920)	(6680)	(6610)	(3560)	(3260)	(3960)	3200	3300	3190	3025	2710	2130	2480	2135	2000	1890	2010	(2480)	(2880)
Karama	(9120)	(7570)	(6830)	(6440)	(6080)	(5620)	(7150)	(7050)	(4235)	(3970)	(4680)	3910	4020	3910	3750	3420	2845	3200	2870	2730	2510	2680	(3110)	(3530)
Jonggoa Batu-Batu	(9970)	(8580)	(7510)	(7050)	(6900)	(6190)	(8200)	(8090)	(5090)	(4790)	(5470)	4680	4810	4700	4550	4220	3670	3920	3570	3390	3135	3550	(3990)	(4400)
Summanak	(8290)	(6860)	(6010)	(5630)	(5090)	(4830)	(6195)	(5950)	(3530)	(3170)	(3620)	2750	2900	2835	2690	2470	2020	1940	1600	1520	990	2380	(2930)	(3100)
Pangkajeknek	(9050)	(7670)	(6860)	(6400)	(5880)	(5600)	(7000)	(6730)	(4270)	(3930)	(4410)	3550	3680	3620	3480	3230	2750	2730	2400	2220	1775	3000	(3520)	(3770)
Pakkala Barat	(9490)	(8160)	(7370)	(6930)	(6350)	(6130)	(7370)	(6990)	(4850)	(4500)	(4900)	4030	4120	4130	3980	3790	3350	3210	2870	2690	2170	3670	(4210)	(4430)
Pakkala Timur	(9550)	(8360)	(7490)	(6990)	(6415)	(6195)	(7380)	(6950)	(4930)	(4590)	(4950)	4070	4230	4190	4040	3870	3450	3260	2950	2780	2230	3790	(4330)	(4530)

N.B. Bracketed intersite distances involve crossings across either one or both of the reconstructed Garassik channels. Historical toponyms and sites close to the Garassik sites but not actually clustering with them are included to show they do not cluster.

TABLE 11-2. GARRASIK INTERSITE DISTANCES IN METRES - WALL IGNORED (CONT.)

	R	M	B	J	B	B	B	B	S	P	L	B	B	B	B	B	K	G	M	T	B	M	B	G
Sampulungang	(11590)	(10200)	(9350)	(8780)	(8460)	(7800)	(9720)	(9510)	(6730)	(6470)	(7090)	6235	6285	6300	6140	5850	5320	5465	5110	4930	4560	5280	(5730)	(6110)
Kanjilo T-L	-	-	-	-	-	-	(3795)	(3365)	(2735)	(2540)	(1995)	1575	1750	1890	1990	1945	2355	1495	1715	1720	1810	3135	(3380)	(3200)
Kanjilo B-L	-	-	-	-	-	-	(3775)	(3375)	(2565)	(2360)	(1835)	1380	1570	1730	1795	1745	2160	1325	1565	1580	1690	2935	(3185)	(3000)
Kanjilo Barat	-	-	-	-	-	-	(3930)	(3930)	(2620)	(2405)	(1910)	1425	1635	1745	1820	1690	2065	1230	1390	1395	1455	2860	(3165)	(3000)
Kanjilo T-D	-	-	-	-	-	-	(4225)	(4225)	(3005)	(2750)	(2325)	1825	2050	2160	2225	2035	2400	1570	1650	1640	1575	3190	(3530)	(3390)
Kanjung Maek	-	-	-	-	-	-	(4460)	(4460)	(3140)	(2935)	(2480)	1940	2170	2260	2335	2080	2405	1580	1645	1630	1450	3190	(3610)	(3465)

Paknakkukang/Pat.	P	M	T	S	B	B	U	A	K	J	S	P	P	P	S	K	K	K	K
Makam Tuan Biraeng	550																		
Tangaya	710	180																	
Saukang Parasangang	890	290	110																
Barombong	1050	430	250	125															
Bontoa	1310	860	750	730	630														
Ujung Kassik	1790	990	810	700	560	930													
Aengtoa	2090	1520	1335	1250	890	1000	390												
Karama	2640	2080	1890	1770	1420	1690	870	410											
Jonggoa Batu-Batu	3510	2730	2550	2440	2300	2530	1730	1180	880										
Summanak	2860	2415	2280	2190	1880	1560	1730	1190	1740	2195									
Pangkajeknek	3330	2800	2650	2570	2250	2030	1580	1105	1430	1580	810								
Pakkala Barat	4050	3520	3250	3280	2870	2740	2210	1800	2060	1870	1330	610							
Pakkala Timur	4190	3680	3510	3450	3140	2870	2450	1980	2215	2060	1430	890	150						
Sampulungang	5190	4640	4460	4350	4210	4230	3450	2880	2640	1710	3570	2790	2620	2720					
Kanjilo T-L	3785	3905	3900	3895	3930	3385	-	-	-	-	-	-	-	-	-				
Kanjilo B-L	3685	3905	3830	3725	3875	3220	-	-	-	-	-	-	-	-	-	158			
Kanjilo Barat	3560	3635	3620	3610	3685	3055	-	-	-	-	-	-	-	-	-	151	126		
Kanjilo T-D	3925	3955	3900	3845	3800	3250	3810	3480	-	4840	2910	3075	3785	3305	-	324	520	183	
Kanjung Maek	3990	3900	3850	3790	3750	3165	3725	3400	-	4660	2765	2885	3530	3055	-	584	494	290	145

Figure 11-5a. BG joins P(/P) at 530m, these (BGP) join M at 703m; MTSP joins Bontoa at 743m; GMT joins Bilaya at 810m; BBBB joins KB at 745m, these join SPL at 962m (BBBBKB to GMTB is 1305m and SPL to BGPM is 1441m); MTSPB joins UAK at 1256m (UAK to Jonggoa is 1263m); BBBBKBSPL joins BGPM at 1525m (BBBBKBSPL to GMTB is 1555m and BGPM to MTSPBUAK is 1753m); BBBBKBSPLBGPM joins GMTB at 1707m (GMTB is only 1556m from KKKKK but KKKKK had already joined AAJB at 1217m [Table 6-4]); BJB joins MB at 1872m (BJB to BB is 2250m); BJBMB joins Rappocini at 2872m (BJBMB to BB is only 2765m but BB had already joined eastwards at 1785m [Analysis 6-3]); SPPP joins Jonggoa at 1926m (Jonggoa to Sampulungang is only 1710m but the latter had already joined south [Table 11-5]); Jonggoa to MTSPBUAK is 2042m); MTSPBUAK joins SPPPJ at 2319m (MTSPBUAK to BBBBKBSPLBGPMGMTB is 2451m; SPPPJ to B(2)B is 2611m [Table 12-6]); MTSPBUAKSPPPJ joins BBBBKBSPLBGPMGMTB at 2845m.

Figure 11-5c. BJB joins MB at 1872m (BJB to BB is 2250m); BJBMB joins Rappocini at 2872m (BJBM to BB is only 2594m, but BB had already joined BJKKMKKBKPMPKPPSSPT at 2542m [Analysis 6-4]).

SPLBG (forced join) - "Somba Opu cluster".

PM joins MTSBB at 983m (MTSBB to UAK is 1256m); UAK joins Jonggoa at 1263m (thus UAKJ); BBBKB joins GMTB at 1305m; UAKJ joins SPPP at 1920m (UAKJ to PMMTSBB is 2219m, SPPP to GMTB is 2441m); PMMTSBB joins BBBBKBGMTB at 2185m; PMMTSBBBBBBKGMTB joins UAKJSPPP at 2831m.

TABLE 11-3. GARASSIK INTERSITE DISTANCES IN METRES - SURVEYED WALL INCLUDED

	R	M	B	J	B	B	B	B	S	P	L	B	B	B	B	B	K	G	M	T	B	M	B	G
Rappocinik																								
Mariso	2190																							
Bonto Rannu	2750	840																						
Jongaya	2710	1700	1190																					
Bonto Tangnga	3160	2470	1930	780																				
Balang Beru	3550	2340	1600	840	790																			
Bonto Kapette	2580	3130	3000	1630	1650	2420																		
Bontomanaik 1	3530	4120	3900	2540	2240	3020	1005																	
Somba Opu	(4580)	(3300)	(2480)	(1880)	(1520)	(1070)	(3050)	(3360)																
Pattung	(5200)	(3670)	(2840)	(2360)	(2130)	(1530)	(3610)	(3800)	340															
Lekokbodong	(4630)	(3700)	(2980)	(2070)	(1480)	(1370)	(2770)	(2880)	670	930														
Bonto Lakja Selatan	(5460)	(4480)	(3725)	(2890)	(2305)	(2150)	(3470)	(3410)	(1110)	(900)	(820)													
B. Lakja Timur Daya	(5310)	(4320)	(3580)	(2740)	(2175)	(2030)	(3350)	(3320)	(950)	(800)	(680)	140												
B. Lakja Barat Daya	(5405)	(4350)	(3610)	(2810)	(2260)	(2030)	(3490)	(3485)	(935)	(720)	(760)	170	165											
Bonto Lakja Barat	(5510)	(4450)	(3680)	(2920)	(2380)	(2140)	(3620)	(3610)	(985)	(710)	(905)	240	250	125										
Bayoa 2	(5830)	(4510)	(3840)	(3170)	(2685)	(2360)	(4100)	(4190)	(1080)	(770)	(1250)	600	660	530	380									
Kaccia	(6180)	(4690)	(4070)	(3480)	(3050)	(2520)	(4340)	(4470)	(1310)	(980)	(1660)	1050	1070	950	790	420								
Gotong	(6230)	(5200)	(4410)	(3645)	(3080)	(2870)	(4150)	(4125)	(1670)	(1370)	(1600)	720	870	820	690	650	725							
Makam Kg Papok	(6660)	(5580)	(4800)	(4060)	(3500)	(3260)	(4595)	(4555)	(2030)	(1690)	(2020)	1150	1300	1240	1150	940	730	340						
Timbuseng	(6840)	(5760)	(5000)	(4270)	(3680)	(3480)	(4820)	(4640)	(2210)	(1870)	(2235)	1330	1480	1420	1330	1110	900	510	180					
Bilaya Lama	(7360)	(6340)	(5550)	(4800)	(4180)	(4020)	(4750)	(4915)	(2790)	(2450)	(2740)	1850	2010	1970	1850	1710	1440	1100	760	570				
Mamampang	(6300)	(4170)	(4100)	(3815)	(3340)	(2750)	(5010)	(5140)	(1610)	(1405)	(2280)	1790	1805	1670	1450	1210	780	1530	1530	1620	2040			
Bayoa 1	(5800)	(4210)	(3410)	(3180)	(2720)	(2250)	(4120)	(4670)	880	690	1820	(1760)	(1720)	(1620)	(1520)	(1320)	(1070)	(1860)	(1950)	(2080)	(2475)	(530)		
Garassik	(5380)	(4000)	(3170)	(2620)	(2310)	(1790)	(3870)	(4440)	690	920	1590	(1495)	(1410)	(1310)	(1230)	(1070)	(930)	(1670)	(1870)	(2020)	(2560)	(860)	215	
Paknakkukang/Barombong	(6150)	(4380)	(3580)	(3530)	(3450)	(2740)	(4840)	(5110)	(1410)	(1630)	(2370)	2380	2330	2210	2120	1890	1510	2230	2110	2090	2230	720	(310)	(750)
Bontoa	(7220)	(6030)	(5200)	(4490)	(4410)	(3930)	(5780)	(5850)	(2570)	(2290)	(3050)	2350	2430	2315	2050	1810	1220	1790	1530	1400	1685	1030	(1510)	(1880)
Ujung Kassik	(8160)	(6680)	(6010)	(4540)	(5320)	(4810)	(6740)	(6730)	(3440)	(3190)	(3970)	3280	3370	3230	3070	2730	2145	2650	2350	2250	2270	1850	(2260)	(2710)
Aengtoa	(8330)	(6910)	(6200)	(5310)	(5370)	(4920)	(6680)	(6610)	(3560)	(3260)	(3960)	3200	3300	3190	3025	2710	2130	2480	2135	2000	1890	2010	(2480)	(2880)
Karama	(9120)	(7570)	(6830)	(6440)	(6080)	(5620)	(7150)	(7050)	(4235)	(3970)	(4680)	3910	4020	3910	3750	3420	2845	3200	2870	2730	2510	2680	(3110)	(3530)
Jonggoa Batu-Batu	(9970)	(8580)	(7510)	(7050)	(6900)	(6190)	(8200)	(8090)	(5090)	(4790)	(5470)	4680	4810	4700	4550	4220	3670	3920	3570	3390	3135	3550	(3990)	(4400)
Summanak	(8290)	(6860)	(6010)	(5630)	(5090)	(4830)	(6195)	(5950)	(3530)	(3170)	(3620)	2750	2900	2835	2690	2470	2020	1940	1600	1520	990	2380	(2930)	(3100)
Pangkajeknek	(9050)	(7670)	(6860)	(6400)	(5880)	(5600)	(7000)	(6730)	(4270)	(3930)	(4410)	3550	3680	3620	3480	3230	2750	2730	2400	2220	1775	3000	(3520)	(3770)

N.B. Bracketed intersite distances involving crossings across either one or both of the reconstructed Garassik channels are retained even though the results are not directly analysed here.

TABLE 11-3. GARASSIK INTERSITE DISTANCES IN METRES - SURVEYED WALL INCLUDED (CONT.)

	R	M	B	J	B	B	B	B	S	P	L	B	B	B	B	B	K	G	M	T	B	M	B	G
Pakkala Barat	(9490)	(8160)	(7370)	(6930)	(6350)	(6130)	(7370)	(6990)	(4850)	(4500)	(4900)	4030	4120	4130	3980	3790	3350	3210	2870	2690	2170	3670	(4210)	(4430)
Pakkala Timur	(9550)	(8360)	(7490)	(6990)	(6415)	(6195)	(7380)	(6950)	(4930)	(4590)	(4950)	4070	4230	4190	4040	3870	3450	3260	2950	2780	2230	3790	(4330)	(4530)
Sampulungang	(11590)	(10200)	(9350)	(8780)	(8460)	(7800)	(9720)	(9510)	(6730)	(6470)	(7090)	6235	6285	6300	6140	5850	5320	5465	5110	4930	4560	5280	(5730)	(6110)
Kanjilo T-L	-	-	-	-	-	-	(3795)	(3365)	(2735)	(2540)	(1995)	1575	1750	1890	1990	1945	2355	1495	1715	1720	1810	3135	(3380)	(3200)
Kanjilo B-L	-	-	-	-	-	-	(3775)	(3375)	(2565)	(2360)	(1835)	1380	1570	1730	1795	1745	2160	1325	1565	1580	1690	2935	(3185)	(3000)
Kanjilo Barat	-	-	-	-	-	-	(3930)	(3930)	(2620)	(2405)	(1910)	1425	1635	1745	1820	1690	2065	1230	1390	1395	1455	2860	(3165)	(3000)
Kanjilo T-D	-	-	-	-	-	-	(4225)	(4225)	(3005)	(2750)	(2325)	1825	2050	2160	2225	2035	2400	1570	1650	1640	1575	3190	(3530)	(3390)
Kanjung Maek	-	-	-	-	-	-	(4460)	(4460)	(3140)	(2935)	(2480)	1940	2170	2260	2335	2080	2405	1580	1645	1630	1450	3190	(3610)	(3465)

Paknakkukang/Barombong	P	B	U	A	K	J	S	P	P	P	S	K	K	K	K
Bontoa	630														
Ujung Kassik	560	930													
Aengtoa	890	1000	390												
Karama	1420	1690	870	410											
Jonggoa Batu-Batu	2300	2530	1730	1180	880										
Summanak	1880	1560	1730	1190	1740	2195									
Pangkajeknek	2250	2030	1580	1105	1430	1580	810								
Pakkala Barat	2870	2740	2210	1800	2060	1870	1330	610							
Pakkala Timur	3140	2870	2450	1980	2215	2060	1430	890	150						
Sampulungang	4210	4230	3450	2880	2640	1710	3570	2790	2620	2720					
Kanjilo T-L	3785	3385	-	-	-	-	-	-	-	-	-				
Kanjilo B-L	3685	3220	-	-	-	-	-	-	-	-	-	158			
Kanjilo Barat	3560	3055	-	-	-	-	-	-	-	-	-	151	126		
Kanjilo T-D	3800	3250	3810	3480	-	4840	2910	3075	3785	3305	-	324	520	183	
Kanjung Maek	3750	3165	3725	3400	-	4660	2765	2885	3530	3055	-	584	494	290	145

Figure 11-5b. BG joins P(/B) at 530m, these (BGP) join Mamampang at 703m; GMT joins Bilaya at 810m; BBBB joins KB at 745m, these join SPL at 962m (BBBBKB to GMTB is 1305m and SPL to BGPM is 1441m); UAK joins Bontoa at 1207m; BBBBKBSPL joins BGPM at 1525m (BBBBKBSPL to GMTB is 1555m and BGPM to UAKB is 1964m); UAKB join Jonggoa at 1580m; BBBBKBSPLBGPM joins GMTB at 1690m (GMTB is only 1556m from KKKKK but KKKKK had already joined AJB at 1116m [Table 6-3]); UAKBJ joins SPPP at 1920m (SPPP to B(2)B is 2634m [Table 12-6]); BJB joins MB at 1872m (BJB to BB is 2250m); BJBMB joins Rappocini at 2872m (BJBMB to BB is only 2765m but BB had already joined eastwards at 1785m [Analysis 6-1]); BBBBKBSPLBGPMGMTB joins UABKJSPPP at 3110m (UABKJSPPP to Sampulungang is 2957m but Sampulungang had joined south [Table 11-5]).

TABLE 11-4. GARASSIK INTERSITE DISTANCES IN METRES - RECORDED AND INFERRED WALL INCLUDED

	M	R	B	J	B	B	B	B	S	P	L	B	B	B	B	B	K	G	M	T	B	M	P	B	U
Mariso-Ujung Tana																									
Rappocinik	2190																								
Bonto Rannu	840	2750																							
Jongaya	1700	2710	1190																						
Bonto Tangnga	2470	3160	1930	780																					
Balang Beru	2340	3550	1600	840	790																				
Bonto Kapette	3130	2580	3000	1630	1650	2420																			
Bontomanaik 1	4120	3530	3900	2540	2240	3020	1005																		
Somba Opu wall	(3300)	(4580)	(2480)	(1880)	(1520)	(1070)	(3050)	(3360)																	
Pattung	(3670)	(5200)	(2840)	(2360)	(2130)	(1530)	(3610)	(3800)	340																
Lekokbodong	(3700)	(4630)	(2980)	(2070)	(1480)	(1370)	(2770)	(2880)	670	930															
B. Lakja Selatan	(4480)	(5460)	(3725)	(2890)	(2305)	(2150)	(3470)	(3410)	(1110)	(900)	(820)														
B.Lakja Timur Daya	(4320)	(5310)	(3580)	(2740)	(2175)	(2030)	(3350)	(3320)	(950)	(800)	(680)	140													
B.Lakja Barat Daya	(4350)	(5405)	(3610)	(2810)	(2260)	(2030)	(3490)	(3485)	(935)	(720)	(760)	170	165												
Bonto Lakja Barat	(4450)	(5510)	(3680)	(2920)	(2380)	(2140)	(3620)	(3610)	(985)	(710)	(905)	240	250	125											
Bayoa 2	(4510)	(5830)	(3840)	(3170)	(2685)	(2360)	(4100)	(4190)	(1080)	(770)	(1250)	600	660	530	380										
Kaccia	(4690)	(6180)	(4070)	(3480)	(3050)	(2520)	(4340)	(4470)	(1070)	(980)	(1660)	1050	1070	950	790	420									
Gotong	(5200)	(6230)	(4410)	(3645)	(3080)	(2870)	(4150)	(4125)	(1670)	(1370)	(1600)	720	870	820	690	650	725								
Makam Kg Papok	(5580)	(6660)	(4800)	(4060)	(3500)	(3260)	(4595)	(4555)	(1870)	(1690)	(2020)	1150	1300	1240	1150	940	730	340							
Timbuseng	(5760)	(6840)	(5000)	(4270)	(3680)	(3480)	(4820)	(4640)	(2020)	(1870)	(2235)	1330	1480	1420	1330	1110	900	510	180						
Bilaya Lama	(6340)	(7360)	(5550)	(4800)	(4180)	(4020)	(4750)	(4915)	(2475)	(2450)	(2740)	1850	2010	1970	1850	1710	1440	1100	760	570					
Mamampang	(4170)	(6300)	(4100)	(3815)	(3340)	(2750)	(5010)	(5140)	(530)	(1405)	(2280)	1790	1805	1670	1450	1210	780	1530	1530	1620	2040				
Paknakkukang/Bar.	(4380)	(6150)	(3580)	(3530)	(3450)	(2740)	(4840)	(5110)	(310)	(1630)	(2370)	2380	2330	2210	2120	1890	1510	2230	2110	2090	2230	720			
Bontoa	(6030)	(7220)	(5200)	(4490)	(4410)	(3930)	(5780)	(5850)	(1510)	(2290)	(3050)	2350	2430	2315	2050	1810	1220	1790	1530	1400	1685	1030	630		
Ujung Kassik	(6680)	(8160)	(6010)	(4540)	(5320)	(4810)	(6740)	(6730)	(2260)	(3190)	(3970)	3280	3370	3230	3070	2730	2145	2650	2350	2250	2270	1850	560	930	
Aengtoa	(6910)	(8330)	(6200)	(5310)	(5370)	(4920)	(6680)	(6610)	(2480)	(3260)	(3960)	3200	3300	3190	3025	2710	2130	2480	2135	2000	1890	2010	890	1000	380
Karama	(9120)	(7570)	(6830)	(6440)	(6080)	(5620)	(7150)	(7050)	(3110)	(3970)	(4680)	3910	4020	3910	3750	3420	2845	3200	2870	2730	2510	2680	1420	1690	410
Jonggoa Batu-Batu	(8580)	(9970)	(7510)	(7050)	(6900)	(6190)	(8200)	(8090)	(3990)	(4790)	(5470)	4680	4810	4700	4550	4220	3670	3920	3570	3390	3135	3550	2300	2530	1730
Summanak	(6860)	(8290)	(6010)	(5630)	(5090)	(4830)	(6195)	(5950)	(2930)	(3170)	(3620)	2750	2900	2835	2690	2470	2020	1940	1600	1520	990	2380	1880	1560	1730
Pangkajeknek	(7670)	(9050)	(6860)	(6400)	(5880)	(5600)	(7000)	(6730)	(3520)	(3930)	(4410)	3550	3680	3620	3480	3230	2750	2730	2400	2220	1775	3000	2250	2030	1580
Pakkala Barat	(8160)	(9490)	(7370)	(6930)	(6350)	(6130)	(7370)	(6990)	(4210)	(4500)	(4900)	4030	4120	4130	3980	3790	3350	3210	2870	2690	2170	3670	2870	2740	2210
Pakkala Timur	(8360)	(9550)	(7490)	(6990)	(6415)	(6195)	(7380)	(6950)	(4330)	(4590)	(4950)	4070	4230	4190	4040	3870	3450	3260	2950	2780	2230	3790	3140	2870	2450
Sampulungang	(10200)	(11590)	(9350)	(8780)	(8460)	(7800)	(9720)	(9510)	(5730)	(6470)	(7090)	6235	6285	6300	6140	5850	5320	5465	5110	4930	4560	5280	4210	4230	3450

TABLE 11-4. GARASSIK INTERSITE DISTANCES IN METRES - RECORDED AND INFERRED WALL INCLUDED (NOTES)

N.B. "Mariso-Ujung Tana" refers to the wall apparently built along the coast between Ujung Tana and Mariso. "Makassar wall" includes Somba Opu, Bayoa 1 and Garassik in the same "site". As the latter wall's extent north beyond Somba Opu can only be guessed, Somba Opu is used as a proxy for measuring the distance between the "Somba Opu wall" and sites to the north. Bracketed intersite distances involve crossings across one or both of the reconstructed Garassik channels. For remaining distances see previous table.

Figure 11-5d. BJB joins Bonto Rannu but no further joins (Table 12-6).
Somba Opu wall joins Pattung and Lekokbodong (SPL or "Somba Opu cluster").
PB joins Mamampang at 875m (hence PBM); UAK joins Jonggoa at 1263m (hence UAKJ); BBBBKB joins GMTB at 1305m; PBM joins UAKJ at 1784m (PBM to BBBBKBGMB is 1837m, and UAKJ to SPPP is 1920m); PBMUAKJ joins SPPP at 2247m (BBBBKBGMTB is 1837m to SPPP and 3180m to PBMUAKJ); PBMUAKJSPPP joins BBBBKBGMYB at 3120m.

TABLE 11-5. NORTH POLOMBANGKENG INTERSITE DISTANCES IN METRES

	S	P	P	P	J	B(2)	B	S	T	J	B	B	C	T	T	P	M	M	M	M	P	T
Summanak																						
Pangkajeknek	810																					
Pakkala Barat	1330	610																				
Pakkala Timur	1430	890	150																			
Jonggoa Batu-Batu	2195	1580	1870	2060																		
Bontomanaik 2	2720	3080	2820	2695	4365																	
Bonto Pakja	2425	2730	2280	2110	4760	730																
Sampulungang	3570	2790	2620	2720	1710	4885	5445															
Tabaringang Barat	3270	3045	2320	2330	2685	4030	4760	1690														
Jamarang	4585	4305	3750	3810	3150	5750	6430	1470	1630													
Bonto Lebang	4155	3920	3310	3320	3105	5050	5780	1770	910	700												
Bebak	-	-	-	-	-	-	-	2810	2730	1150	1570											
Campagaya Lama	-	-	-	-	-	-	-	3040	2900	1570	1755	480										
Taipanorang	-	-	-	-	-	-	-	3690	3350	2030	2190	890	400									
Tamasongok	-	-	-	-	-	-	-	4950	4660	3080	3530	2150	1630	990								
Parebalang	-	-	-	-	-	-	-	4215	3610	2530	2530	1440	850	630	1210							
Mandallek/Pannujuang	-	-	-	-	-	-	-	3710	2990	2070	1925	1190	625	720	1480	280						
Matoanging	-	-	-	-	-	-	-	4110	3480	2390	2350	1510	840	880	1370	340	180					
Maccinik Kondo	-	-	-	-	-	-	-	4560	3510	2990	2650	2320	1330	1730	2190	1135	540	555				
Manjalling Lompoe	-	-	-	-	-	-	-	5230	3940	3750	3290	3230	2480	2640	2870	2040	1440	1480	930			
Borong Punaga	-	-	-	-	-	-	-	5310	4070	3820	3390	3090	2220	2590	2810	1960	1440	1410	905	470		
Talaborong	-	-	-	-	-	-	-	5320	3950	3930	3410	3500	2780	3000	3330	2390	1730	1810	1250	190	110	

Figure 11-6. Campagaya Lama/Taipanorang joins Bebak at 685m; Mandallek/Matoanging/Parebalang joins Maccinik Kondo at 743m; CTP joins MMPM at 1172m; Jamarang/Bonto Lebang joins Tabaringang Barat at 1270m; JBT joins Sampulungang at 1643m; MMPMCTB joins Tamasongok at 1574m; MMPMCTBT joins MBT at 2222m.

If Tabaringang Barat rejected from analysis for abutting a survey boundary, then Jamarang/Bonto Lebang would join Sampulungang at 1620m. If MBT rejected from analysis for same reason, then MMPMCTB would join Jamarang/Bonto Lebang/Sampulungang at 2808m.

TABLE 11-6. RESULTS OF SOIL TESTS CARRIED OUT AT SOMBA OPU

Locality	Soil Type	Munsell Colour	pH	Interpretation
Soil Test 1, looter's hole in east Sapirea	Silts with some fine sand and clay top 70 cm	7.5YR 6/2 to 10YR 6/2 (pinkish grey to light brownish grey)	Not recorded	Jeknekberang's levee deposits
" "	Clayey silts 70 cm to water table at 2 metres	10YR 3/4 to 7.5YR 3/4 (dark yellowish brown to dark brown)	Not recorded	Jeknekberang's older levee deposits
Soil Test 2, field in north Sapirea	Topsoil silts	Not recorded	6 1/2	Jeknekberang's levee deposits
Soil Test 3, hole at fortress south	Fine sand with a minor silt fraction	10YR 6/3 (pale brown) (dry sample)	Not recorded	Jeknekberang's post-1977 banks
Soil Test 4, ploughed field at fort southwest	Topsoil fine sand	7.5YR 3/2 (dark brown)	6	Jeknekberang's levee deposits
Soil Test 5, field in fallow	Topsoil silts	7.5YR 3/4 (dark brown)	6 1/2	Jeknekberang's pre-1977 banks
Soil Test 6, rice field bund 100 m west of fort, c. 500 m east of sea	Topsoil silty clay	5YR 5/4 (reddish brown)	7	Backswamp clays mixed with silts from annual floods
" "	10-25 cm depth, silt with some laminations	5YR 5/4 (reddish brown)	7	Jeknekberang's levee deposits
Soil Test 6, hole in the bunded field	25 cm to 1 metre depth muddy clay with some grit	5YR 4/3 (reddish brown)	7	Older backswamp deposits

Additional notes on Soil Test 6 location: mangrove-type vegetation along rice-field bunds; area regularly flooded to around 15 cm depth in wet season; water from the wells is bitter (brackish).

to provide the kind of defensive focus for which Benteng Anak Gowa appears to have been built (8.2.1).

The acceptance of the Barombong wall as "site", such that it joins Pattukangang-Paknakkukang to form a site nearly two kilometres long, creates a configuration which neatly mimics the 1667 siege of Makassar (Figure 11-5b). The "Makassar cluster" embraces the Paknakkukang-Barombong wall and the immediately hinterland defended by the wall, i.e. the city and its coastal defences, an area which Speelman and Arung Palakka (Sahaduddin) failed to penetrate before 1669. The "Aeng cluster" corresponds to the battle line during the siege between the Makassar troops holding the north bank of the Aeng and the Bugis land troops amassed along the south (Bulbeck, 1990:82-3). This cluster also includes Bontoa where the 1667 Bungaya treaty was signed at the end of the siege (Kallupa, 1985:154-156).

The ongoing organisation of Garassik during times of security, which was the rule rather than the exception at least between c.1550 and 1615 (e.g. Reid, 1981), is probably best represented by Figure 11-5a. Accordingly I will use that configuration to organise my description of the sites.

11.3 Benteng Somba Opu

11.3.1 Physical remains and reconstruction

Benteng Somba Opu lies at six metres asl between the 20th century south outlet of the Jeknekberang up to 1977, and the post-1977 south outlet (see Figure 11-4). The site's deposits, as observed by SSPHAP, can all be ascribed to these 20th century outlets and the degree of proximity to the sea (Table 11-6). But local reports describe the deeper deposits below three metres as sands. These could represent the south tail of the Ujung Pandang cheniers, or possibly 17th century beach or riparian deposits.

Since the completion of SSPHAP's fieldwork, Somba Opu has hosted extensive excavations and an ambitious programme of restoration and interpretation (Reid and Caldwell, 1990:88-89). The work supersedes SSPHAP's programme which

mapped the visible structural remains (Figure 11-9),[10] cleared a small section and measured some bricks (Figure 11-2). Few details from the excavations are yet readily available, and I will be lucky if my review of the information at hand (E.2.3; E.4) does not need any revision. Available photographic information shows the "one-on-two" method of laying bricks (Photo 11-4) and the massive construction of the west wall and bastion (Photos 11-5 and 11-6).[11] A chart of excavated squares shows their concentration along the rubble-strewn footpath at the site's north (Photo 11-3), suggesting the excavators were following the north wall. It defuses the suggestion by Reid (1983a:149), followed by Bulbeck (1990:93), that the fort had once extended well to the north of the surveyable remains, and so suggests that Somba Opu as a comparatively small palace centre which embraced only 11.8 hectares.

SSPHAP recorded Somba Opu's surface tradewares over several visits, working both by observed concentrations of sherdage and by land-use zones. The hybrid compilation of the data notwithstanding, they can be matched against the c.1638 sketch of the fort (Photo 1-1) and what is known of the occupation history.

The clearest internal structures consisted of a rounded mound, here interpreted as a flagstand (Photo 11-8), and a surrounding line of wall rubble in the fort's northwest corner (Figure 11-9). The field north of the mound, Gowa 3.3, contained an extraordinary quantity of blue-and-white and coarse stoneware pieces, and earthenware sherdage (Appendix D). After making a complete collection on our first visit to serve as laboratory identifications (LIs),[12] we noted on a

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[10] The first published survey of Somba Opu is Reid's (1983a:147) rough sketch. The original plane-table survey of Somba Opu's external walls was instigated and supervised by Peter Bellwood on 19 August 1986. In September 1986 Suaka (1986/87) independently surveyed Somba Opu with a plane table and included the west *Pakbenderang* or flag stand which had been reported by Sagimun (1985:279). This was added to SSPHAP's plan and complemented with traces of internal structures on 14 November 1986.

[11] Somba Opu's brick walls are described as three and a half metres thick by the Dutch sources (Andaya, 1981:131).

[12] Labelled G.3.3B in Appendix D. The earthenwares are very underrepresented in this collection.

later visit that ploughing had brought up an even greater assemblage which we then identified in the field (FIs). Both assemblages produce a "fine" tradeware profile with a 16th century spike (Figure 11-8).[13] With the assemblages combined, the resulting densities of "Qing BW" and especially "Ming" pieces exceed any other recorded densities at the site (Figure 11-10).

The next highest densities, which also produced a 16th-century spike, were recorded in a field due south labelled zone 8. Although no structural remains have survived, the locality coincides with where the c.1638 sketch placed Somba Opu's wooden "royal palace". This was probably the Maccinik Danggang palace which stood between 1631 and 1650 (Reid, 1983a:144; LB:92,112).

If so, zone 3 must have been the palace occupied by Hasanuddin when Somba Opu was sacked in 1669. The traces of concentric brick walls accord with the written references to Somba Opu's massive fortifications in its last days (Andaya, 1981:117-136), while the dense sherdage would reflect the palace's forced abandonment and subsequent ransacking. Zones 3 and 8 probably also sited the royal palaces between c.1550 and 1618, given their strong emphasis on 16th century sherdage (Figure 11-8).

Further eastwards we recorded evenly spaced patches of sherdage within a pattern of dwindling amounts and densities (Figure 11-10). Zone 6 is flanked by two interrupted lines of brick rubble which might represent internal structures (Figure 11-9), possibly the "other palace" and royal storehouses of the c.1638 sketch. Further east are an old sepulchre (Photo 11-9) and a commemorated grave in a cement tomb at the south (Photo 11-7). As the only two old Islamic graves SSPHAP recorded, these might match the recorded burials of two Makassar nobles associated with Gowa's

[13] Figure 11-8 also shows the standardised chronological histograms based on SSPHAP's broad tradeware classes. As pointed out elsewhere (B.5.2), the implications which can be drawn from the broad tradeware classes are unnecessarily coarse when large tradeware samples are available. For instance, while they correctly identify the masses of "Ming" sherdage at Somba Opu, very little of this sherdage is of 15th century antiquity.

"lineage group", Ralle Dg Paikak and Dg Manarai Kg Mamampang, at Somba Opu in 1692 (LB:176).[14] The graves are bracketed by two looted areas, zones 2 and 4, which presumably mark pre-Islamic burial grounds of the site's ordinary inhabitants. Next to the tomb is a cannon called *Mariang polong* (fragmentary cannon) which, according to Sagimun (1985:278), had been salvaged from Somba Opu and kept in Kaccia before its recent return to Somba Opu (Photo 11-7). It alone seems to have escaped the Dutch seizure of 44 cannons and other arsenal which had guarded the palace (cf. Andaya, 1981:134).

Some further "Ming" pieces were recorded along or beyond the fort's outer west wall (Figure 11-10). Either they reflect use of Somba Opu's beach frontage or they are *ex situ* remains from zone 3. The footpath transect recorded mainly later pieces which would correspond to the development of modern Sarombe kampung. Sarombe's area has also included the westernmost strip of Somba Opu during the 20th century, and its cemetery of 20 to 30 cement graves, oriented around 20° from north, has been established at Hasanuddin's former palace. The rest of Somba Opu has become part of Sapirea kampung whose Islamic cemetery, situated on the line of wall rubble at the north of the site, has looked generally older than Sarombe's.[15] Sapirea's inhabitants were also our informants on the looting which appears to have been after bricks as well as antiques (Figure 11-9).

The few "early" tradewares found at the far west (Figure 11-10) have spalled off celadon plates which were presumably part of Gowa's royal wealth. But the larger number to the east includes Vietnamese monochromes and early whiteware, BW and enamelled pieces (Appendix D). These demonstrate use of the site before its fortification, especially as the southern zones, 1 and 4, show a pre-Ming emphasis in their tradewares

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[14] Unfortunately I did not ask about the associations of the marked graves we observed. Ralle Dg Paikak (1626-1692) was the sister of Kg Lengkesek and wife of Gowa's Mohammad Said and, later, Bima's Abdul Khair. Kg Mamampang was the son of Hasanuddin's son Kare Tojeng Kg Galesong (Chapter 3).

[15] I use the past imperfect tense here as I would not wish to predict the fate of these kampungs or their cemeteries during Somba Opu's restoration and interpretation.

profile (Figure 11-8). According to the c.1638 sketch, Somba Opu's mosque was constructed in this area. The spot might have been chosen because of its *keramat* (mystically powerful) associations with the site's original community centre. Zone 2, however, can be identified with the burial ground of the populace who lived at the fort's rear, according to the c.1638 sketch.

11.3.2 Occupation history

The evidence of light occupation during the 13th-14th and 15th centuries suggests the site had probably enjoyed a raised location at the shore, and access to fresh water, before Tunipalangga built there. The tradewares correctly identify massive occupation during the 16th and early 17th centuries, although their emphasis on the early 16th century at the palaces appears precocious (Figure 11-8). This unexpected result might be an artefact of the specific nature of the Ming BW assemblage.[16] On the other hand, there is no reason why Gowa could not have occupied the site during the early 16th century. Gowa's lineage group briefly ruled Garassik at the beginning of the 16th century; Paiva referred to Makassar as the port-city of Gowa in 1544; and the passage on Tunipalangga's brick walls possibly implies that Somba Opu, like Benteng Tua, previously had earth walls built by Tumapakrisik Kallona (4.3). Transposing the early and late 16th century segments of the tradewares profile might well be adequate correction to represent Gowa's early use of Somba Opu faithfully.

The tradewares also correctly identify Somba Opu's substantial abandonment after the early 17th century (Figure 11-8). The profiles based on the fine classes more suggest a "whimper" than the "bang" we know took place, except for the profile of zone 3 based on laboratory identifications which, like the "broad" tradeware profiles, correctly pegs Somba

[16] e.g. the comparatively large proportion of blue-and-white jars of sturdy production, compared to the more fragile bowls which usually dominate "Ming" assemblages; and the use of the ceramics as royal household goods, which might have involved a longer life span than that of the wares buried in graves.

Opu's sudden demise to c.1700.[17] Note also that even after 1669 the site still played a rôle, as indicated by its inclusion in the 1693 map (Figure 5-5), the recorded 1692 burials, and the death in 1724 of Matinroe ri Somba Opu.[18]

11.4 Other BBBBKBSPL Sites (Sites Near Somba Opu)

11.4.1 Pattung (Gowa 4), Lekokbodong, and Bayoa 2 (UP 7)

The apparently substantial site of Pattung is annually inundated at depths up to one and a half metres despite its protection by an earthen dyke constructed along the Jeknekberang's south bank.[19] Two areas emerge above the Jeknekberang's greyish brown silty sands: an old graveyard (no further recorded) hard against the dyke (Photo 11-10); and 300 metres southwest, at a slightly higher elevation, a ploughed field whose artefactual contents we collected. The tradewares suggest fairly steady occupation from the 16th century (Figure 11-10), although the lack of 20th century pieces might place the field outside the kampung depicted on the maps. The intervening land has reportedly been extensively looted, producing mainly blue-and-white wares (Photo 11-11), but also coming upon the occasional skeleton, head directed eastward, in a *duni*. The available evidence provides a good case for identifying the site with "Pattunga"

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[17] The difficulty here is that Somba Opu's second phase as Gowa's palace, 1631 to 1669, overlaps with the initial period of "Qing Swatow" and Qing BW wares. The "fine" tradeware profiles based on laboratory identifications compensate for this possible distortion by two means. Firstly, Qing BW pieces (1650-1800) could be more closely identified as "Kangxi" (1650-1750) in the laboratory, but such a fine level of classification is not feasible in the field. Secondly, Wanli and late Ming BW pieces are very hard to discriminate from Qing Swatow and Qing BW pieces in the field. See Appendix B for details.

[18] i.e. Kg Anak Moncong Sultan Ismail (GXX/BXIX/SXIX) who died in 1724 shortly after being removed simultaneously from the Bone and Soppeng thrones (Ligtvoet, 1880:201-202). As he was buried at Benteng Tua (6.5.1), "Matinroe" must here refer to where he died.

[19] My site map (Figure 11-4) portrays Pattung as a dot because any topographic features which might have allowed me to locate its area precisely on my pre-1977 maps appear to have been buried since the Jeknekberang had changed its course.

cited in the Makassar records as a 16th-17th century karaengship (Table 3-5).

Lekokbodong kampung had been located on the south levee of the lower Jeknekberang before the straightened south outlet swept it away in 1977. The inhabitants saved the grave markers and removed them to Tamanjalling across the Sungai Anak Gowa from Kanjilo Lama. The restored cemetery is called Kompleks Makam Islam Karaeng Lekokbodong after its eponymic personage Sambalik Kg Lekokbodong.[20] The genealogical records provide a precise match (LEK2 in Table 3-5) which allows the toponym to be identified with the 17th century Lekokbodong (ex-Marusuk) descent group (4.8.2). Within the vicinity of the former kampung itself, we could not gather any reports of looting, although such information might have been lost since the 1977 flood.

The Dutch 1:50k map shows two kampungs called Bayoa along the Sungai Banda (Anak Gowa) - Bayoa 1 near Garassik, and Bayoa 2 inside a meander one kilometre upstream. The Banda has straightened its channel here, as shown by air photographs, prompting the abandonment of "Bayoa 2". The former kampung area includes an enclave of raised land (Photo 11-16) where looting has left a small residue of "Ming" sherdage (Figure 11-10). As this small pre-Islamic burial ground is not associated with any old Islamic graves,[21] the site may have been abandoned in the 17th century before its subsequent resettlement from Bayoa 1.

11.4.2 Kaccia Lama (UP 4)

The site is a strip of slightly raised land which includes two Islamic graveyards, 80 metres apart, adjacent to looted areas (Figure 11-7). The south cemetery contains over 100 marked graves and the north cemetery more than 50, old to modern in both cases (Table F-8a).

The south graveyard incorporates an apparently elite cluster of old graves perched on a raised brick platform

[20] I was unaware of this specific association when I visited the cemetery and did not record his grave marker, nor indeed the cemetery itself apart from noting its new (i.e. restored) appearance.

[21] The single, wooden marked grave at the site is modern.

which may be of similar antiquity. Two of the markers enclose exquisitely carved masonry *nisan* which resemble the 17th century royal Gowa *nisan* in form and delicacy of style (Photos 11-14 and 11-15). Blue-and-white ceramics were reportedly obtained in the vicinity, while 16th century origins for the burial ground is supported by the Ming Swatow piece we found.

The north graveyard abuts the main looted area. We were shown three antiques: "Ming red" and Ming BW bowls (Photo 11-12), and a marble figure of a lion which looks Chinese (Photo 11-13). We observed two holes spaced two metres apart along an axis 15° from north, and were told of their association with a north-south directed skeleton buried with gravegoods, even though the other skeletons encountered were reportedly aligned east-west. The datum suggests an unusual syncretist burial, either a pre-Islamic burial influenced by Islamic ideas of orientation,[22] or an initial Islamic burial among the pre-Islamic ancestors. The small but interesting assemblage of tradewares points to a possible 14th century origins and a climax in the 15th century (Figure 11-10; Appendix D).

Kaccia appears to have been organised into two "families" which have kept distinct burial grounds for more than four centuries. The original family would be the one represented at the north. The younger family at the south apparently achieved particular prominence in early Islamic times, possibly related to Kaccia's central location in its site cluster (Figure 11-5).

11.4.3 Bonto Lakja (Gowa 62)

Suaka's local field officer Aziz Allang alerted SSPHAP to the unearthing of some empty *tempayan* (stoneware jars) at Bonto Lakja. This led us to record four contiguous sites at an altitude of around three metres asl. Three of the sites are small islands in a sea of sawah, susceptible to being flooded to a metre's depth when the Jeknekberang bursts its banks,

[22] Malays were present in Makassar, not far from Kaccia, by the mid-16th century.

while the fourth site has been converted to bunded fields (Figure 11-11).

In Bonto Lakja Selatan we were shown the hole where the *tempayan* (Photo 11-17) were reportedly found with their mouths approximately 30 cm underground. The *tempayan* (Photos 11-20 to 11-23) compare very well with pre-Ming jars made in China between the 10th and 14th centuries (cf. Harrisson, 1986:45): four small handles horizontally applied at the neck; ovoid form with swelling shoulders; rolled lips; "Brittleware" or "Guangdong" type body; and smallness compared with either the coeval "gusi" jars or later Ming Chinese jars (Table 11-7).[23] *Tempayan* in the ground tend to be a feature of Bugis areas where they were buried with cremated remains until Islamisation (e.g. Kallupa et al., 1989). I tested the soil at six localities in Bonto Lakja to see if there was any relationship between pH and the presence of human burials, but the results suggest none (Table 11-8). Other tradewares at Bonto Lakja Selatan were 17th century and later (Figure 11-12), and none of the 110 marked graves in the cemetery looks very old (Table F-8a). Whether the jars had been stashed or had contained human burials, they precede the other archaeological remains recorded at Bonto Lakja Selatan by several centuries.

A short distance north, in Bonto Lakja Timur Daya, lie 47 marked graves identified with Bonto Lakja's original inhabitants by the "family" which uses the graveyard (Table F-8a). The oldest graves, as indicated by inspection and what we were told, are called Makam Petta Sakga. They consist of five single stones, apparently marking north-south burials, spaced along a dilapidated platform of red bricks 4 metres east-west by 1.5 metres wide. We counted 15 looter's holes by the platform and 19 more to the immediate west. Reportedly, antiques were first found when the school's foundations were being excavated, and consisted of lots of blue-and-white supplemented by Ming whitewares, Sawankhalok and a few celadons. Confirming the report of many *buli-buli* (jarlets)

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[23] The spouted jar may be a "gusi" form, but this specimen and the others were either glazed brown or black, whereas "gusi" jars are glazed greenish (cf. Harrisson, 1986:44).

TABLE 11-7. OBSERVATIONS ON THE BONTO LAKJA TEMPAYAN

Jar	Lip diameter	Shoulder circum-ference	Basal diameter	Height to shoulder	Total height	Glaze Colour	Unglazed Base Colour	Comparisons (Harrisson, 1986)
G.62.0.1	11.5 cm	110 cm	12.5 cm	27 cm	36 cm	5YR 4/4 (reddish brown)	7.5YR 6/6 (reddish yellow)	35 (Chinese, 11-12th centuries)
G.62.0.2	12 cm	112 cm	13 cm	27 cm	36 cm	5YR3/3 (dark reddish brown)	7.5YR 6/4 (light brown)	35 (Chinese, 11-12th centuries)
G.62.0.3	11.5 cm	112 cm	12 cm	24 cm	33 cm	5YR3/2 (dark reddish brown)	2.5Y 7/2 (light grey)	35 (Chinese, 11-12th centuries)
G.62.0.4	6 cm	53.5 cm	11.5 cm	12.5 cm	19.5 cm	10YR 3/3 (dark brown)	10YR 7/3 (very pale brown)	26 (Vietnamese, 10-11th centuries)
G.62.0.5	9.5 cm	52.5 cm	11 cm	11.5 cm	16 cm	10YR 2/1 (black)	10YR 7/4 (very pale brown)	-

Other diagnostic traits. Four horizontal handles on all jars (supplemented with a spout and a vertical handle for pouring on G.62.0.4). Glaze comes right to the base with a smooth finish on all jars (although there is some slight dripping on G.62.0.4). Smooth base with a fine fabric corresponding to either the "Brittleware" or the "Guangdong" type of Harrisson (1986).

N.B. As all the jars are undecorated, specific comparisons with examples featured in Harrisson (1986) and elsewhere are scarce because decorated jars are usually preferred in the books.

TABLE 11-8. RESULTS OF SOIL TESTS CARRIED OUT AT BONTO LAKJA

Locality	Soil Type	Munsell Colour	pH	Reason for test
Soil Test 1, zone 4 where jars found	Gritty silt with some clay at 5 cm depth	10YR 3/3 (dark brown)	6	Possible human burials
Soil Test 2, zone 5 at 5 cm depth	More gritty silt with less clay than Soil Test 1	10YR 3/2 (very dark greyish brown)	$6^1/_2$	Comparison with Soil Test 1
Soil Test 3, zone 5 at 5 cm depth	Gritty silt with some clay and small gravels	5YR 3/3 (dark reddish brown)	$6^3/_4$	Comparison with Soil Test 1
Soil Test 4, zone 8 (Kuburan Nenek Moyang)	Loose sandy silt at 5 cm depth	5YR 3/4 (dark reddish brown)	6	Known human burials
Soil Test 5, zone 9 at 5 cm depth	Silt slightly looser and more sandy than Test 4	5YR 3/4 (dark reddish brown)	6	Suspected human burials
Soil Test 6, sawah bund north of school	Clayey silt at 5 cm depth	5YR 3/4 (dark reddish brown)	6	Unoccupied land without burials

we were shown a "Ming red" example (Photo 11-23). Surface sherdage also included a 16th century piece (Figure 11-12).

A short distance west lies Kuburan Islam Tuan Said whose 47 marked graves include a few old styles (Table F-8a). Tuan Said was reported to be the *nenek moyang* of Cikkoang people in south Takalar. His sheltered grave shares a brick platform, 13 metres east-west by five metres wide, with four masonry marked graves (Photo 11-18). The occurrence of two such platforms at Bonto Lakja and one at Kaccia point to a local tradition. The 14 bricks we measured, which showed little size variation, have dimensions within the general range observed at the Makassar fortifications, although no particular identification can be made (Figure 11-2).

Bonto Lakja Barat consists of three rice fields where some antiques had reportedly been found (Photo 11-19). Zone 13 in particular produced 206 tradeware pieces ranging between the 13th-14th and 19th-20th centuries and 668 earthenware sherds (Appendix D).[24] It would appear to mark a focus of habitation until the 17th century (Figure 11-12), and provides a chronological link between the possible pre-Ming jar burials, Ming-period pre-Islamic burial ground, and early Islamic cemeteries recorded nearby.

All four localities at Bonto Lakja might have originally belonged to the same land surface, and the total tradewares indicate a strong presence until the late 17th century. Hence Bonto Lakja, possibly under another name, may have been one of the larger villages along the lower Garassik until the 1669 raids, or changes in river discharge patterns, decreased the village's suitability.

11.5 Garassik Heartland (BGPM Group)

11.5.1 Benteng Garassik (Gowa 5)

The site is best approached with a synopsis of my main interpretations. The 1977 flood reduced Garassik kampung to a vestige of its former self, and what has survived of historical Garassik must also be a minute fraction.

[24] The zone 12 pieces were also from this general area, brought to us by children.

Nonetheless the extant remains include fortifications which identify the site with Benteng Garassik cited in the Bungaya treaty for destruction (Andaya, 1981:306). The nature of the other archaeological debris further stamps the site as having been, in all probability, old Garassik's core.

In the early 20th century, and apparently as late as 1969, the site constituted the southwest tail of Garassik kampung which then lay across the Sungai Banda from "Bayoa 1". The Jeknekberang's 1977 flood speared Garassik kampung, washing it away or covering it with silts, apart from Benteng Garassik. The Banda now runs south of Bayoa, and the modern stream between Garassik and Bayoa is part of a network of channels where the Banda meets the Jeknekberang delta (Figure 11-4). The sinuous contours of the fields around the site, and the alternation of silts and sands in the fields and the wells (Figure 11-14), reflect these fluvial reconstructions of the landscape during the 20th century.

The former wall line along Bayao's footpath is directed at Benteng Garassik's northwest corner (Figure 11-14), corroborating folk memories that a brick wall had once connected Bayoa and Garassik. The *in situ* brick wall at Garassik's northwest corner includes a line on the surface, an intersection exposed by a hole (Photo 11-26), and a cross-section in the bank of a sunken field at the north (Figure 11-3a). This part of Garassik also contains a masonry post-support (Photo 11-27) - one of five reportedly found at the site - and by far the main concentration of brick rubble. Most of the other brick rubble occurs to the east in a pattern which suggests colluvial redeposition from the northwest corner. However, north of Benteng Garassik rubble was restricted to the field flanking the sunken field with the exposed cross-section, so the wall had probably contined north-north-east towards Somba Opu. Thus the snatches of Garassik's *in situ* brick wall appear to outline a squarish

[25] Without this perspective it would have been tempting to interpret the line of fields running west along Benteng Garassik's north border, before turning northwest, as a remnant of the defensive ditches excavated along Makassar's coast in the 1660s (cf. Andaya, 1981:51). The work mapping the fields and recording deposits in the well profiles was directed primarily by Sonny Wibisono.

structure, presumably a parapet, outside a line of coastal wall (Figure 11-14).

The parapet marks the fort's location but is not the actual fort. As shown in Figure 11-15,[26] "early" pieces (and flaked stone artefacts) were widely but sparsely distributed, even occurring in the sunken fields which, of course, drop into the site's older deposits. But the "Ming" and "Qing BW" pieces - which would cover any 17th century pieces - were specifically concentrated in the raised area of silts southeast of the brickworks. Many antiques have reportedly been found within this raised area (none in the surrounding fields) which also includes two old, venerated Islamic graves (Table F-8b). As this part of the site appears to have long been a focus of habitation with some burials, sentimental considerations would have dictated its fortification rather than, say, the area abutting the parapet's northwest. Probably also the most stable surface would have attracted fortification while, mutatis mutandis, the works would have subsequently protected the deposits. But there are no clear signs of brickworks coinciding with the site's archaeological heart. Hence Garassik Fort would appear to have been essentially earthen.[27]

The site's tradeware profile summarises the distinction between the tradewares inside and outside the apparent fort (Figure 11-21). The site's high counts of coarse stoneware

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[26] The two small surveyed squares in Figures 11-14 and 11-15 are remnants of SSPHAP's initial work at Garassik before I realised that surveying by quadrants rather than land-use zones was just a waste of time. We had also surveyed some other small squares but these were subsequently replaced by survey of the land-use zones including the squares. Zone 6, it should be mentioned, was noted and surveyed by two of SSPHAP's crew members on separate occasions. All of the "Ming" and Qing Swatow identifications were collected on the first occasion (G.5.6 in Appendix D); the other pieces were returned and so could have been among the identifications on the second occasion (G.5.6B in Appendix D); hence my analysis adds the counts for the classes collected on the first occasion but otherwise uses whichever count is higher. Note also that G.5.1 is a general collection made on SSPHAP's first visit, and provenanced no more tightly than to the raised part of the site southwest of the brickworks.

[27] The argument admittedly appeals through circumstantial evidence and default rather than direct evidence, but no other alternative seems at all attractive until excavation recovers evidence to the contrary.

sherds (Appendix D) also indicate that at various times it was either a palace centre (cf. 11.4.1) or a port.

The tradewares also indicate a clear origin by at least the 14th century.[28] The point contextualises the site's name which almost certainly derives from north Java (Reid, 1983a). Gresik was a leading spices port from the early 15th century, following what must have been a meteoric rise given Ma Huan's report, written in 1433, that it had been founded by Chinese late in the 14th century (Guy, 1986:32-33). The name must also have been quickly grafted onto Makassar's shores given that Garassik existed as a kingdom by the late 15th century (Figure 4-6). The 15th century, indeed early 15th century surge in Garassik's histogram probably corresponds to when the settlement took Gresik's name. But this would have occurred in the context of Gresik Javanese exerting major influence on an already well-established community.

The histogram's late 15th century dip (Figure 11-19) might be related to a decline in Garassik's fortunes directly preceding its absorption by Gowa at c.1500. But it might be more parsimonious to interpret the result as an artefact of analysis, e.g. the difficulty in distinguishing late 15th century pieces from 16th century pieces. A better perspective might be gained from evening out the tradeware profile into a generalised 15th century apogee. At the same time, the strong presence of pieces dated to the 16th century is not totally anomalous,even though the period witnessed Garassik's absorption (4.3) and the establishment of Somba Opu a short distance to the north (11.4.2). Benteng Garassik could well have remained a port or a local population centre throughout the 16th century. All in all, I interpret the site as a historical palimpsest whose various rôles - small 15th century palace, 17th century fortress, and more generally a burial, habitation and port area - are not readily disentangled by surface survey alone.

[28] The observed tradewares include a range of rarely recorded classes which, not without some misgivings, I generally assigned to 14th-15th century classes (Appendix D; Photo 11-24).

11.5.2 Bayoa 1 (Ujung Pandang 1)

During the 1980s Bayoa's villagers raided a nest of antiques in an area now containing two concentric *empang* (fish ponds) tidally inundated via the Sungai Bontorea (Banda). Inspecting the inner *empang* we found five fragments of bronze leaf (Photo 11-29) and, oriented 130° from north, the visible outline of a *duni* or log coffin (Photo 11-30). The banks of the inner *empang* appeared artificially built up but the northern faces of the outer empang retained the original deposits (Photo 11-28). Artefactual remains were essentially restricted to the banks of the inner *empang* and eastern outer *empang*, so we treated the vertical faces and directly associated horizontal surfaces as eight survey zones (Figures 11-16). The resulting patterns of tradeware densities highlight the concentration of "Ming" and "Qing BW" pieces in the *empang* compared to the rest of Bayoa (Figure 11-16). After standardisation the tradewares date mainly between the 13th-14th and the 17th centuries, with an apparent 15th century peak (Figure 11-21).[29] Other observed remains included 73 brick fragments; seven *Tridacna* shells presumably brought in as gravegoods or for funerary feasts; and nine fragments of bone, none of which looked clearly human (Photo 11-32).

On 20 September 1986, coinciding with the return of Sonny Wibisono who had co-directed the initial survey, Suaka salvaged the *duni* (Photo 11-31). The excavation revealed a hollowed log with two slits in the base, enclosed by a partly preserved outrigger resting on wooden end supports (Figure 11-17c). The log measured 4 metres long, 90 cm wide and 30 cm deep, and the outrigger was 5 metres long by 1.2 metres. Some

[29] A rationale for zoning the *empang* was to analyse the within-distribution of the tradewares, but 40 tradewares spread over eight zones comes to a small sample in each case, and the alternation of high and null tradeware densities reflects the zones' small areas. Earthenwares, including fragments of "cogwheel pots" (cf. Photo 7-16) and finely incised and stamped sherds, were recorded in abundance (Appendix D). Obviously the ratio of earthenwares to tradewares is anomalously high by general standards, which presumably reflects the greater visibility of earthenware sherdage on clean vertical surfaces than on vegetated and scuffed horizontal surfaces.

earthenware and blue-and-white sherds were found in the excavation. I inspected the baulks whose profiles can be projected against zone 1's profile, using the top level along zone 1 as my datum (Figure 11-17a). The comparison places the *duni* at the base of the silty clays which constitute the bottom half of the *empang*'s deposits, immediately on top of black, gritty beach sands (which I would interpret as the tail of the Ujung Pandang cheniers). The deposits at the level of the *duni* were yellowish and slightly acidic, contrasting with the alkaline, brown to black deposits elsewhere.

We were informed that many antiques had been found with the *duni* but no human remains were described. It would seem that decomposition of possibly several corpses, and to some degree the coffin itself, had created a slightly acidic micro-environment in which wood but no human bones were preserved, even though the deposits are generally alkaline. Two samples, Bayoa A and Bayoa B respectively, were taken from the outside of the log's north and east ends for radiocarbon dating. Bayoa A dated at 101.7 ± 2.2 %Modern (ANU-5926), which converts to 50 (70) 250 BP if we follow the 101.7 date, while Bayoa B was dated 270 ± 120 BP (ANU-5927), i.e. a corrected date of 310 BP with a single S.D. range between 30 and 480 BP (Stuiver and Pearson, 1986:810). If we ignore Bayoa A and focus on the older part of Bayoa B's range the *duni* could be as old as the 15th-16th centuries. But a 17th century date catches the overlap between the two radiocarbon dates and must be preferred, even though greater Gowa had embraced Islam by this stage.[30] Nor can we argue the specimen might merely be an abandoned canoe; its perforated base (to drain the decomposing body fluids) and east-west orientation also characterise the log coffins excavated at

[30] The sketchiness of my records notwithstanding, both samples clearly came from inside the tree-trunk which supplied the log, and so would merely date when the tree was alive. It could have been a fast-growing tree felled specifically to make the coffin, so a date in the 17th century can still stand as the best estimate. On the other hand, a date as late as the 18th century would be allowed by the tradewares found in the *empang*.

Agop Atas, Sabah (Bellwood, 1988b:103) and Palambeang, Pangkep (Tjandrasasmita, 1970:23-24).[31]

North of the *empang* a pasture full of looter's holes reaches Bayoa's cemetery which is itself flanked by further looted areas (Figure 11-16). The cemetery's 94 marked graves include three east-west examples overgrown by tree-roots (Photo 11-33; Table F-8b). A slight concentration of "early" and "Ming" tradeware pieces occurs in the vicinity (Figure 11-18). Hence it seems that from the east part of the *empang* to the footpath along the cemetery, the area had been used for burials, including a substantial syncretist Islamic phase which might have lasted till the 18th century.

Antiques had also reportedly been found throughout the kampung, including three still unsold 16th-17th century pieces (Photos 11-35 and 11-36). The report matches the wide dispersal of "Ming" sherdage (Figure 11-18). However, it is hard to say whether occupation debris or goods associated with isolated graves are involved.

Bayoa's footpath runs between the streams which flank the kampung. Brick rubble occurs right along the footpath which thus marks the former wall through the site (Photo 11-37). The area south of the footpath has clearly been the focus of Bayoa's occupation, at least between the 15th and 19th centuries (Figure 11-21). The early 20th century maps show that the footpath marks the former border between kampung and backswamp at the north. However, the kampung used to extend further south, past the *empang* to the point on the Bontorea labelled zone 34. Here I noticed some objects eroding out of the bank into the stream (Photo 11-34), and some children fishing for molluscs retrieved further objects in the water. The combination of artefacts and a remarkable range of natural stone (Table 11-9; Photos 11-38 and 11-39) points to an artificial deposit, particularly as pebbles were not observed at comparable depths in the *empang*. Something other than an 18th to 20th century rubbish dump is involved because

[31] The Agap Atas log coffin also had a jar underneath the hole to catch the body fluids (Bellwood, 1988b:252-253); for a discussion of its dating, see 13.2.3. The Palambeang coffin was associated with decomposed human bones and 15th-16th century tradewares.

TABLE 11-9. OBJECTS FISHED OUT OF THE BONTOREA AT ZONE 34

Type of Object	Number		Weight
Late Ming BW plate footring sherd	1		63 gm
Sawankhalok brownware tempayan base	1	(2 sherds)	323 gm
Earthenware sherds (jars and bowls)	9		735 gm
Fragments of old red brick	18		?
Volcanic stone with rough incised line	1		230 gm
Flaked quartzite pebble	1		136 gm
Flake of basalt	1		6 gm
Larger lateritic pebbles	21		?
Smaller lateritic pebbles	3		350 gm
Slabs of slate	2	smaller is	220 gm
Limestone pebbles	2		686 gm
Other sedimentary pebbles	2		174 gm
Quartz pebbles	9		?
Other pebbles (large)	15		?
Other pebbles (small)	72		?

N.B. The flaked quartzite pebble and basalt flake are only probably products of intentional flaking and even then need not be prehistoric. Only collected objects were weighed. The late Ming BW piece is included in Bayoa's total tradewares profile but not in the *empang* or "south of footpath" profiles (Figure 11-21).

the datable artefacts fall in the 16th-17th centuries. One possible explanation for the range of non-ceramic objects would be their inclusion as support materials in the base of an earthen wall. Hence I tentatively infer that an earth fort had been built at Bayoa, possibly confined to the triangular area between zones 20, 34 and 25. Such a fort would resemble Benteng Garassik in having been built behind the coastal wall at a major focus of coastal occupation.[32]

Bayoa 1 can be clearly identified as a main settlement of Gowa's Bajau (Bayo) population whose maritime services to Gowa are reported by Speelman (Reid, 1983a:126). The site's total tradewares profile suggests occupation by the 13th-14th centuries preceding the main phase which spanned the 15th and 16th centuries (Figure 11-21). Even better than Benteng Garassik's tradeware profile, Bayoa's correlates with what we can deduce of Garassik's history, implying that the Bajau played a major rôle in Garassik's rise (cf. Reid, 1983a:128-129). The Bajau's continued importance till the

[32] There is no clear record of a Bayoa fort, but the 1660 European sketch of Makassar does mislabel Benteng Barombong as "Bayoa Fort".

late 17th century is indicated by the tradeware profile and the indications that the site had been fortified.

11.5.3 Paknakkukang-Pattukangang (UP2)

The dominant landform at this site (Figure 11-19), a curved body of brownish grey sands, appears to be a chenier deposited by a protohistorical ancestor of the Garassik (11.1). The chenier's north boundary used to be the Banda mouth; as shown by the 20th century land-use maps, Paknakkukang's main settlement (UP.2.1) occupied an island in the mouth. In 1977 the Jeknekberang forged a new south outlet immediately north of Paknakkukang. The stone road along the west base of the chenier marks the pre-1977 shoreline, but since 1977 a sandy strip several hundred metres wide has been deposited further westward. Nonetheless the small channel which runs through Paknakkukang, and the backswamp converted to fish ponds behind the chenier, do not appear to have changed much, even if they used to articulate with the Banda and not with the Jeknekberang. The backswamp may even have existed by 1660 if the 1660 sketch (Boxer, 1967:Plate III) can be believed.

The most obvious remnant fortification, a mounded line of brick wall which actually crosses Paknakkukang's small channel (Photo 11-41; Figure 11-3b), has previously been interpreted as a wall of Benteng Paknakkukang (Nurhadi et al., 1983:10-11; Kallupa, 1985:151-152). But there are no traces of connecting brick wall, rather the wall peters out at one of the sandy mounds in the bamboo grove which screens the wall from the road. However, there is a low heaped line which connects the mounds, and it shows that Paknakkukang was an earthen fort with five mounded bastion features (Figure 11-19; Photo 11-42).[33] This perspective frees the brick wall for interpretation as part of the coastal wall between Paknakkukang and Ujung Tana.

[33] Detection of the fortress wall is difficult because the bamboos obscure a holistic view of the site's relief and because prior expectations involved a brick fort rather than an earthen one. It took me personally four visits and a lot of puzzling before I could make the mental switch.

After surveying the wall line, I met Paknakkukang's *tokoh masyarakat* (social exemplar) who explained that three of the mounds had been *pakbenderang* (flagstands), including the *Maccinik Sombala* (Place to Watch for Sails) at the northwest where the *saukang* now stands. I also observed some stray looter's holes which showed that brick rubble and coral blocks had occasionally been included to strengthen the packed sandy matrix of the walls and bastions (Photo 11-43). The fort displays surprisingly insubstantial construction in view of its strategic location at the Garassik mouth (Figure 11-1) although, to be sure, the Dutch occupied Paknakkukang in 1660 with ease (Andaya, 1981:49). Further, the coastal wall behind Paknakkukang might have hindered greater Gowa's defence of the fort just as it apparently helped curtail any Dutch movement inland.

The most elevated part of the extant fortress occurs at the south. Here the wall line curves beneath and around the Islamic cemetery which serves Paknakkukang and Pattukangang. There are two tombs reportedly associated with the early 17th century founders of Paknakkukang's line of *tokoh masyarakat*. These are the "man from London" (Photo 11-40), who can be identified with a renegade Englishman who converted to Islam before dying in 1637,[34] and his wife. A similar sheltered grave on the southwest bastion was ascribed to a former Paknakkukang "owner" of unremembered name (Table F-8b).[35]

We counted 63 looter's holes adjacent to the cemetery and heard that lots of blue-and-white, *merah* and brownwares had been recovered. Wares still unsold from the looting comprised three Ming whitewares, two Ming BW bowls, three Ming Swatow, one Wanli BW, one Transitional BW and three Swatow pieces (Photos 11-45 and 11-46). These date between the 15th and

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34 The present *tokoh masyarakat*, who identified himself as tenth in the line, gave quite a detailed account. The "man from London" converted to Islam and then married into the Paknakkukang community. His son Abdul Said was *tokoh masyarakat* when the Dutch occupied the site. These details match the European records of an English constable who joined up with Gowa as the chief adviser on firearms. He converted to Islam before dying in 1637 (de Crucq, 1941:95).

35 This "owner" might be identifiable with Kg Paknakkukang (PKK1), a Sanrabone princess who married Tallok's Sultan Mudhaffar in the early 17th century (Figure 4-10).

17th centuries, and hence link chronologically with the Islamic cemetery's 17th century to modern graves. As the fort's south walls neatly enclose the burial area, it would appear to have served as an axial point when Abdullah planned the fort's construction.

The chenier directly south of Paknakkukang, shown as Pattukangang kampung on the Dutch land-use maps, contains what I call the Pattukangang wall. Its traces begin 50 metres south of Benteng Pattukangang and follow a southward course before crossing the stone road (Photo 11-40) and joining the Barombong coastal wall (Figure 11-2). As the Pattukangang wall does not connect with Paknakkukang's fortifications (Figure 11-17), and appears to have been built of anomalously thick bricks (E.2.3), it was probably a distinct construction event. My reading of the records dates it to the 1660s, 30 years after Paknakkukang's works (11.1).

"Ming" pieces were widely if thinly dispersed along the chenier (Figure 11-20). The comparatively strong density of "Ming" pieces inside Benteng Paknakkukang reflects some examples found in looter's holes; elsewhere bamboo leaves comprehensively littered the ground. But there is no clear evidence that the fortifications ever protected a local settlement, even if Benteng Paknakkukang protected the burial ground. Paknakkukang's occupation by over 500 Dutch soldiers for several months in 1660 (Andaya, 1981:49-56), might be associated with the strong density of "Qing BW" pieces in zone 2 at the fort's northeast wall.[36] The marked absence of "recent" pieces in the centre of the site could correspond to its former use as a firing range by the Dutch, as reported by the *tokoh masyarakat*.[37]

The tradeware profiles suggest that Pattukangang had been occupied by the 15th century (Figure 11-21). While

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[36] i.e. the soldiers had spent more time around Benteng Paknakkukang than actually inside it. 500 people in the fortress would be a real squeeze. From Andaya's account it is not quite clear how many months of Dutch occupation were involved.

[37] The report is confirmed by Sonny Wibisono's recovery of a corroded bullet near zone 13. I should also acknowledge Wibisono's involvement in the site's initial survey, especially that he first noticed the point where the Pattukangang brick wall started.

Paknakkukang's sherdage does not date before the 16th century, this part of the site includes the pre-Islamic burial ground where wares as old as the 15th century have been found. Pattukangang (PTK) recurs as a karaengship through the 15th and 17th centuries, including an initial association with Garassik (e.g. Figure 4-6). The rarity of the toponym removes the last conceivable obstacle to identifying the site with historical Pattukangang. As the earliest occurrence of the toponym Paknakkukang dates to the early 17th century, it seems likely that Paknakkukang either budded off or was grafted onto Pattukangang at this juncture, possibly in response to the deposition of new habitable land at the Garassik's south outlet.

11.5.4 Mamampang (Ujung Pandang 5) and overview

Mamampang appears on the Dutch land-use maps, but not on the Indonesian counterparts, as a tiny kampung on the south border of the extensive backswamp between Pattukangang and Kaccia. We surveyed it as a possible match to the historical toponym Mamampang; not because of reported looting or old Islamic graves which were as absent as housing at this abandoned kampung. The thin scatter of surface sherdage included a few "colonial" pieces and, at one particular locality (Photo 11-47), a few "Ming" pieces (Figure 11-22). Given the thorough geomorphic reworking of this general area, the "Ming" pieces would constitute an adequate basis to identify the site with the historical toponym, except for the direct evidence linking historical Mamampang with Makam Manyampang (8.5.1).

Mamampang finishes our description of the BGPM sites. Their combined chronological histogram shows a presence of pieces, after standardisation, as pronounced in the 15th century as at any later juncture (Figure 11-21). I interpret this as the period when the ancestral Garassik river had deposited the Paknakkukang-Pattukangang chenier and was debouching, via a northeast curving outlet, at Bayoa and Garassik. A quantum leap in trade between the communities along the Garassik delta and Java apparently also occurred at this stage, resulting in the establishment of the small

port-polity of Garassik. The area enclosed by the BGPM sites (Figure 11-5a) possibly approximates old Garassik's political heart. The new outlet slightly to the north, which the Garassik river apparently forged by the 16th century, could be related to Somba Opu's subsequent ascendancy.

11.6 The GMTB Group

Gotong (UP8) is a small raised area of silty fields (Photo 11-48) with 103 looter's holes. The main antiques reported were blue-and-white ceramics, along with some Sawankhalok and celadons. The small sample of "Ming" pieces found on site possibly suggests a mainly 15th century burial ground (Figure 11-23). The indications of a decline into the 16th century are supported by the absence of Islamic marked graves. The more recent tradewares suggest sporadic occupation of the site after the late 17th century.

Shortly after Islamisation the Gotong people might have moved their burial ground to Timbuseng. My notes describe Makam Timbuseng as an old to modern graveyard which had never been looted.

Stronger evidence of 17th century Islamic burials occurred some 80 metres to the south where we recorded two sheltered graves with finely carved wooden *nisan* on a platform of old-looking bricks (Photo 11-49; Table F-8b). We were told that these were the oldest graves in Timbuseng, plus the following information. The two graves were associated with Karaeng Papok, a *mubalig* (Islamic preacher) from Pangkep, and his companion. They did not stand in an ancestral relationship to the Timbuseng villagers. However, people from the Pangkep islands often came to pay homage.

200 metres further south we recorded a Swatow piece in a ladang ("Timbuseng" in Figure 11-4a; U.9.1 in Appendix D). The other tradewares here and at Makam Kg Papok (U.9.2) were all Qing to recent (Figure 11-23).

Bilaya Lama (Gowa 11) is a small raised area with around 50 to 100 marked Islamic graves which appear very old to modern (Table F-8b). The site's sheltered grave (Photo 11-50) is ascribed to a Gowa karaeng whose name was not recalled. 11 holes still dotted the cemetery from the looting which had

reportedly occurred 20 years beforehand. The antiques, mostly blue-and-white but also some celadons, *merah*, brownwares and Sawankhalok, were reportedly found four to five metres below ground. This burial ground appears to have been in continuous use from at least the 16th century till the present, even though the only tradeware sherdage at the site was Qing to recent (Figure 11-23).

The tradewares profile of the GMTB sites combined suggests occupation of the area by at least the 15th century. The apparent early 17th century nadir (Figure 11-23) could be the result of inadequate sampling. The sites are so unimpressive that they would seem to mark the social as well as the spatial periphery of precolonial Makassar.

11.7 The Aeng Cluster

11.7.1 Barombong (Ujung Pandang 3)

After jagging across the stone road at Pattukangang (Figure 11-19), the extant wall line meets a ridge of light brownish grey sands running along the west side of the road to Barombong. A continuous line of brick rubble, studded with occasional exposures of *in situ* bricks, can be traced along the sand ridge for 800 metres (Figure 11-1). In August 1986 SSPHAP's team made a rough sketch of the north 400 metres of the Barombong wall. We started with the section which traverses Pattukangang Baru, noted that 150 metres could not be directly surveyed because the Barombong naval training college has been built over the wall line, and observed only Qing to recent sherdage and modern Islamic graves. We had also sketched the remaining 400 metres, but in this case I later decided on a plane-table survey and fuller documentation of the quite interesting associated remains. The resurvey was carried out in June 1987 (Figure 11-24).

At the north is the Islamic grave of "Tuan Biraeng" which looked to be of 18th century vintage. The bole of a banyan tree has grown right over it and is starting to envelope the corrugated iron shelter protecting the grave. A late Ming BW piece was found with other, later tradewares (Figure 11-26). Further south is Kuburan Islam Tangaya, a modern cemtery

built on the wall line (Table F-8b), where the earliest recorded tradewares were Swatow (Figure 11-26). Also, a small looted area across the road had reportedly produced approximately 40 blue-and-white, Sawankhalok and celadon pieces, plus a ceramic bird figurine. The sandy drop between the wall line and the beach steadily widens to this point, and shortly southwards the longshore deposits break away from the mainland to create a seawater inlet (Photo 11-2). The inlet reaches as far north as Saukang Patanna Parasangang which abuts the sheltered grave of Tuan Caddi. Tuan Caddi reportedly hailed from Cikkoang in south Takalar, and thus pairs with Bonto Lakja's Tuan Said (11.4.3). Even though no looting had occurred, the wealth of surface tradewares included two 13th-14th century pieces, and 16th century and later pieces otherwise (Figure 11-26).

Further south the wall line crosses the road and finishes in several scatters which seem to outline a small polygon. Unless the shape merely reflects chance dispersal caused by housing developments, it suggests a bastion. Barombong Fort had presumably existed here at the end of the wall line, and the absence of any further brick rubble suggests that it had been an earthen fortress.

Immediately west of the possible bastion, a *duni* and some ceramics were reportedly looted at the inlet after being originally exposed by erosion (Photo 11-53). We found only Qing and later pieces here,[38] but pieces as early as the 16th century were found around Kuburan Islam Barombong to the immediate south (Figure 11-26). The circumstances of the cemetery suggest it should date back to the 17th century, and such a vintage could be suggested for Makam Salekowa which also serves as a *saukang* (Table F-8b).

In totality the Barombong pieces suggest occupation of this old longshore ridge by the 13th-14th centuries, but only sporadically until the late 16th century (Figure 11-26).[39] The small size of the two looted areas, and the reported

[38] The tradeware pieces from zone 3 (the looted area) and zone 4 (the possible bastion) were collected separately in the field, but I mixed them up while washing them and hence they are both placed under "zone 4" in Appendix D.
[39] Note that the total Barombong pieces include the Qing to recent pieces recorded at Pattukangang Baru (U.3.8).

finds, agree with such a scenario. This previously insignificant area achieved strategic significance in the early 17th century when it fell under the jurisdiction of Abdullah's stepbrother, Kg Mamampang Garassik Barombong (Figure 4-6), and when its first fortifications were built.

11.7.2 Bontoa (UP26) and Ujung Kassik (UP6)

Makam Kuno Bontoa covers around 30 metres by 20 metres and has graves which my notes record as of 17th/18th to 20th century vintage (Photo 11-54; Table F-8c). There are a few suspicious holes in the scrub, confirming a report that some antiques were found here (S. Rasyid A., pers. comm.), even though locals denied any looting. Bontoa is locally renowned as the site where the Bungaya Treaty was signed in 1667 (Kallupa, 1985:154-156; Sagimun, 1985:234). Hence Bontoa was a 'small village near Barombong called Bungaya' (Andaya, 1981:98) in 1667 and so would appear to have seated the mid-17th century Bungaya karaengship (Figure 4-17).

Ujung Kassik is a small kampung along the Aeng inlet south of where it meets the sea at Kuburan Islam Barombong. An old Islamic marked grave sits on a mound grown over by a succulent (Photo 11-55). Reportedly people had found many antiques - lots of blue-and-white, but also *merah*, celadons, iron (including a kris) and bronze - next to the grave in land now covered by the inlet. The only tradeware sherds which we recorded here (UP.6.1) and on the adjacent beach (UP.6.2) were Qing and European (Figure 11-26).

11.7.3 Aengtoa, Jonggoa Batu-Batu and Karama

Aengtoa (Takalar 2) occupies a bend of the Aeng river, still tidal at this point, south of Ujung Kassik. The site's deposits consist of a silty clay with some sand and grit, ranging in colour from light brownish grey at the north to reddish brown at the south. Elevation varies between seven metres asl at the north and four metres asl at the south.

Aengtoa appears to have contained a substantial population from pre-Islamic times. Reportedly ceramics which were generally blue-and-white, but also *merah* and celadons, were

recovered from six discrete areas either full of looter's holes or indicated as productive areas. Two looted areas are associated with "old" Islamic graveyards, while the site also contains an isolated brick sepulchre and a "new" graveyard (Table F-8c). The main cemetery contains several groups of "old" graves at distinct orientations, including one group whose graves vary between 125° and 145° from north (Figure 11-25). Surface tradewares range between the 15th and 20th centuries, although with the suggestion of an early 17th century dip (Figure 11-26). Non-ceramic finds at the site included a stone pestle (T.2.4.11).[40]

A kampung strung along a raised beach ridge, called Jonggoa on the Dutch land-use maps, is now divided into Jonggoa at the north and Batu-Batu at the south. At the kampung border lies the Islamic cemetery of Jonggoa Batu-Batu (Takalar 5). The marked graves would appear to have originated by the 17th century, given the presence of an east-west oriented stone arrangement and at least 100 masonry markers lacking *nisan* (Photo 11-56; Table F-8c). The small sample of tradewares at the cemetery was all Qing and later (Figure 11-27), while an antique reportedly recovered from the site looks like a Qing brownware jar (Photo 11-51). The site can be matched with the mid-17th century Batu-Batu karaengship (Figure 4-6),[41] particularly as it is the only Batu-Batu I can find on the 1693 map (Figure 5-5). However, the late 16th century Batu-Batu karaengship, associated with a Tallok princess who married Tunijallok (Figure 4-8), would either refer to this area in a more general sense, or refer to some other unidentifed place.

Karama (Takalar 34) lies across the Aeng river from Aengtoa, near a backswamp extending behind the beach ridge which contains Jonggoa Batu-Batu (Figure 11-4). My admittedly sparse notes document it as a SSPHAP historical site. Its older cemetery contains masonry markers lacking *nisan* (Table

[40] The pestle is a water-rounded pebble of hard metamorphic stone. It is naturally fractured at one end, and abraded and slightly flattened and glossed at the other. It is 105 mm long and 42 by 30 mm in cross-section, and weighs around 250 grams.

[41] This Kg Batu-Batu lost his life in 1660 defending Paknakkukang against the Dutch (LB:123).

F-8c), while looting at Karama has yielded antiques (A. Rasyid S., pers. comm.). At a later stage I was shown a collection of antiques reportedly recovered by the "Aeng" inhabitants when they dug an *empang*. Given the local land-use patterns and other information on the area, this had occurred at Aengtoa or Karama. As the collection spans the 13th-14th to the 19th centuries (Photo 11-52), it may not all be from one locality.

11.7.4 Pangkajeknek, Summanak and Pakkala Toa

Kompleks Makam Pangkajeknek (Takalar 3) lies along the Kaballokang - the name of the Aeng river inland from Aengtoa - in an area of sawah and *empang* (Figure 11-4). The cemetery covers around 50 metres square and incorporates two sheltered graves, including that of "Manyaurang Dg Gassing" which is reportedly the oldest. A small area of around 15 looter's holes was associated with a few Qing and later surface tradewares (Figure 11-27). Even though we dated the oldest marked graves to the 18th century, the site has produced antiques (A. Rasyid S., pers. comm.) and so probably has at least 17th century origins.

A short distance north lie Katinting and Summanak, both synonymous with 17th century karaengships. Katinting, now a deserted kampung, can be rejected as an old toponym. It contains no signs of any burial remains; the observed sherdage (T.31.1 in Appendix D) is all Qing to recent; and Kg Katinting himself is buried at Tallok (14.2.4). The circumstances of Summanak (Takalar 33), however, are all positive. Its cemetery includes old as well as modern styles (Table F-8c; Photo 11-57); a few antiques have been found here (A. Rasyid S., pers. comm.); the site is depicted on the 1693 map (Figure 5-5); and Kg Summanak was a son of Kg Mamampang Garassik Barombong (11.7.1). Despite the site's unspectacular qualities, it can be identified as the karaengship of an important Tallok noble who vied with Kg Karunrung for the regency after Mahmud's death (3.5.1).

Pakkala Toa (Takalar 4), an area of light brown clays, comprises two site areas. Pakkala Toa Barat straddles the road which runs northwards along the east side of the

Kaballokang (Figure 11-4). West of the road is a cemetery (zone 5) with around 40 marked graves which are either old masonry styles, or modern wooden styles where children are buried (Table F-8c). Many of the masonry graves have been largely buried in deposits, notably one east-west directed slabbed marker (Photo 11-58). Two of the abutting fields (zones 3 and 6) were bare of tradewares, but one ploughed field to the east (zone 2) contained "early" and "Ming" pieces. Approximately 180 metres to the east lies Pakkala Toa Timur. A Swatow piece was found in a field (zone 4), 100 metres from a venerated grave consisting of two stones 1.6 metres apart along an east-west axis (in zone 1). There were no signs of looting and locals denied it had occurred, although Pakkala is known to have produced a few antiques (A. Rasyid S., pers. comm.). In any case the small tradewares sample covers a very long period (Figure 11-27), and the Islamic burials, at least, would date from the 17th century.

11.7.5 Overview

As the story has it, Gowa's legendary second ruler born of the *Tomanurung*, Massalangga Barayang, had ascended (disappeared) on the north side of Jonggoa (SG:12; Figure 2-2).[42] Jonggoa mentioned above is the only instance at all near Gowa, and I was disappointed by the lack of evidence to identify it as a very old toponym. On reflection, I see the story invokes Jonggoa (Ujung Gowa) to say that Massalangga Barayang ascended at "the end-point of Gowa" rather than to identify some particular place where this occurred.

In one sense, though, the Aeng cluster marks the end-point of Gowa. It includes Makassar's southernmost fortifications at Barombong; the place where the Bungaya treaty was signed; Aeng(toa), where greater Gowa prepared a major defensive post unbreached during the 1667 Makassar War (LB:133; Andaya, 1981:90-97 pass.); and Batu-Batu, which the offensive forces occupied (LB:134). It includes two karaengships associated

[42] As might be expected of a figure of Massalangga Barayang's prowess, his ascent was marked by an appropriate display from the firmaments, in this case a crack of lightning and a downpour of hot rain.

with important Tallok nobles (Barombong and Summanak) and two karaengships, apparently outside the major lineage groups, mentioned in the mid-17th century genealogical records (Bungaya and Batu-Batu). Interestingly, Aeng(toa) is absent from the genealogical records, even though it was clearly the cluster's central place.[43] It is tempting to link the early 17th century gap in Aengtoa's tradewares profile (Figure 11-24) with an emigration to surrounding kampungs, especially Barombong, in response to greater Gowa's heightened interest in the area.

In return, Aeng's elite members would appear to have maintained a resilient independence during the juncture. Probably their pride still dwelt in the recent past when Aeng either ruled a little polity along the Aeng-Kaballokang river, or enjoyed the status of being old Garassik's junior partner.

11.8 The Antiquity of "Makassar"

The sites included in Speelman's precolonial Makassar together show a tradewares profile which sweeps upwards from the 13th-14th centuries, peaks in the 16th and early 17th centuries, and drops sharply thereafter (Figure 11-23). The early 16th century appears as the specific apogee; although this is partly an artefact of analysis,[44] it does correspond to when powerful neighbouring kingdoms - Gowa, Tallok and Siang - took a sharp interest in the Garassik delta (Figure 4-7). The conversion of 15th century Garassik into a major port by the early 16th century is also clear from Paiva's 1544 description.

The evidence strongly indicates considerable trading activity here by the 13th-14th centuries. On top of the early pieces at the "Makassar" sites themselves (Figure 11-23), the area surely served as the seafront for the importation of the far greater share of early ceramics at sites along the middle Jeknekberang (Chapters 6 to 9). In addition, rechanneling of

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[43] Not only the site consistently close to the cluster's spatial centre (Figure 11-5), but also the largest site in the cluster and a complex burial ground (Figure 11-23).
[44] See footnotes 16 and 17.

the Garassik-Jeknekberang delta has destroyed many sites. The older a site, the greater the chance of its destruction, and so the oldest phases of Makassar's tradeware profile could well be systematically underrepresented.

The Javanese poem *Deśawarṇana* (*Nagarakertagama*) of 1365 cites "Makasar", along with Selayar, among the "islands" known to the east (Pigeaud, 1960:16-17). However, both Pelras (1981:154) and, more forcefully, Reid (1983a) argue that this Makasar was not the same place as 17th century Makassar. In Reid's view, trade to the Makassar area before c.1500 was almost entirely restricted to the south coast, and earlier references to "Makassar" involved the Bajau inhabiting the southwest coast's offshore islands. Reid's first point is disproved by the ceramics evidence (although I cannot comment on whether or not the south coast enjoyed more of the early trade). Reid's second point needs adapting: several lines of evidence suggest that the Bajau played a major part in regularising South Sulawesi's early long-distance trade links, but these were Bajau based at rivermouth ports rather than on islands (11.5.2; 13.1).

Makassar is a very rare toponym. Normally, rarity of a toponym increases our confidence in making the identification, but not in this case. Makassar occurs so rarely precisely because it was a name used only by outsiders. To my knowledge, the Makassar texts always refer to 16th-17th century Makassar by another name, usually Somba Opu. In contrast Makassar to the Portuguese was virtually synonymous with South Sulawesi. In c.1515 Pires described 'Macaçar' as a large country with numerous islands (Cortesão, 1944), and the mid-16th century Portuguese records used Makassar to mean the Bugis coastline between Siang and Suppak, whose rulers Paiva had baptised (Jacobs, 1966:272-277). Hence "Makasar" as cited in the *Deśawarṇana* was probably also a general placename.

The archaeological evidence, not the "identity" of the toponym, proves that Gowa and its environs enjoyed regular trade links with the wider archipelago by the 13th-14th centuries.

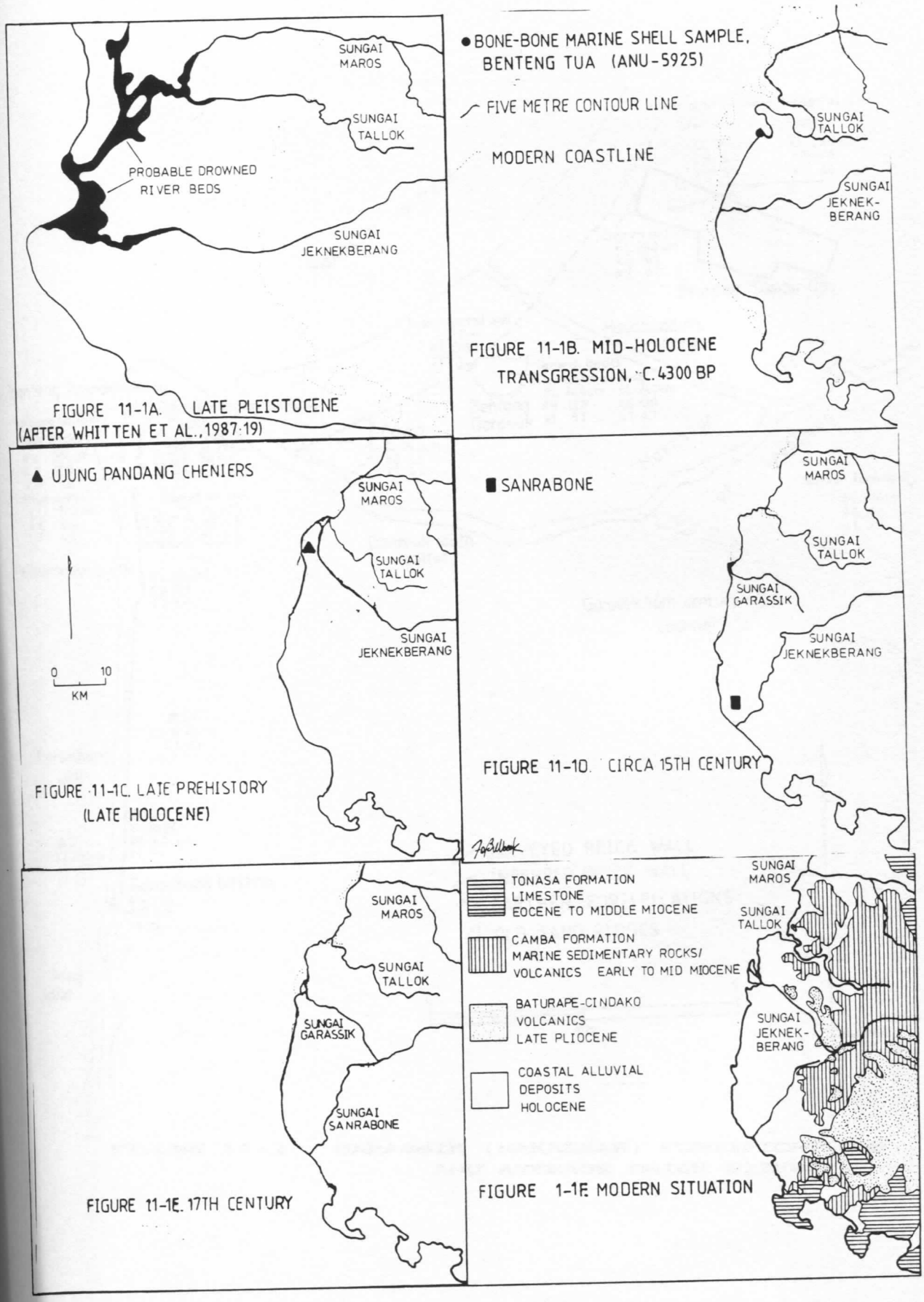


FIGURE 11-1. SUGGESTED RECONSTRUCTION OF THE GEOMORPHOLOGICAL HISTORY OF THE SOUTHWESTERN COASTAL PLAIN

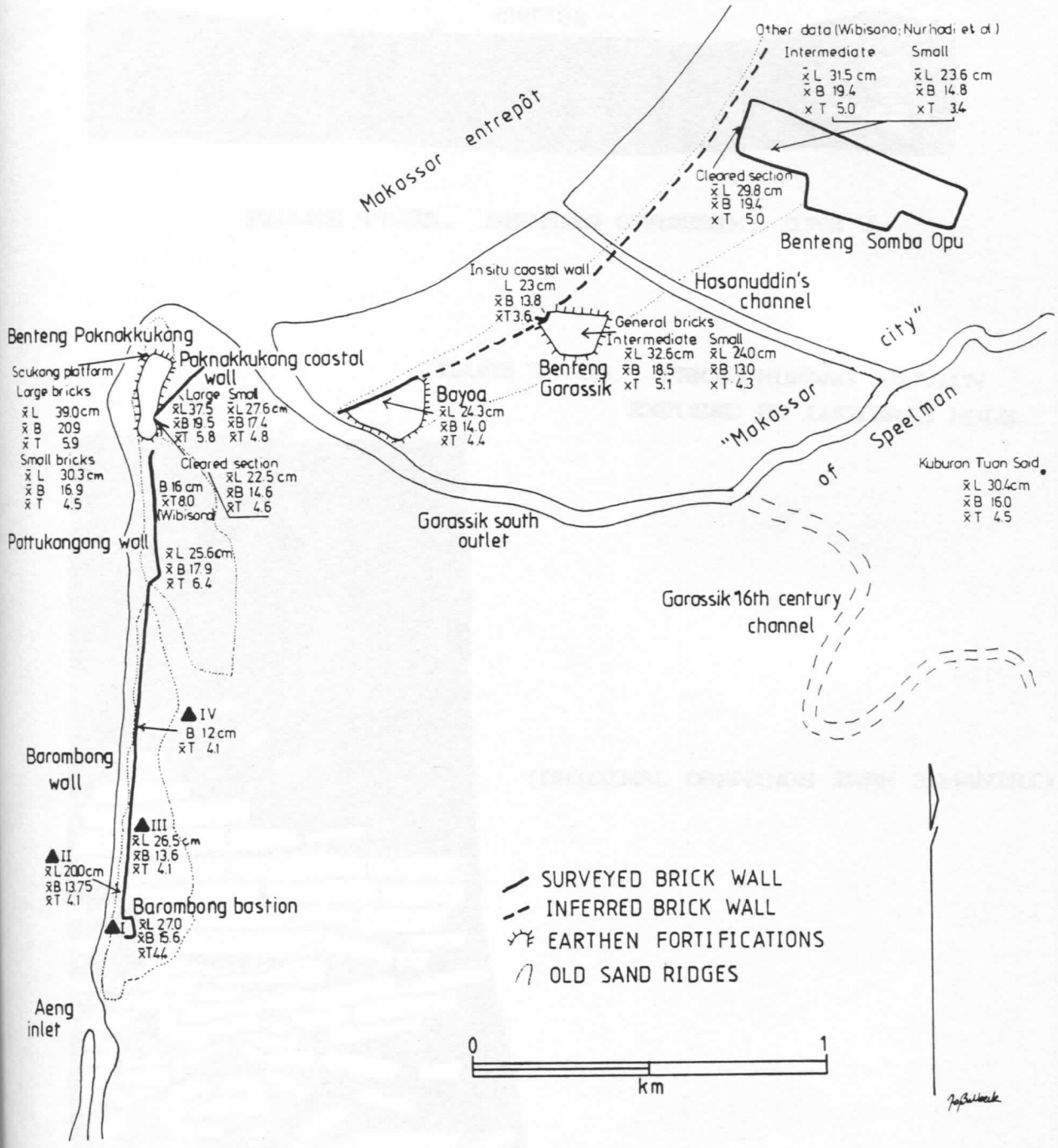


FIGURE 11-2. GARASSIK (MAKASSAR) FORTIFICATIONS AND AVERAGE BRICK SIZES

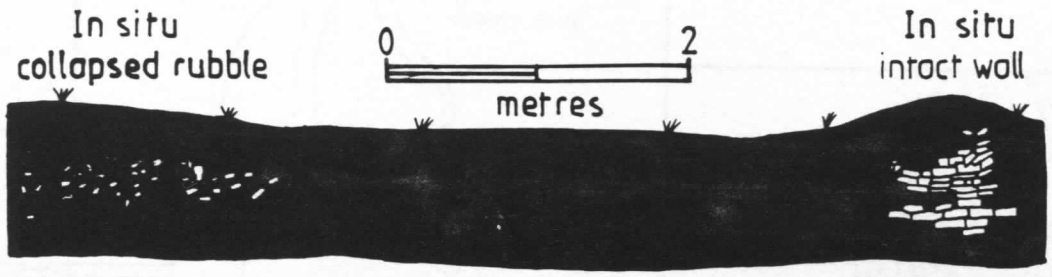
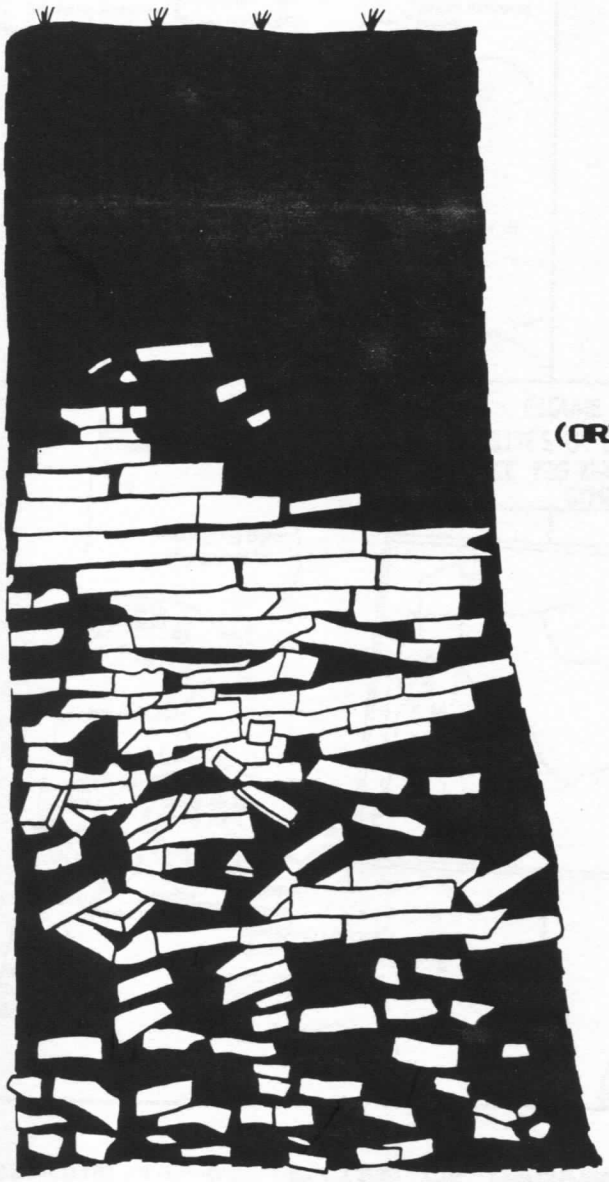


FIGURE 11-3A. BENTENG GARASSIK, ZONE 7

FIGURE 11-3B. PAKNAKKUKANG SECTION
EXPOSED BY LOOTER'S HOLE



(ORIGINAL DRAWINGS IWAN SUMANTRI)

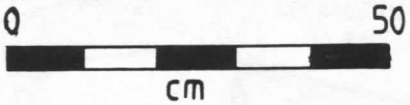


FIGURE 11-3. COASTAL WALL SECTIONS

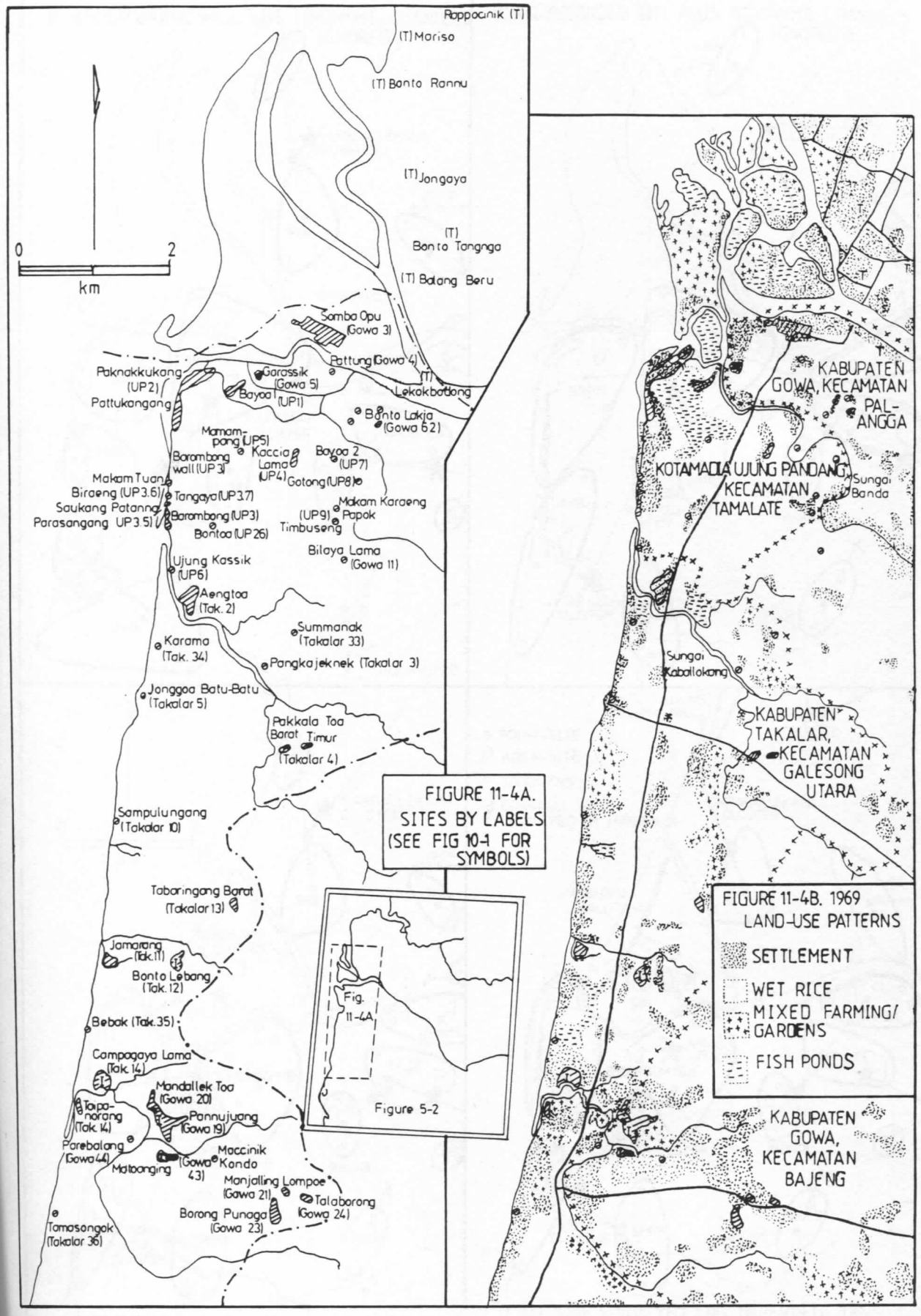


FIGURE 11-4. SITES OF GARASSIK AND NORTH POLOMBANGKENG

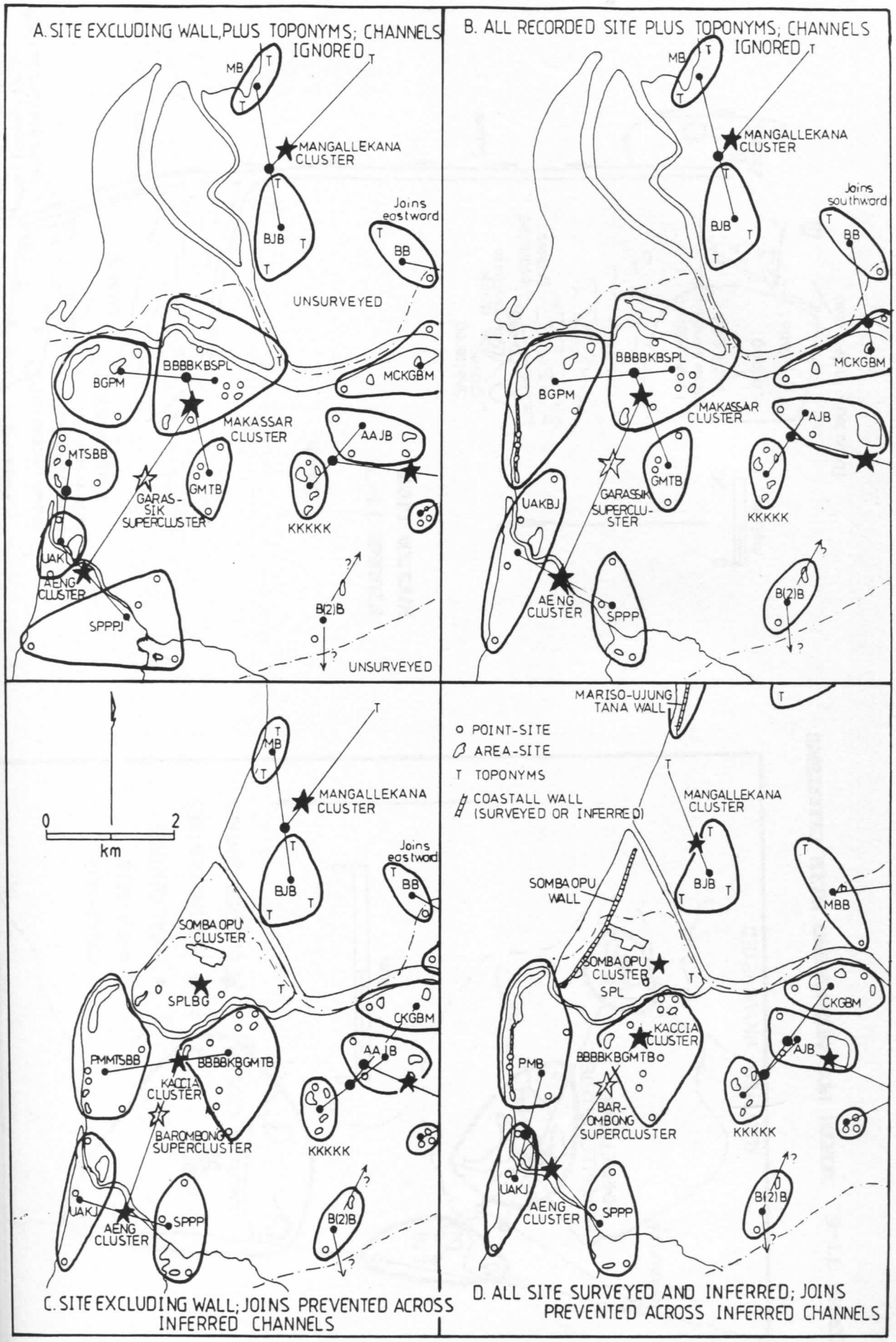


FIGURE 11-5. CLUSTERING PATTERNS OF THE GARASSIK SITES

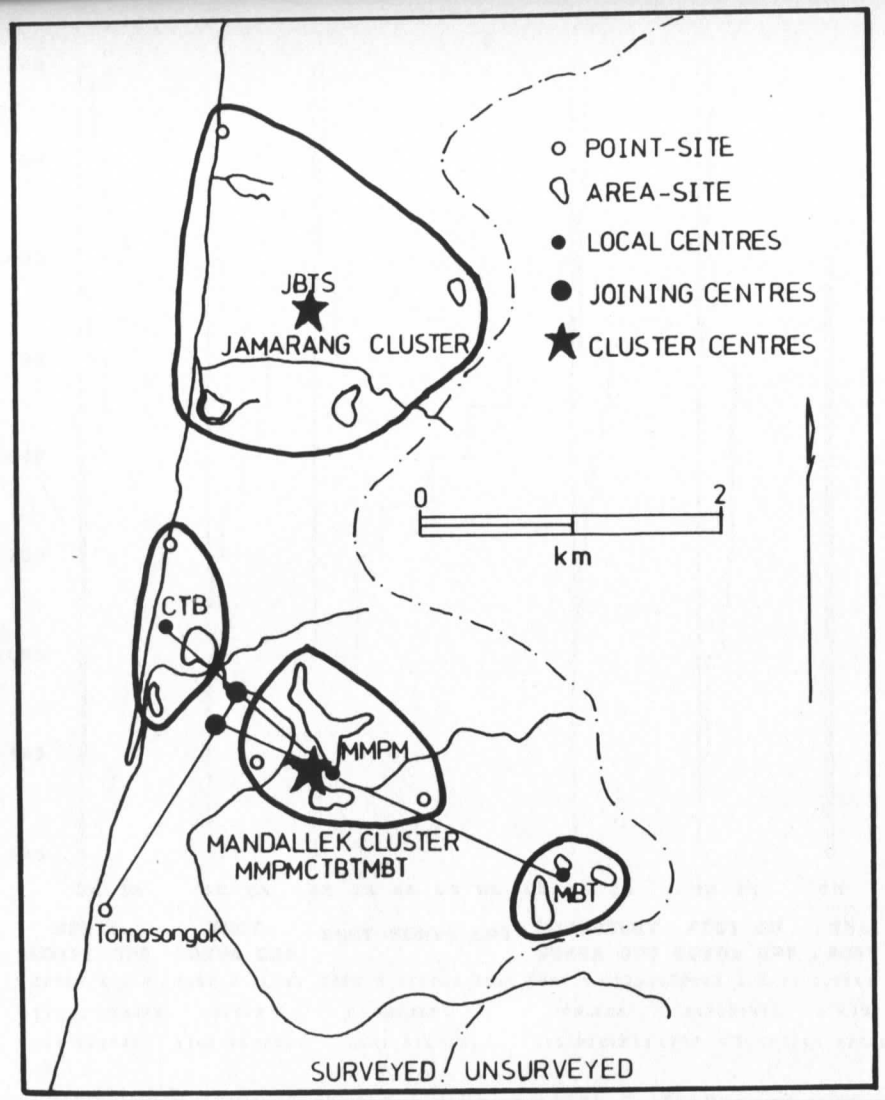


FIGURE 11-6. NORTH POLOMBANGKENG SITE CLUSTERS

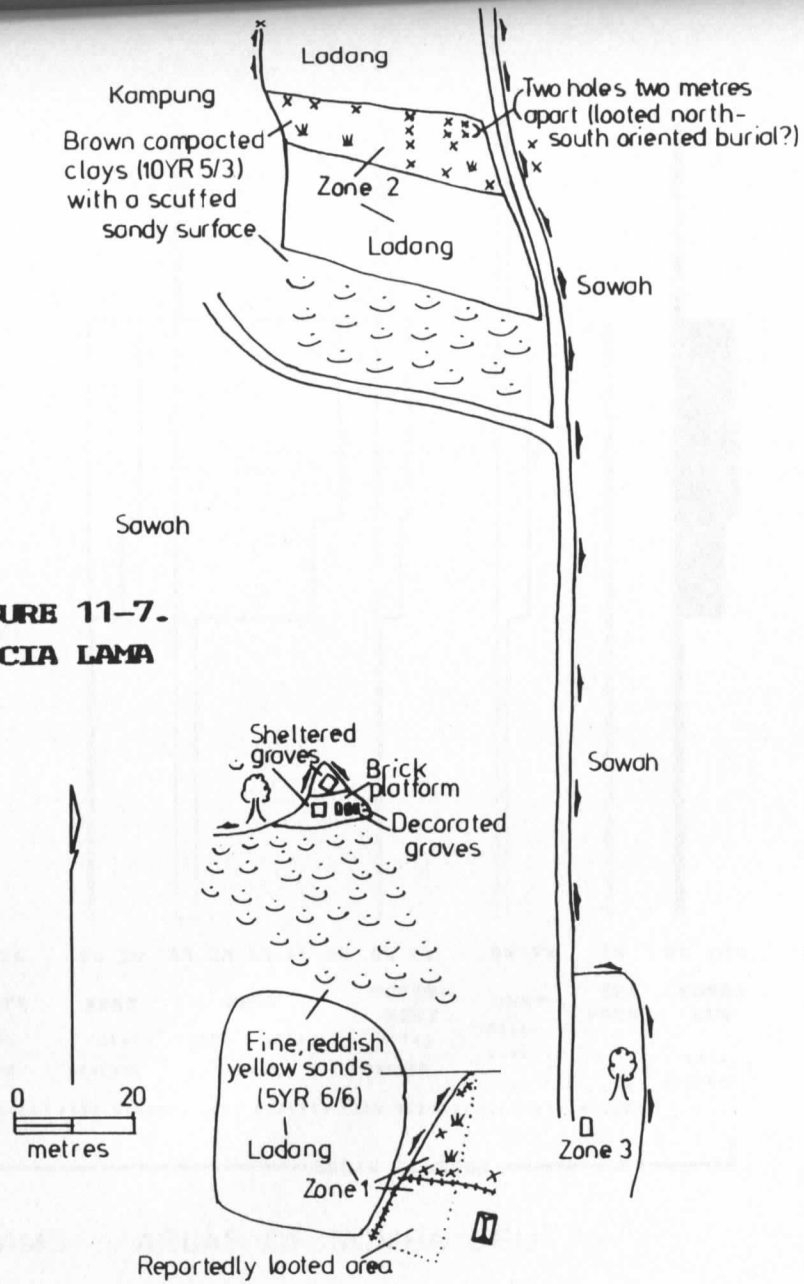


FIGURE 11-7. KACCIA LAMA

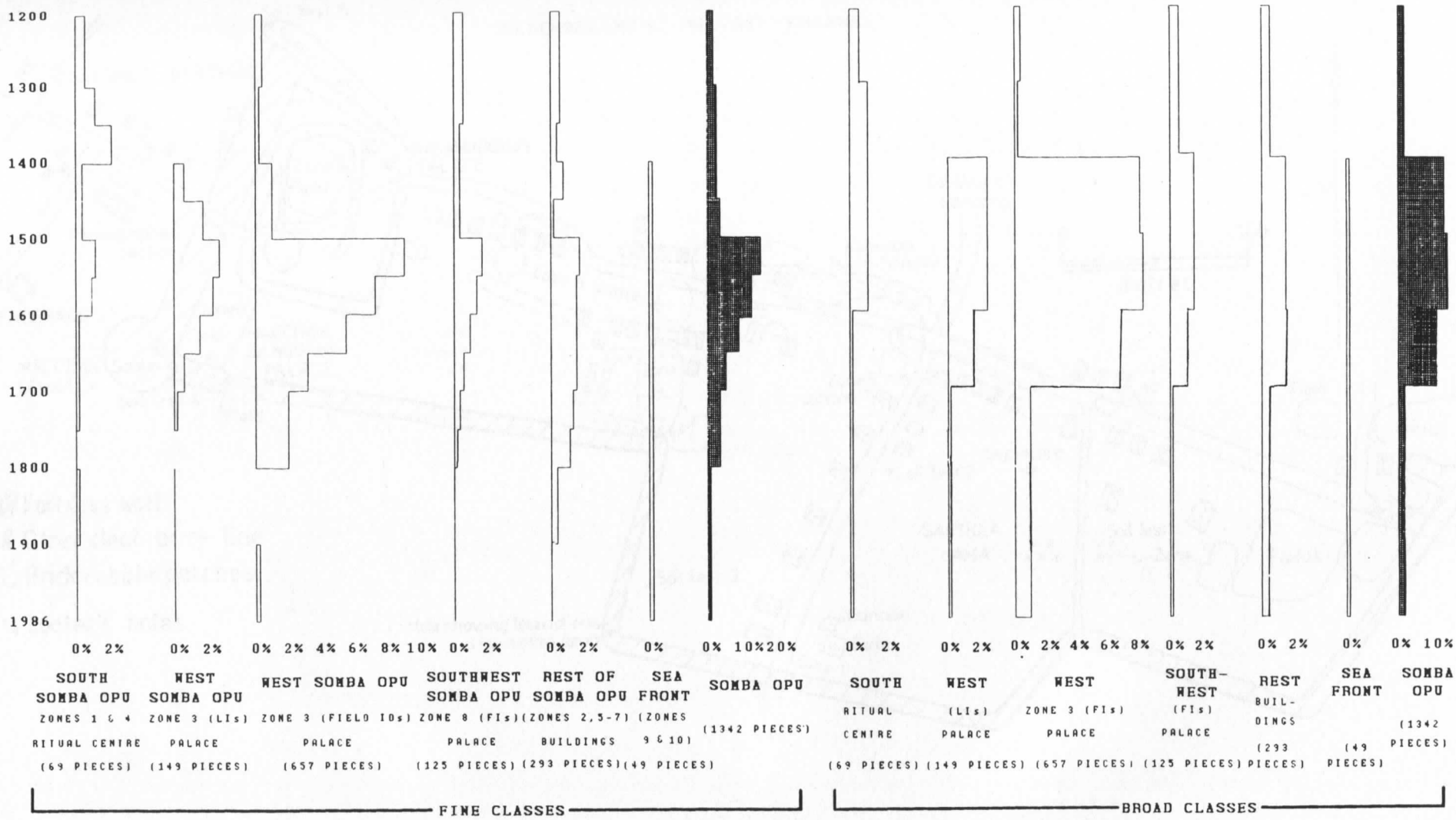


FIGURE 11-8. STANDARDISED CHRONOLOGICAL HISTOGRAMS – AREAS OF SOMBA OPU

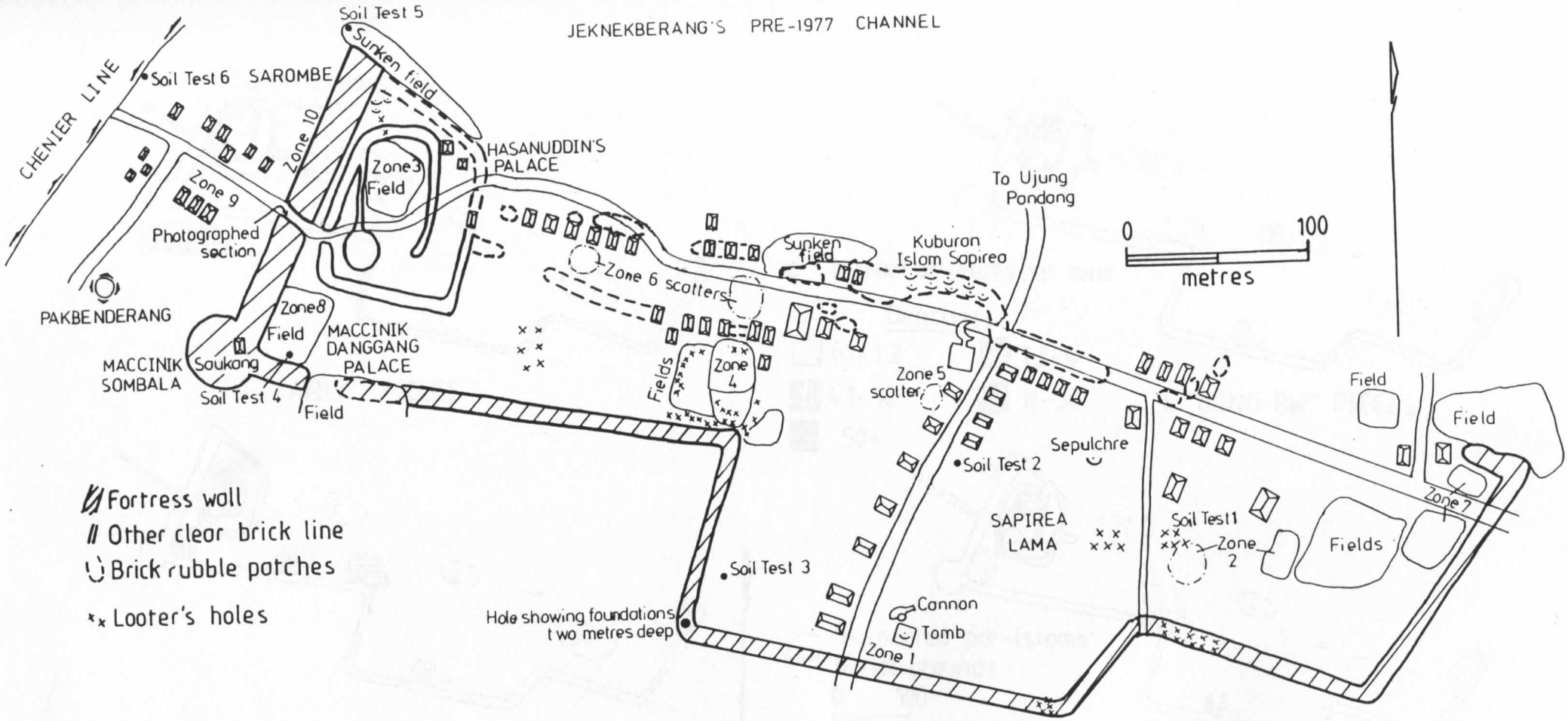


FIGURE 11-9. BENTENG SOMBA OPU

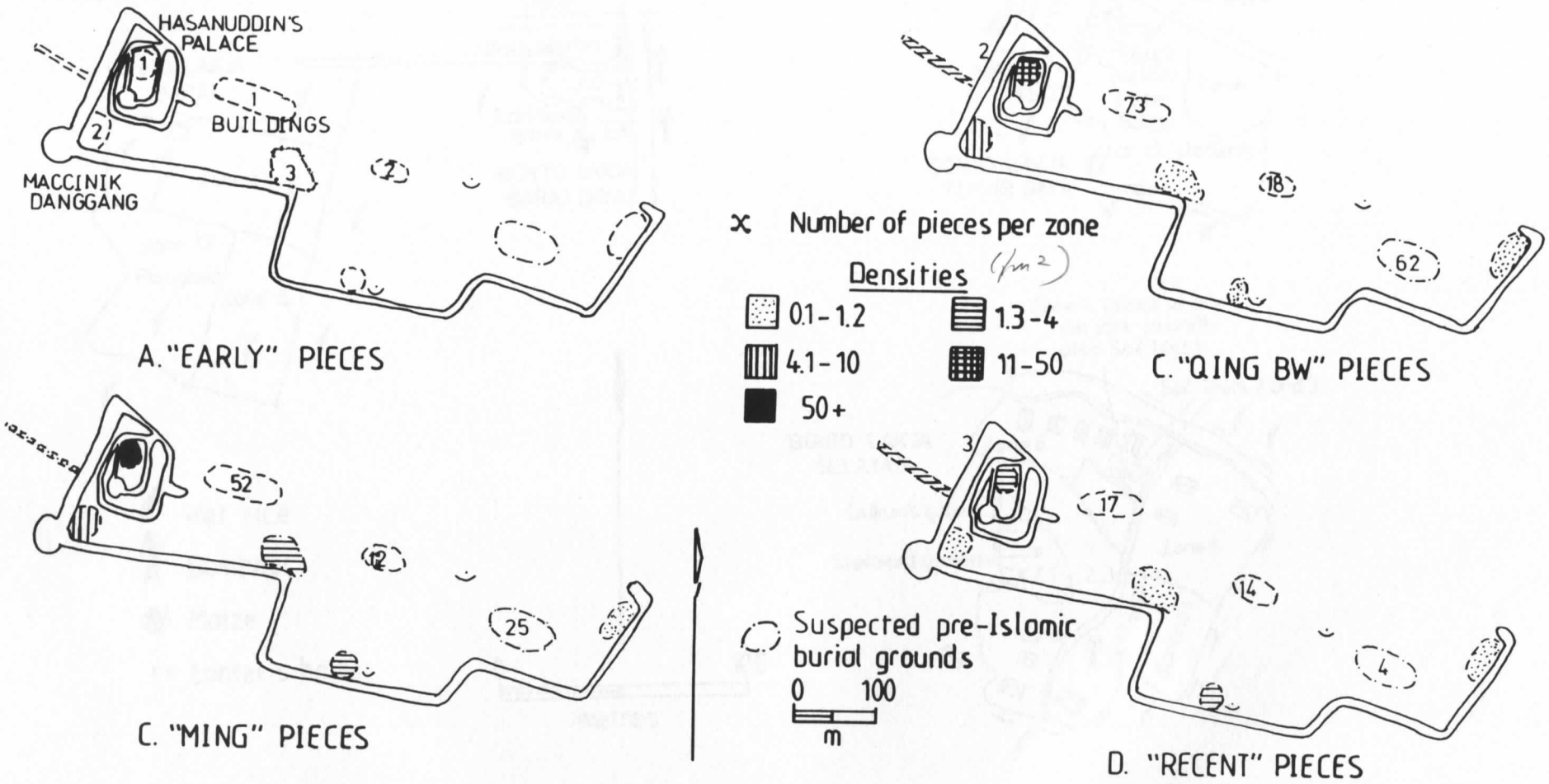


FIGURE 11-10. TRADEWARE COUNTS AND DENSITIES AT SOMBA OPU

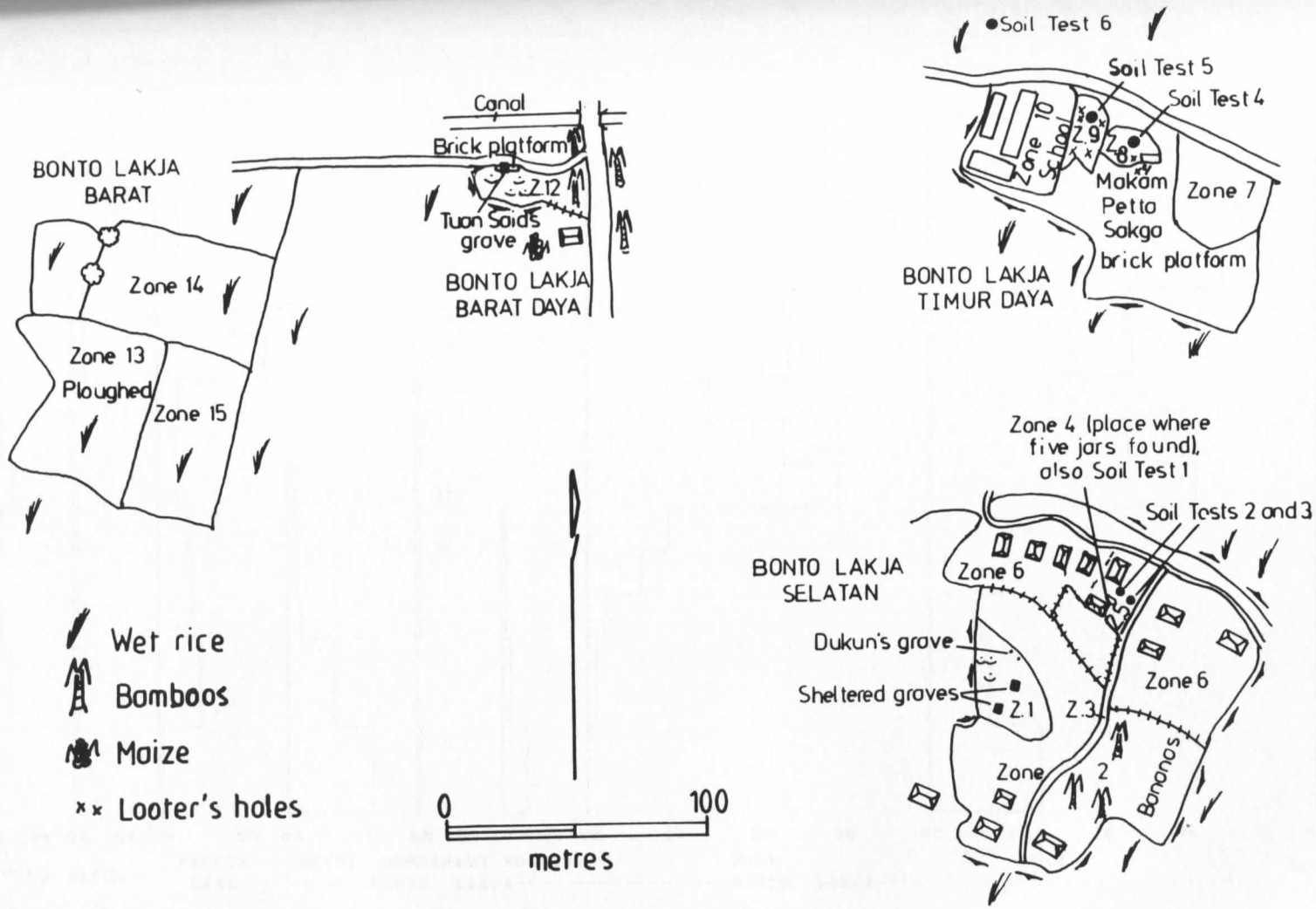


FIGURE 11-11. BONTO LAKJA

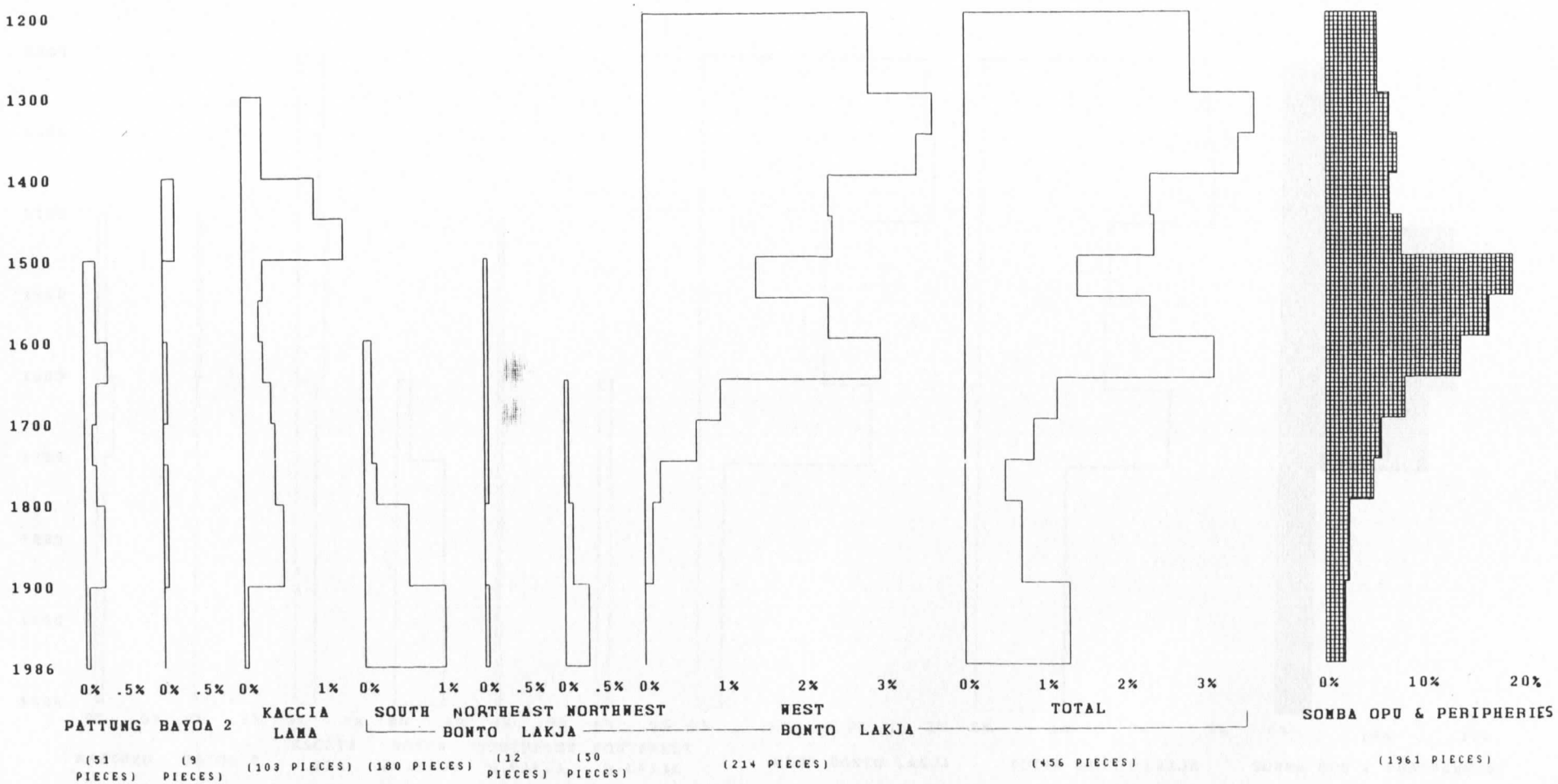


FIGURE 11-12. STANDARDISED CHRONOLOGICAL HISTOGRAMS (FINE CLASSES) – SOMBA OPU'S PERIPHERIES

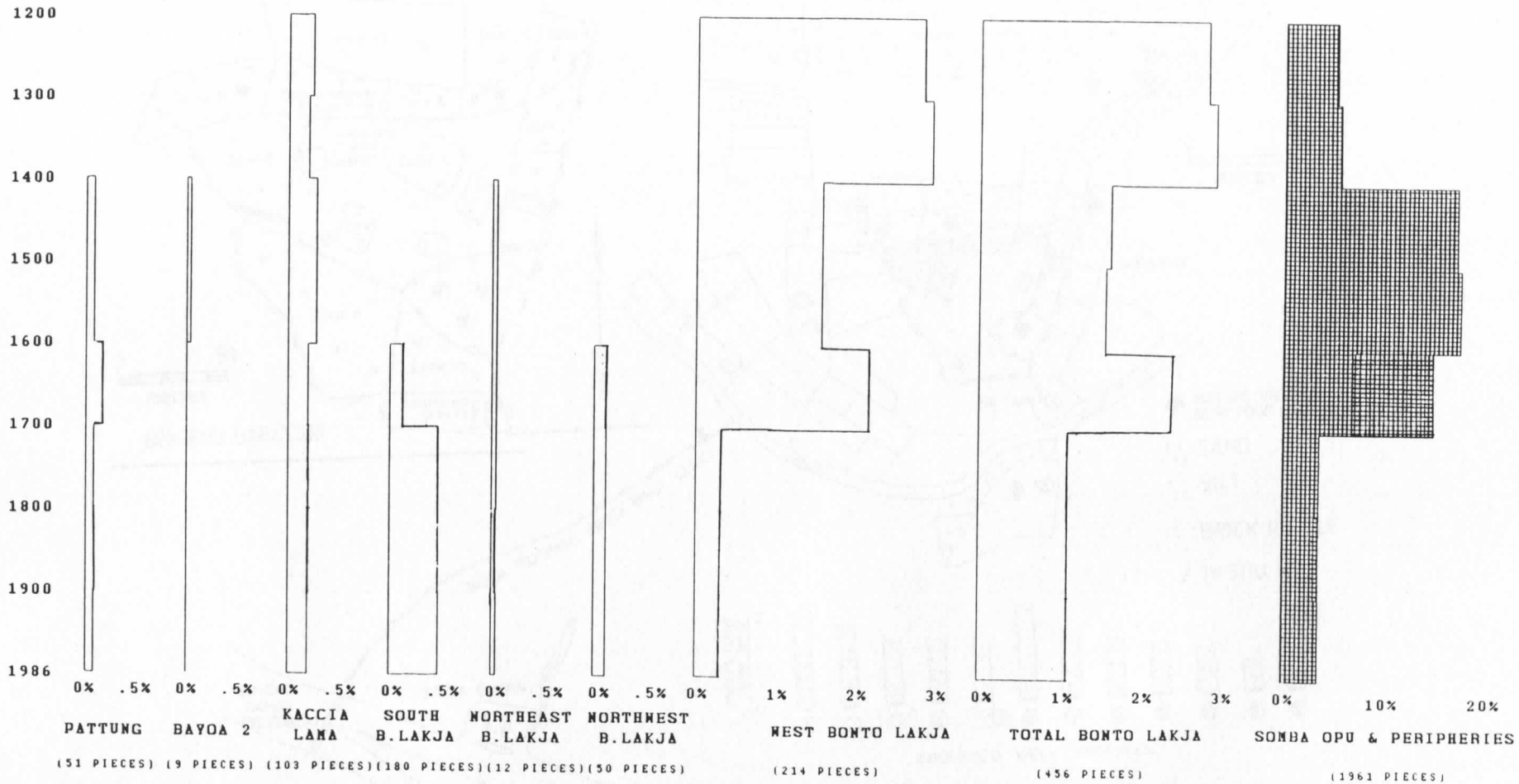


FIGURE 11-13. STANDARDISED CHRONOLOGICAL HISTOGRAMS (BROAD CLASSES) – SOMBA OPU'S PERIPHERIES

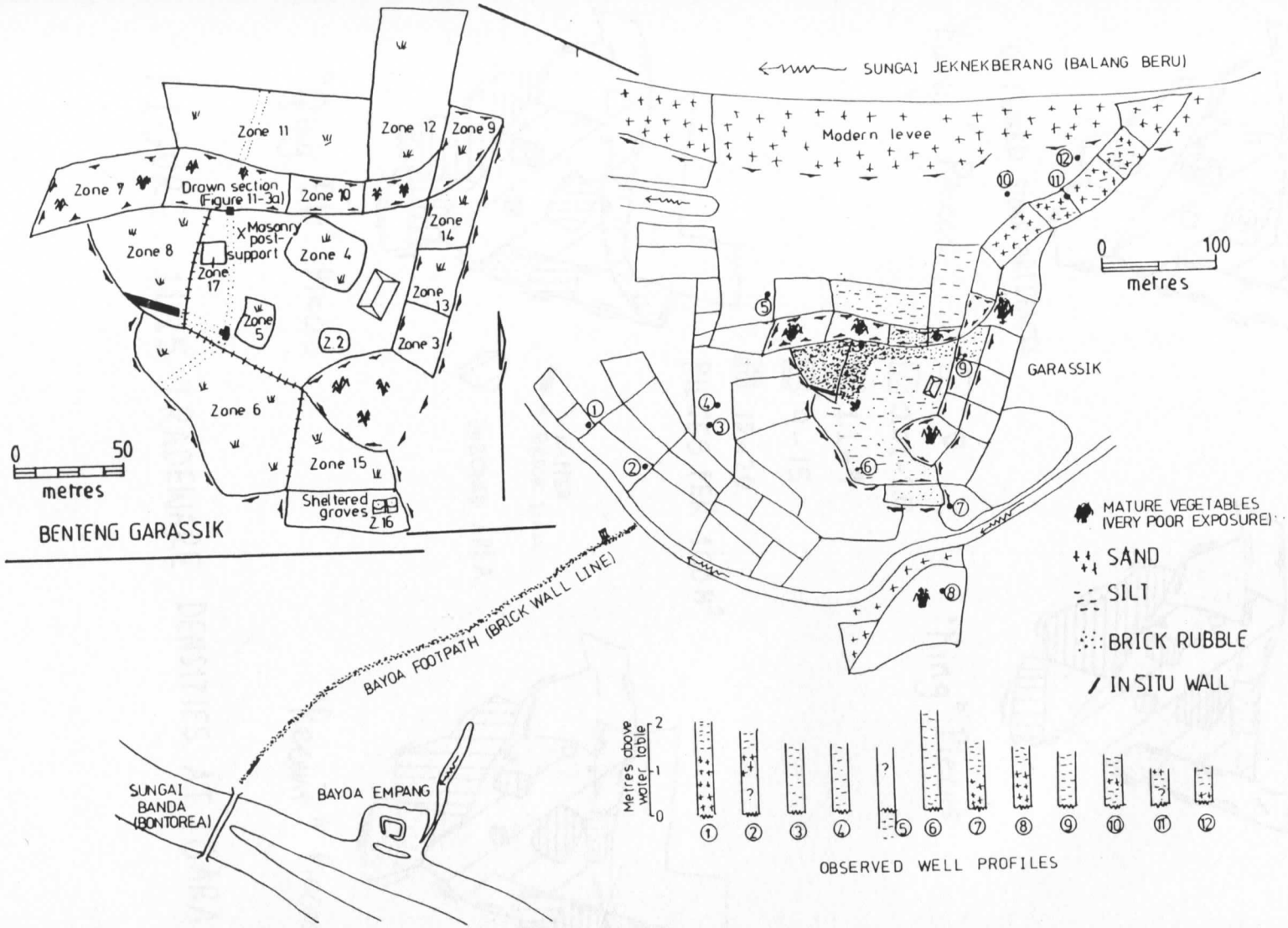


FIGURE 11-14. BENTENG GARASSIK AND ENVIRONS

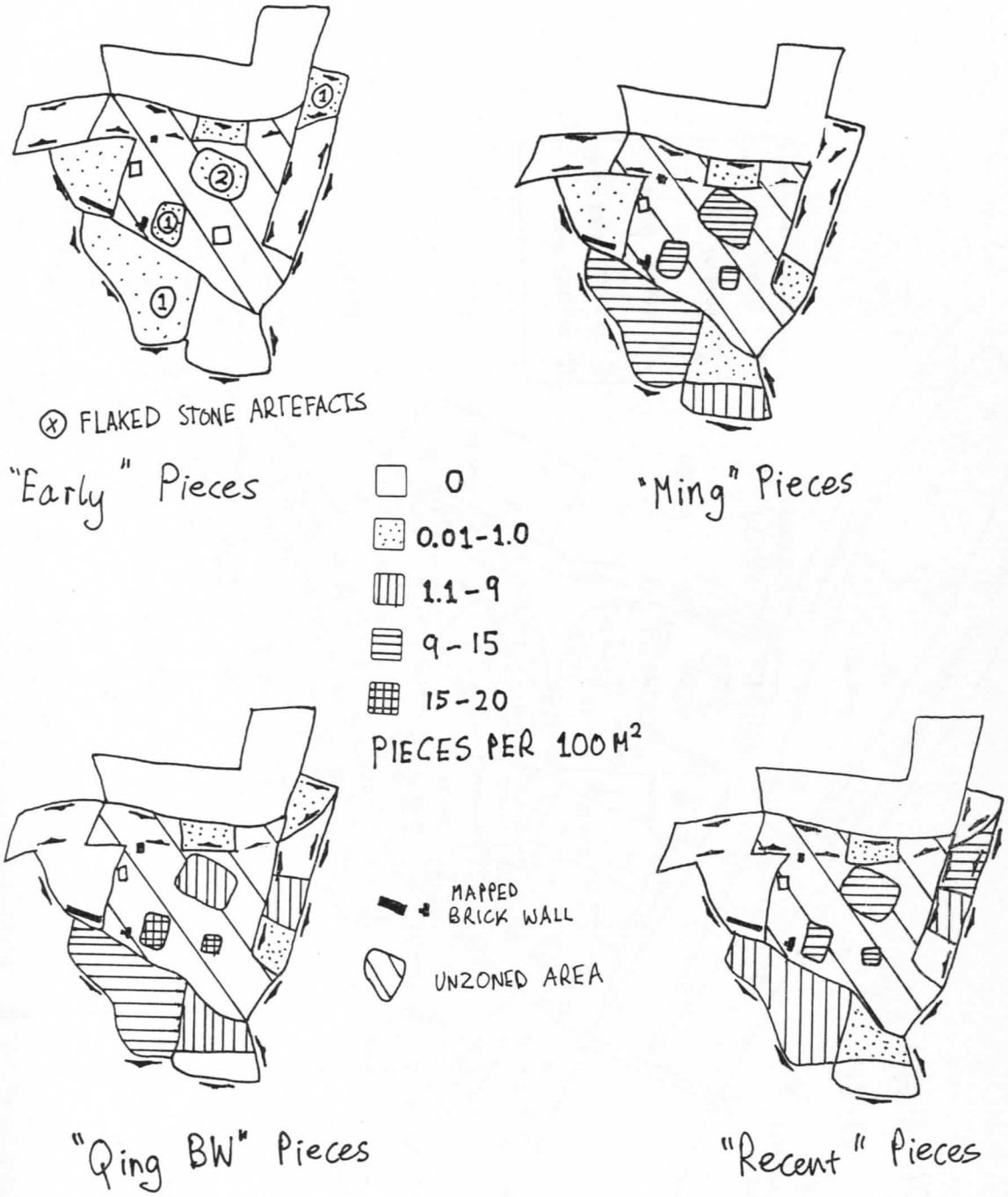


FIGURE 11-15. TRADEWARE DENSITIES AT GARASSIK

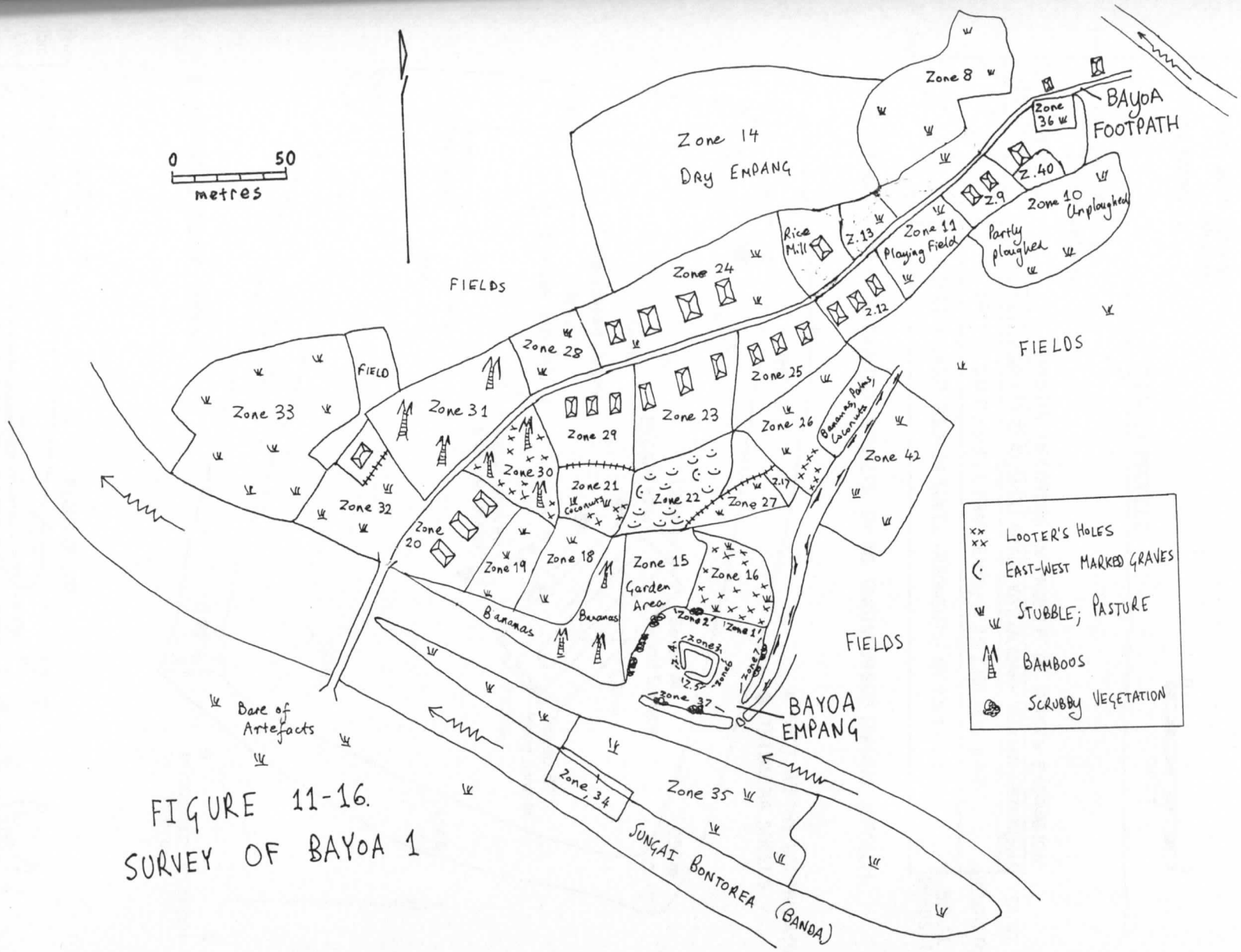


FIGURE 11-16.
SURVEY OF BAYOA 1

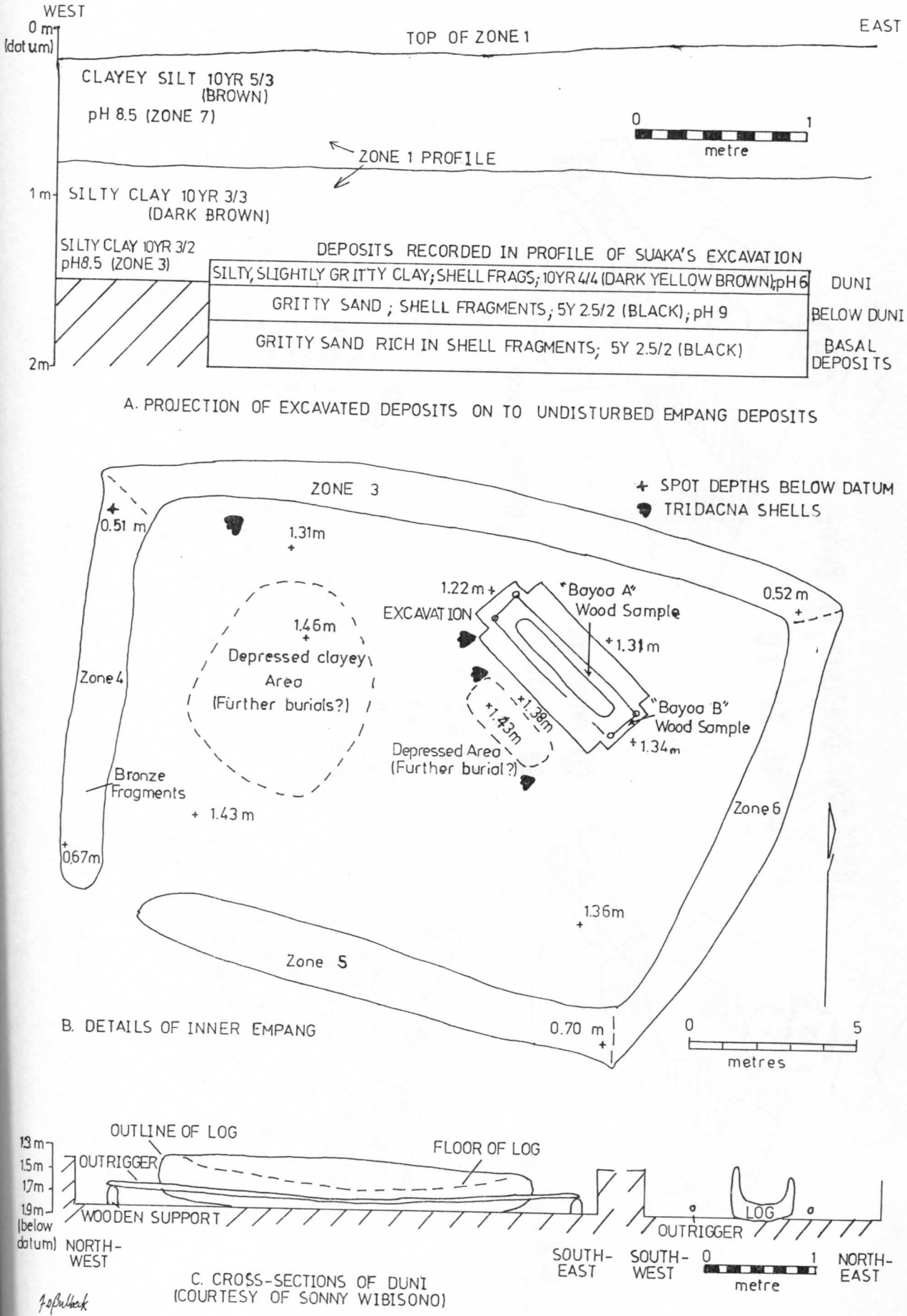


FIGURE 11-17. DETAILS OF BAYOA 1 EMPANG

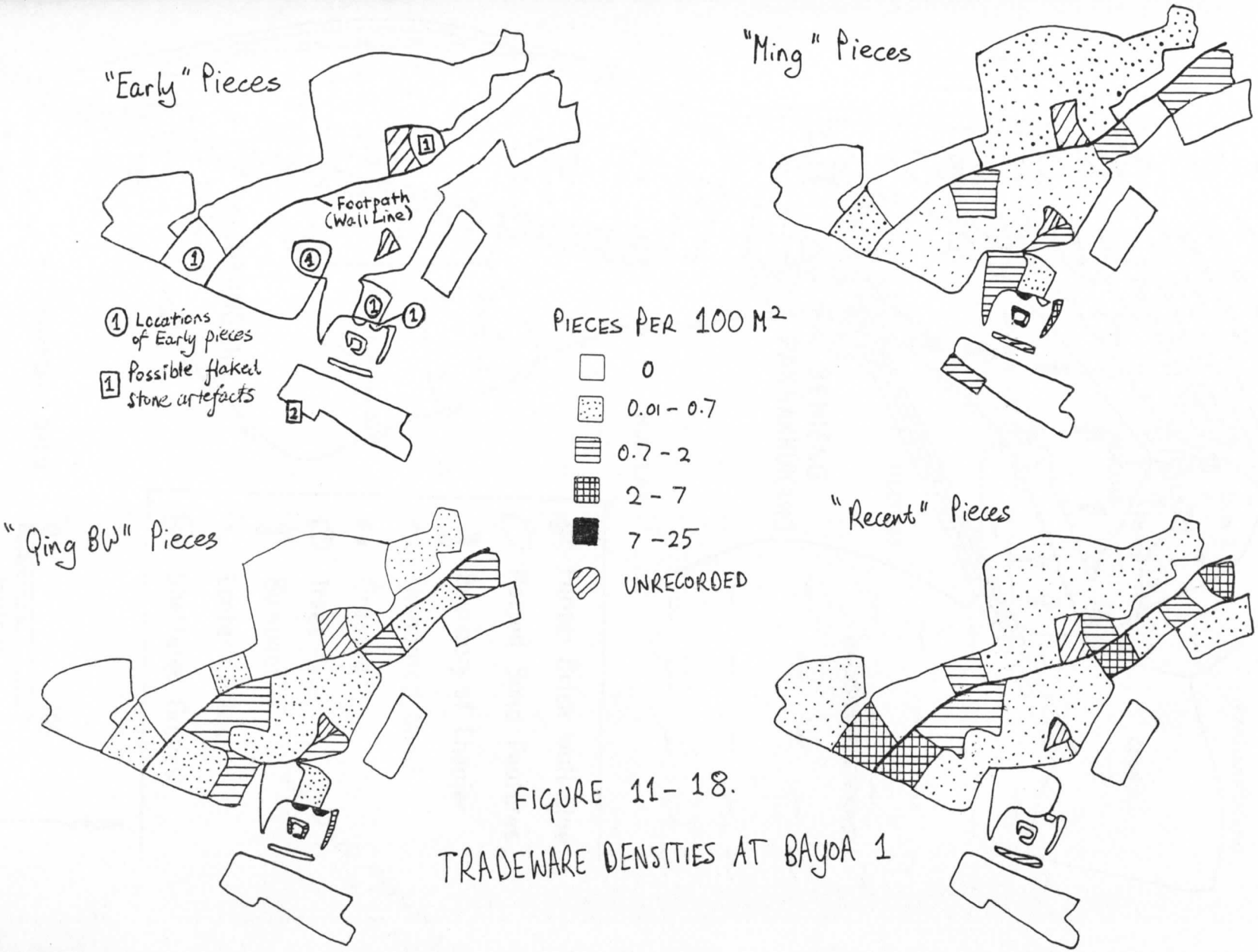


FIGURE 11-18.

TRADEWARE DENSITIES AT BAYOA 1

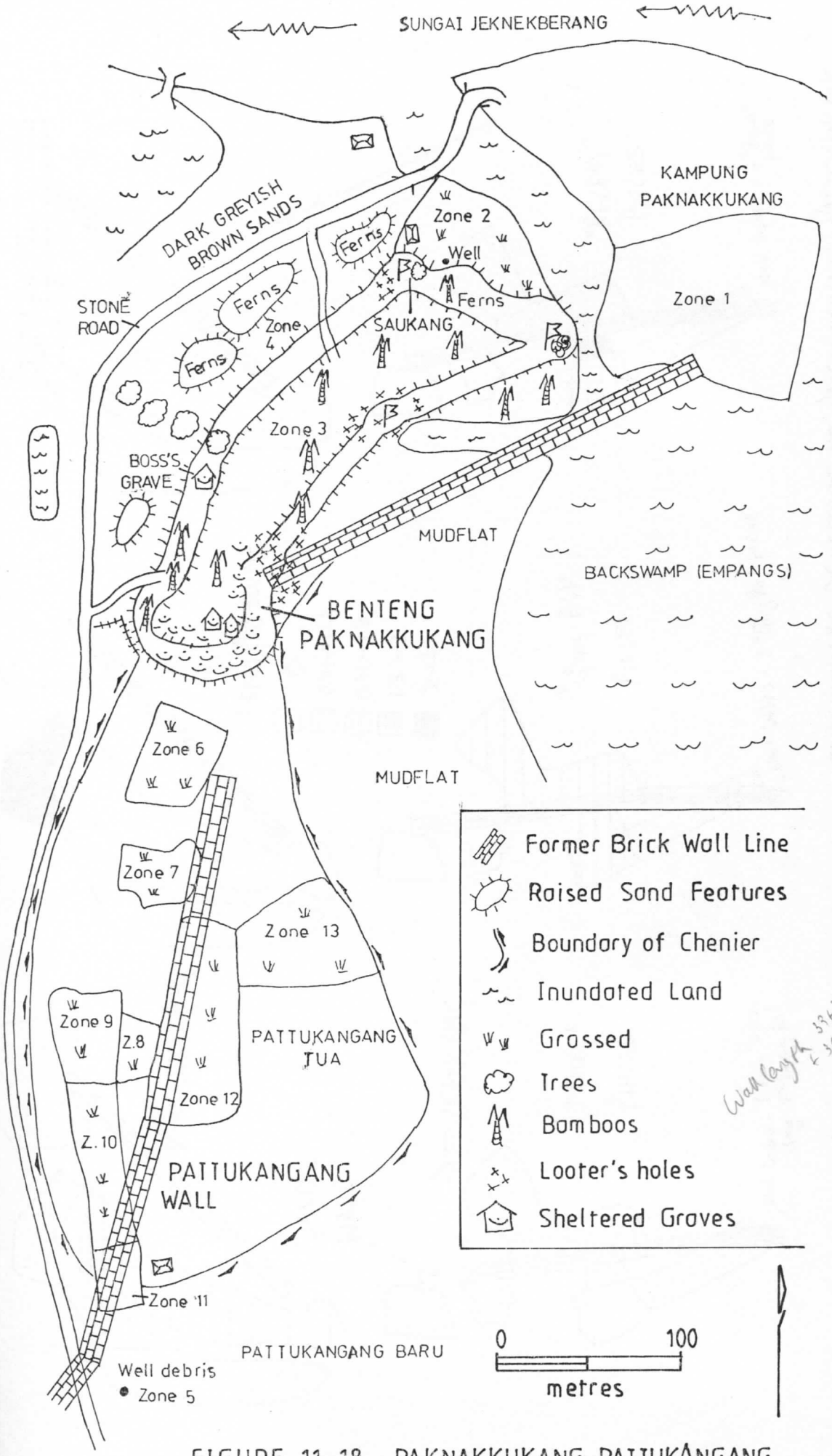


FIGURE 11-13. PAKNAKKUKANG-PATTUKANGANG

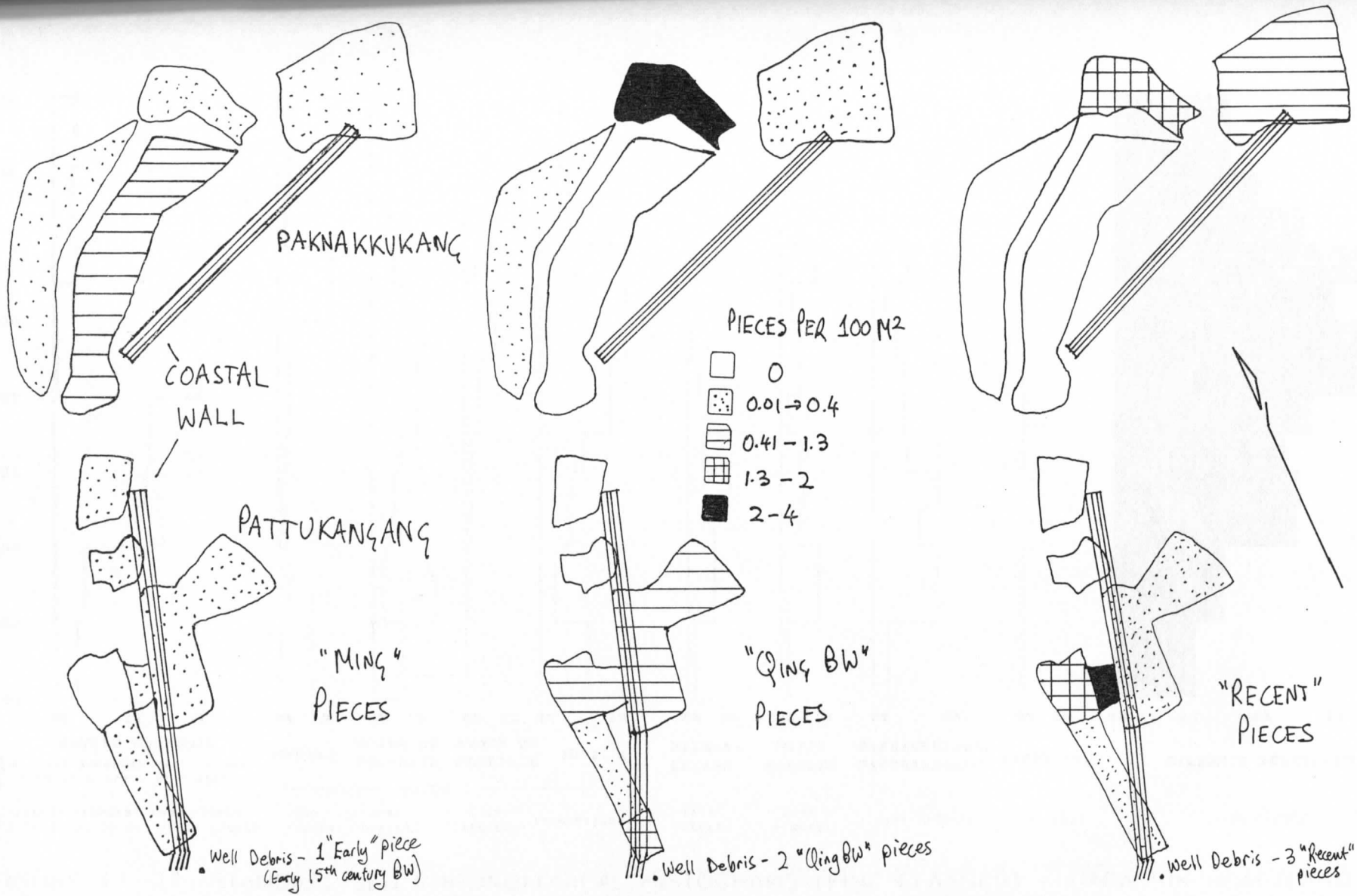


FIGURE 11-20. TRADEWARE DENSITIES AT PAKNAKKUKANG–PATTUKANGANG

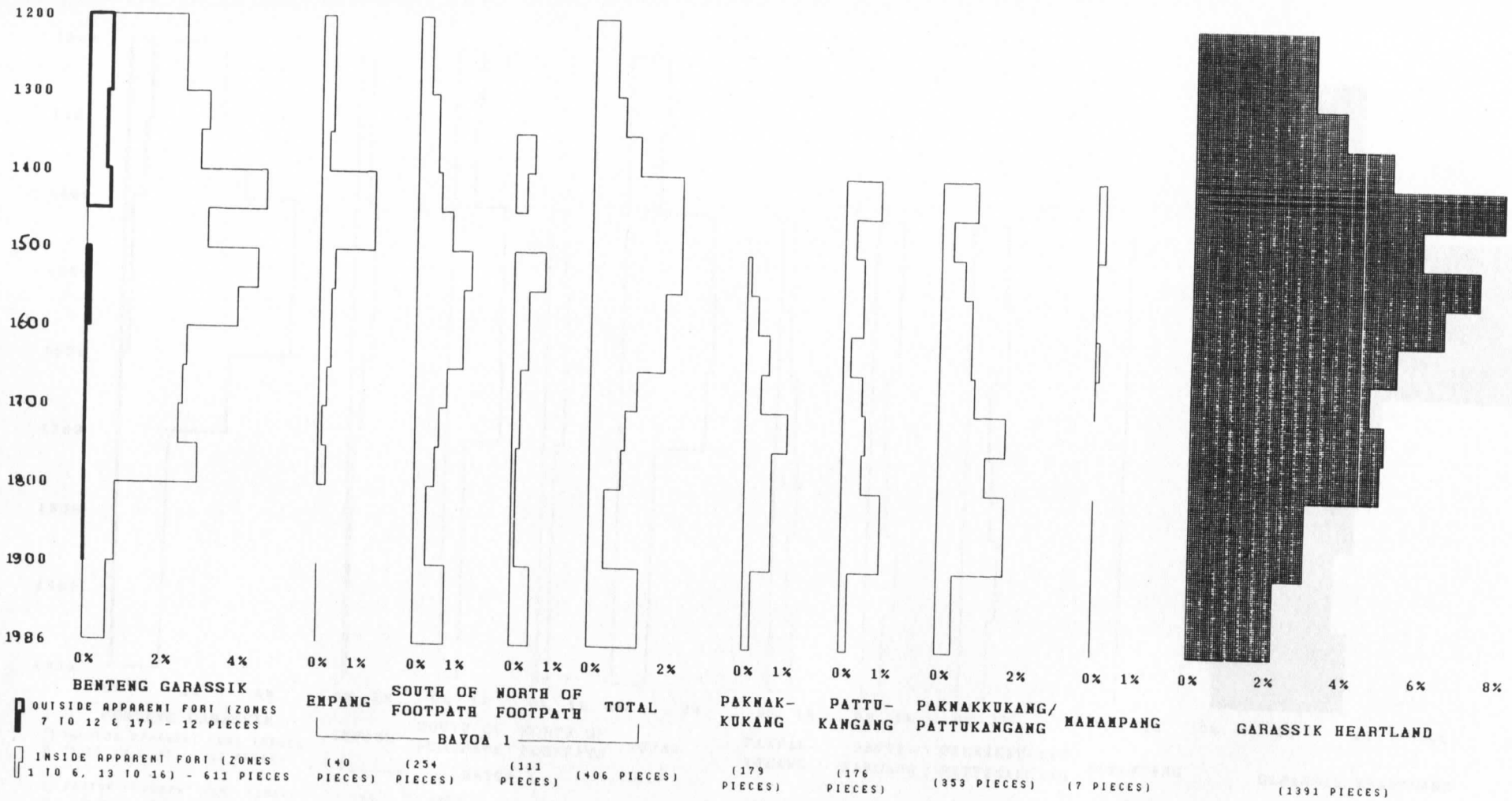


FIGURE 11-21. STANDARDISED CHRONOLOGICAL HISTOGRAMS (FINE CLASSES) – GARASSIK HEARTLAND SITES

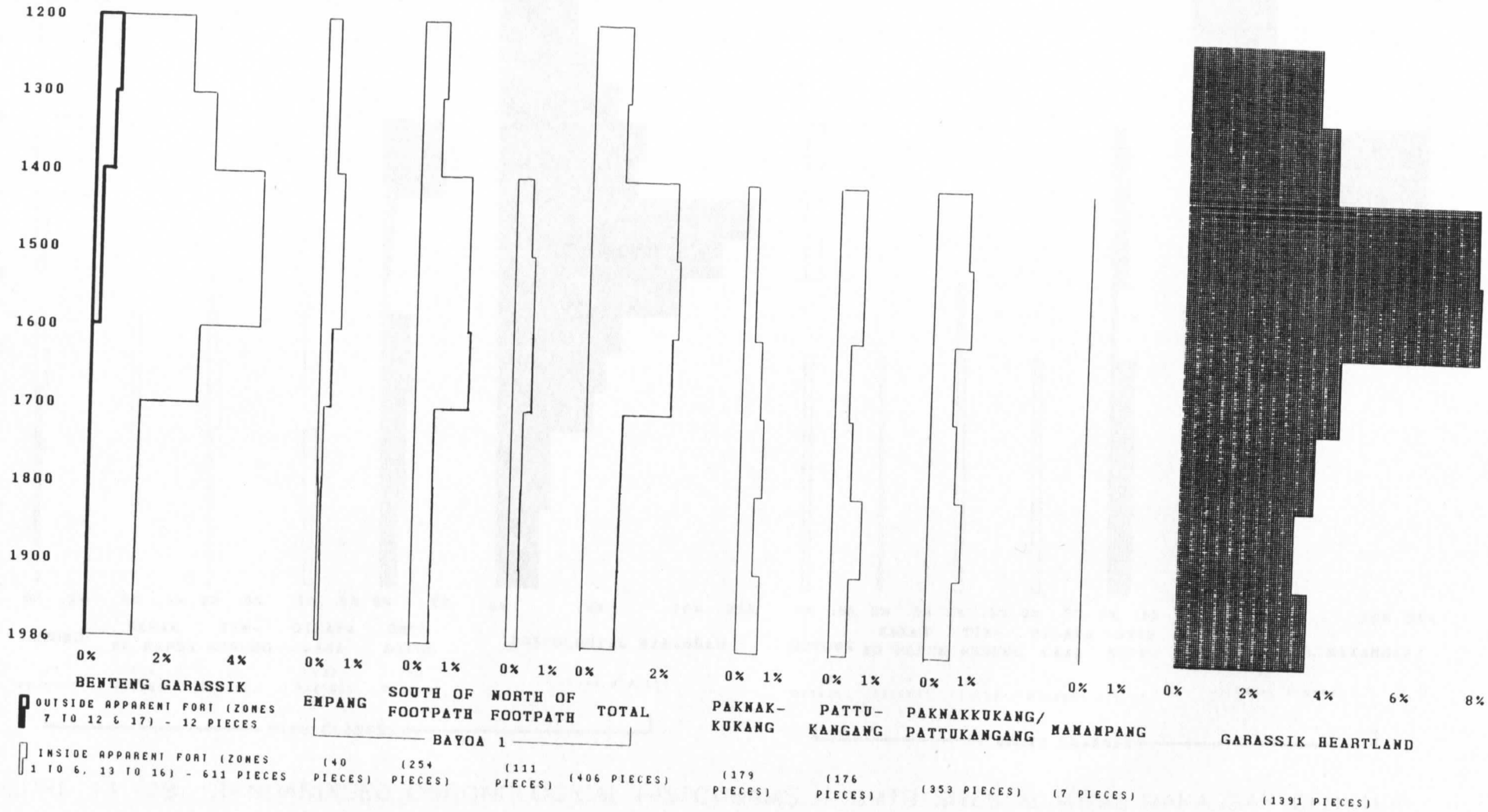


FIGURE 11-22. STANDARDISED CHRONOLOGICAL HISTOGRAMS (BROAD CLASSES)- GARASSIK HEARTLAND

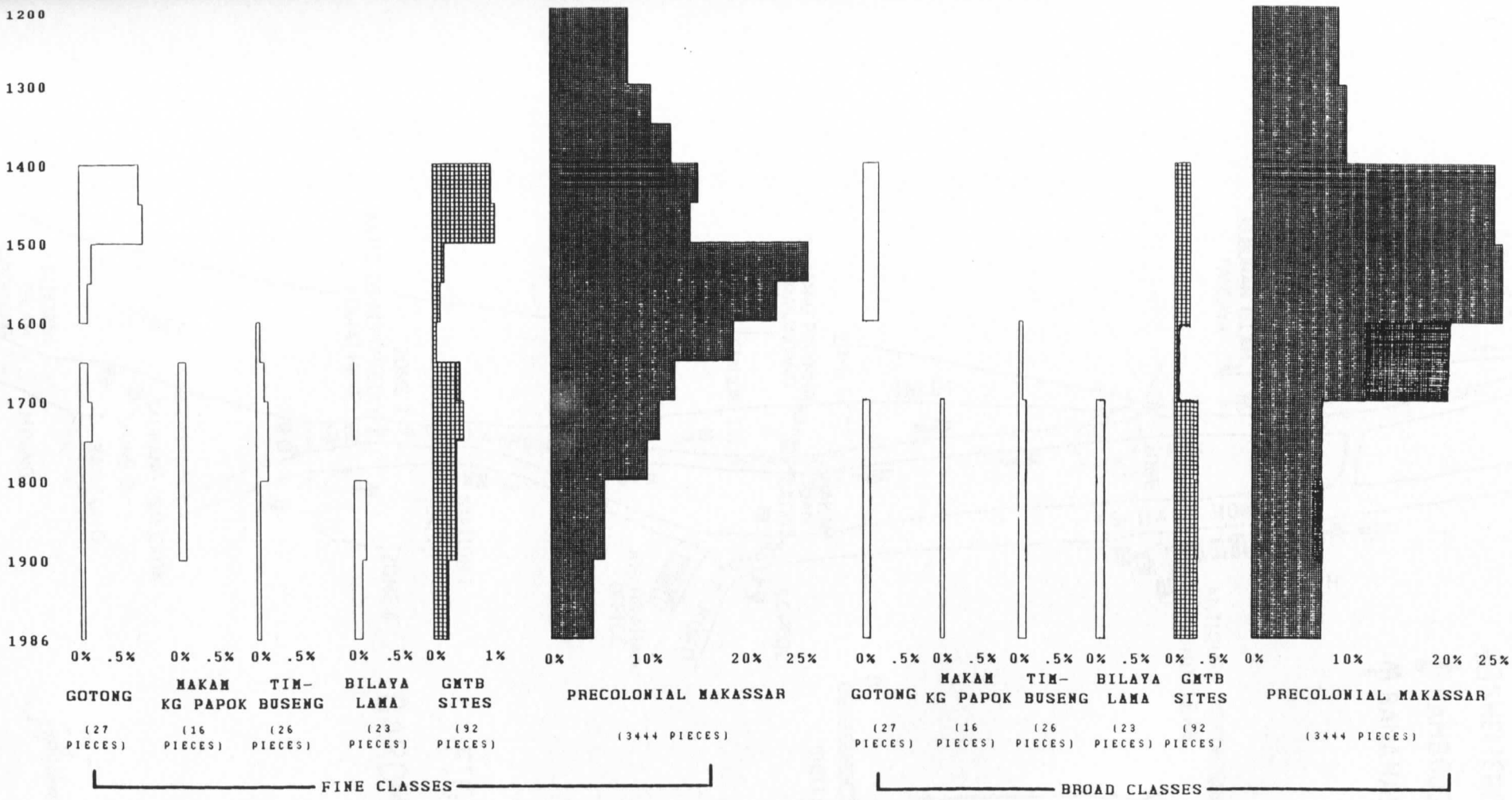


FIGURE 11-23. STANDARDISED CHRONOLOGICAL HISTOGRAMS – GMTB SITES & TOTAL MAKASSAR CLUSTER

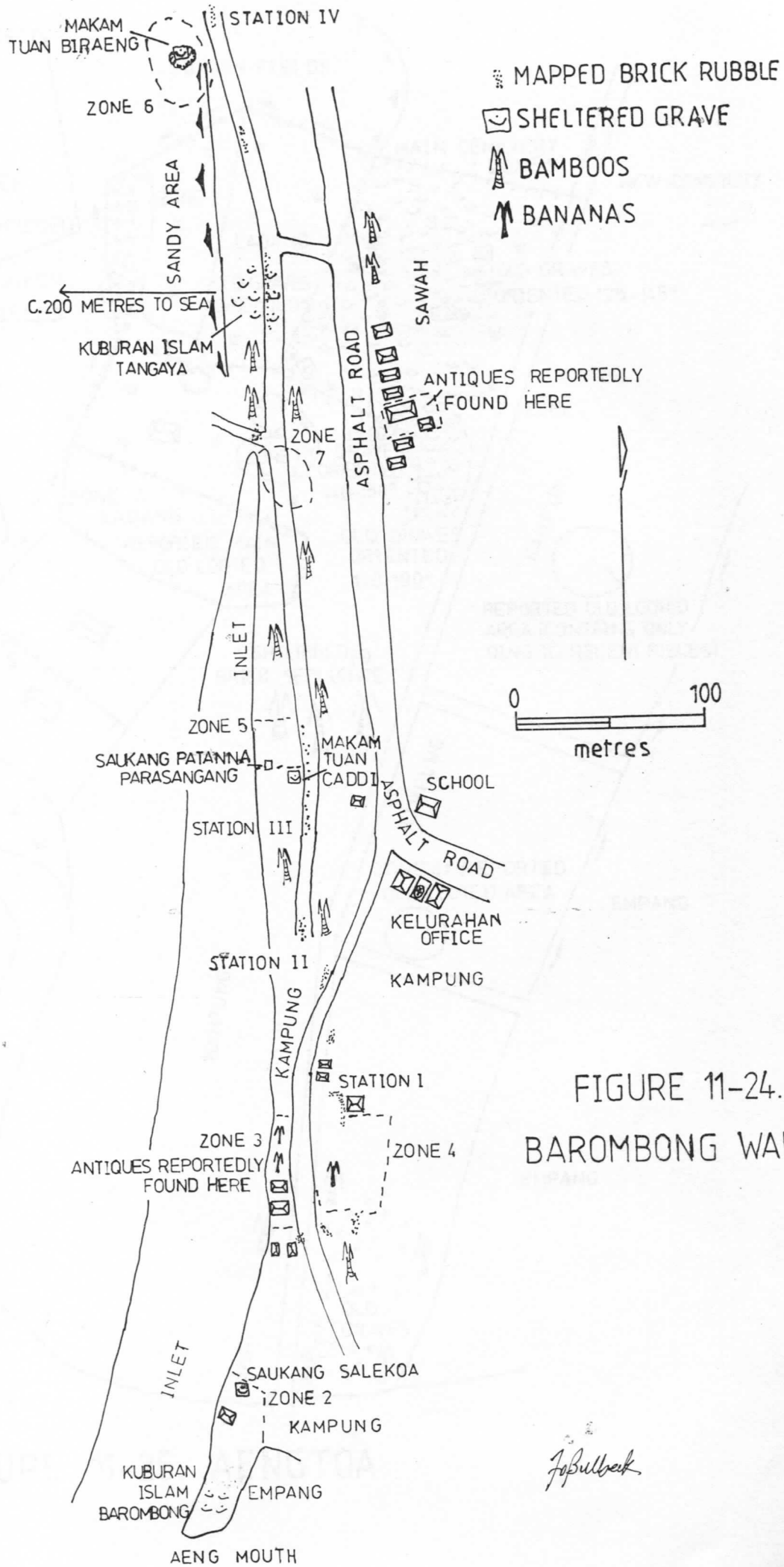


FIGURE 11-24.
BAROMBONG WALL

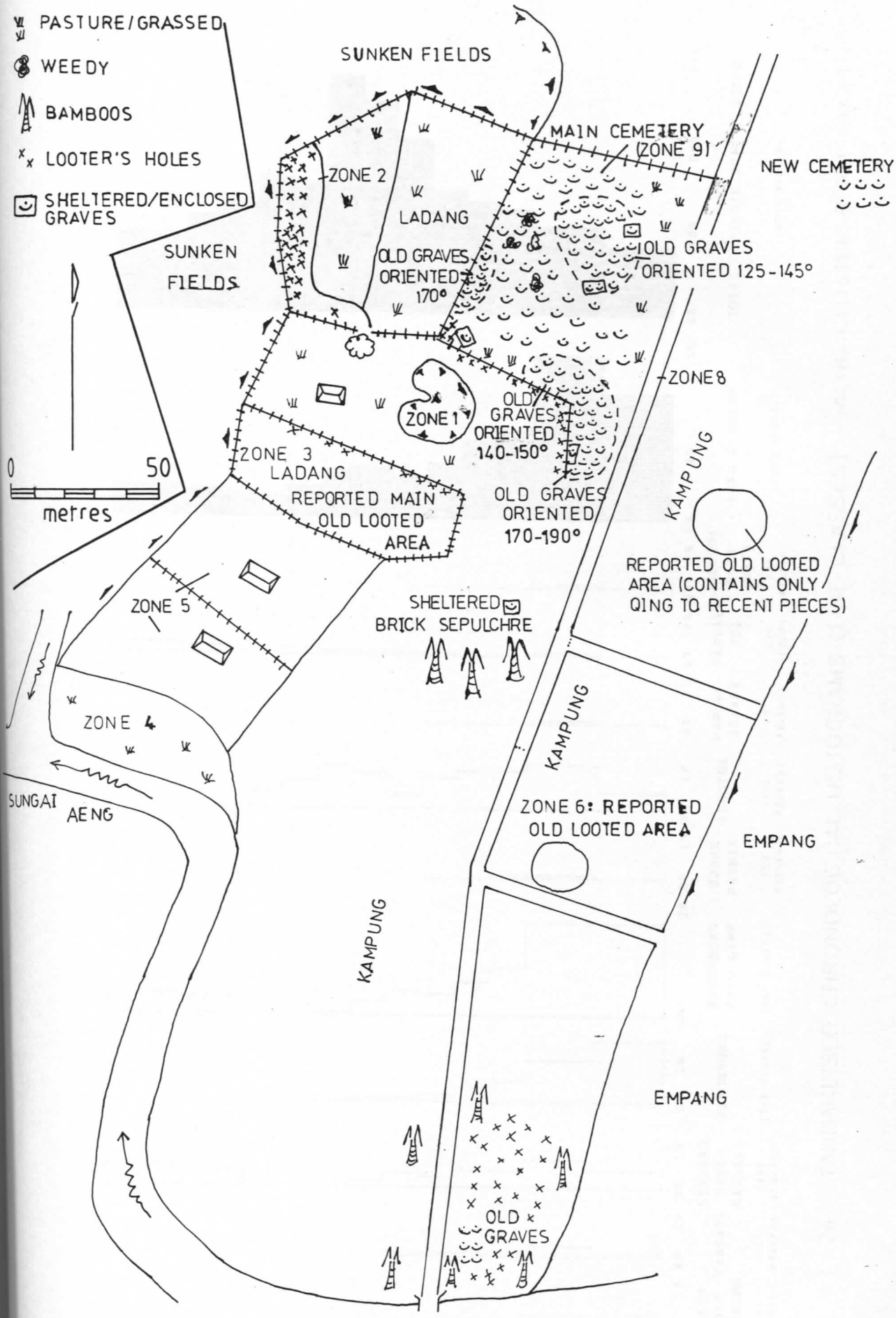


FIGURE 11-25. AENGTOA

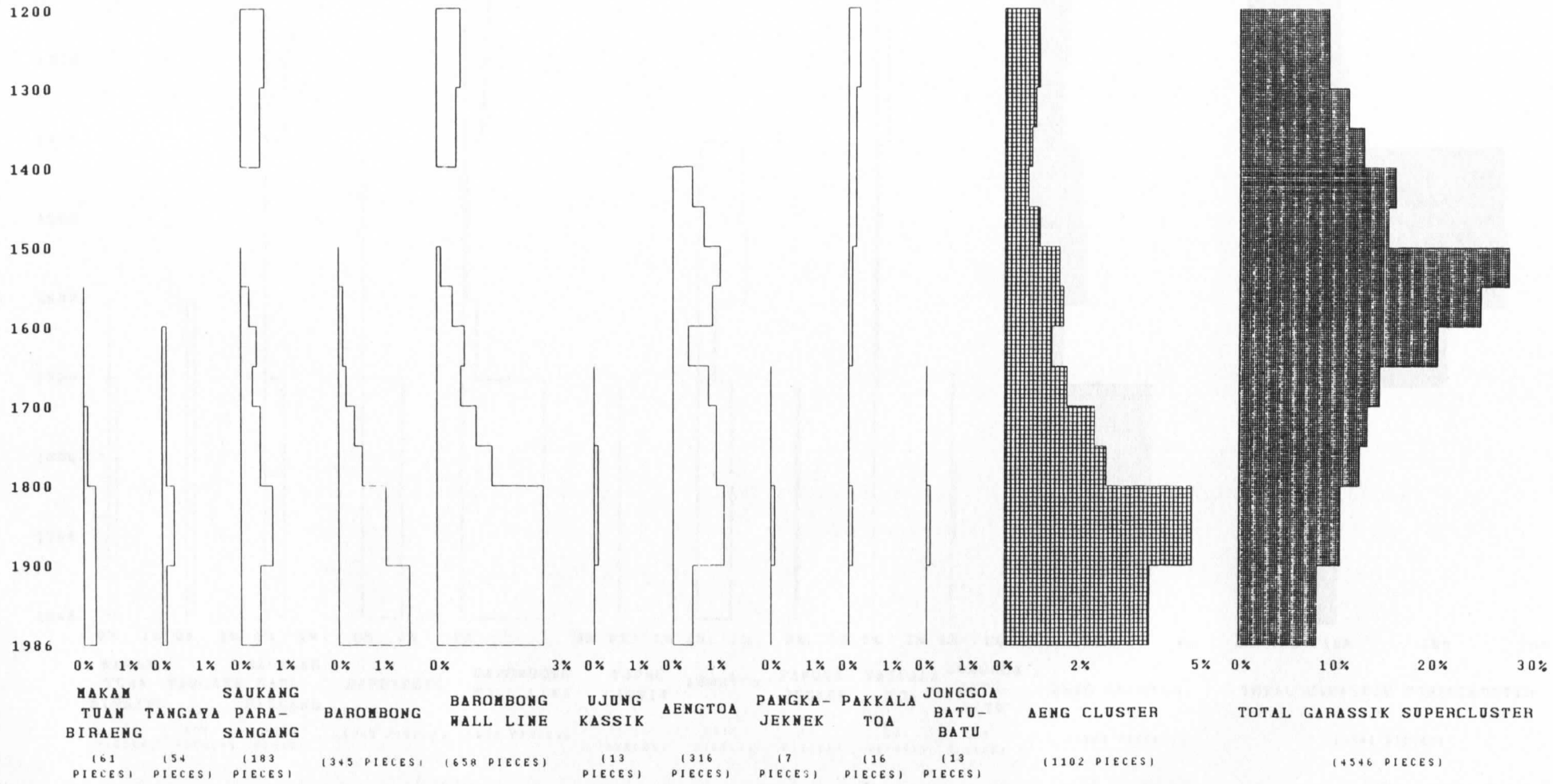


FIGURE 11--26. STANDARDISED CHRONOLOGICAL HISTOGRAMS (FINE CLASSES) - AENG CLUSTER & ALL CH.11

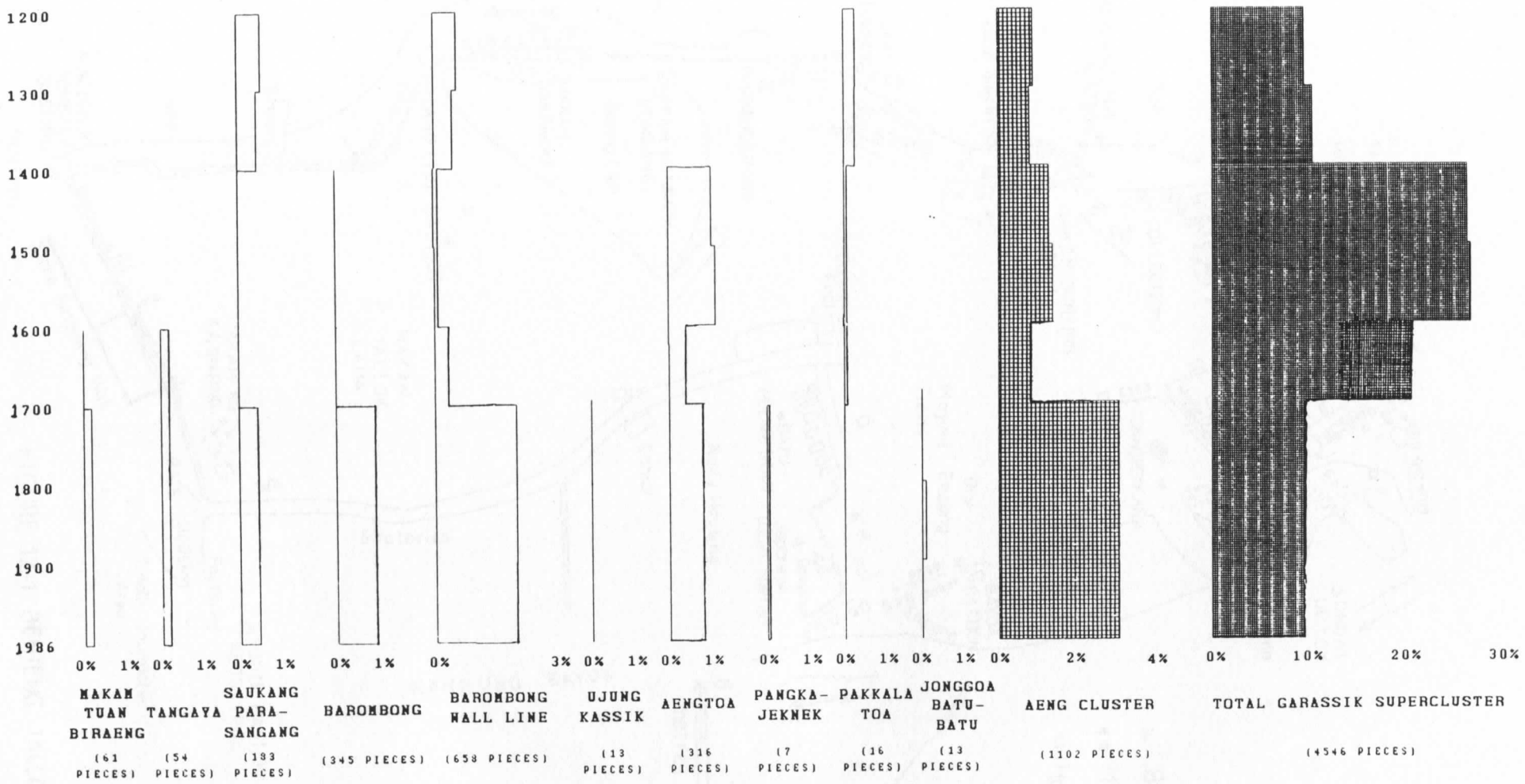


FIGURE 11-27. STANDARDISED CHRONOLOGICAL HISTOGRAMS (BROAD CLASSES) - AENG CLUSTER & CH. 11

Photo 11-1.
Ferry crossing the south outlet of the Jeknekberang created during the 1977 flood, locally known as Balang Beru ("New Swamp"). The eastern part of Benteng Somba Opu is behind the trees at rear.

Photo 11-2.
The view north from the beach at Kuburan Islam Barombong, showing the inlet between the old sand ridge along which the 17th century Barombong wall was built at right, and the recent longshore bar at left.
The latter does not appear on the early 20th century Dutch land-use maps, nor even on the Indonesian 1969 land-use map.

Photo 11-3.
Plan of Benteng Somba Opu and excavations made by Suaka Peninggalan Sejarah dan Purbakala Sulawesi Selatan.
The line of squares from west to east suggests that these excavations were following the fort's north wall.

Photo: Ian Caldwell.

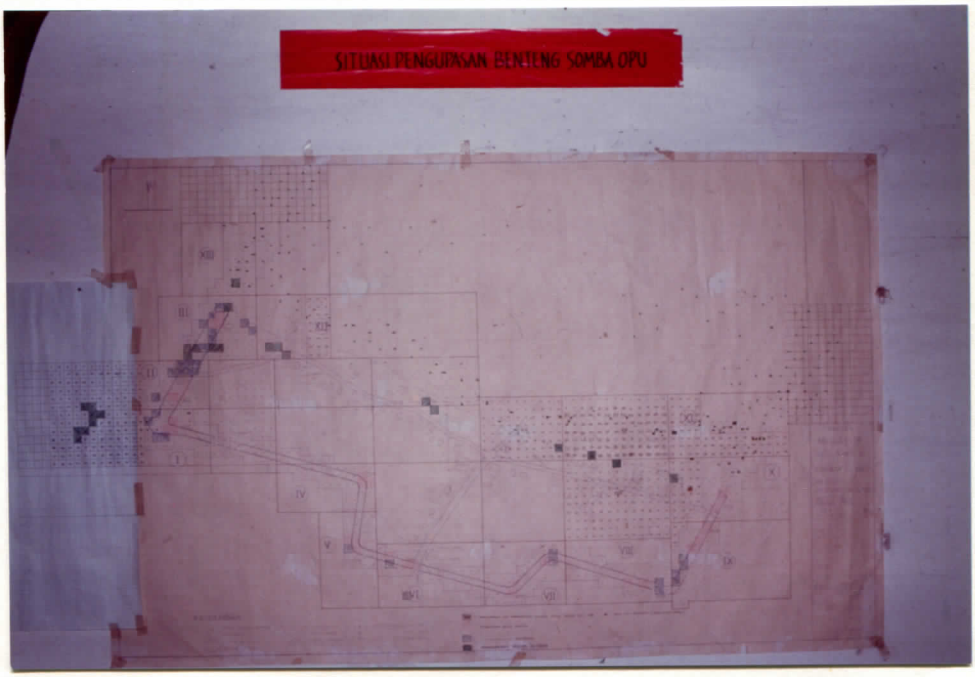

SITUASI PENGUPASAN BENTENG SOMBA OPU

Photo 11-4.
Benteng Somba Opu, example of a brick wall base excavated at some point along the footpath at the north of the site.

Photo: Peter Spillett Daeng Makulle.

Photo 11-5.
Benteng Somba Opu, showing Suaka's excavation of the still partly intact west wall. The picture gives an idea of its massive construction.

Photo: Peter Spillett Daeng Makulle.

Photo 11-6.
Suaka's excavation of the southwest bastion or
Maccinik Sombala ("Watch for the Sails"), Benteng Somba Opu.

Photo: Peter Spillett Daeng Makulle.

Photo 11-7.
Mariang polong ("fragmentary cannon") and the associated tomb
at the south of Benteng Somba Opu.

Photo: Peter Spillett Daeng Makulle.

Photo 11-8.
Apparent internal structures inside
Benteng Somba Opu's west wall.
Circular mound, possibly a flagstand, at very front.
Mounded ridge, possibly an internal wall, at rear.

Photo 11-9.
Old *keramat* (holy) masonry Islamic sepulchre,
Sapirea, Benteng Somba Opu.

Photo 11-10.
Sheltered graves at the Islamic cemetery at Pattung.

Sonny Wibisono, of Puslitarkenas, at right.

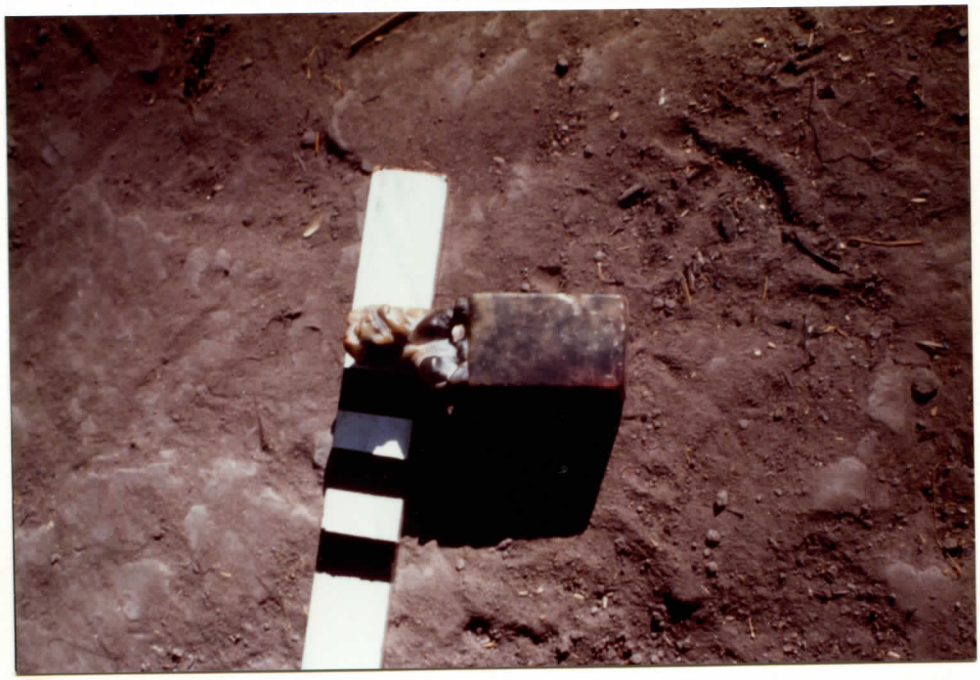
Photo 11-11.
Swatow Blue-and-white plate reportedly found at Pattung, featuring "Ducks in a Lotus Pond 1" (Harrisson, 1979). Reverse has partly glazed base and dirty foot.

Photo 11-12.
Ming bowls reportedly excavated at Kaccia Lama.

Left: BW bowl with lotus scroll on reverse and undecorated interior. 15th century to judge from the unglazed base.

Right: "Redware" with red and green enamels making a floral spray. Inside centre has a calligraphic motif in red enamels.

Photo 11-13.
Lion figurine, carved from a siliceous semi-precious stone, reportedly excavated at Kaccia Lama.



Photos 11-14 and 11-15.
The two finely decorated masonry grave markers at the south Islamic cemetery, Kaccia Lama.
The example at top features Arabic script.

Photo 11-16.
Bayoa 2. The line of trees at rear marks the course of the Sungai Banda.

Photo 11-17.
Bonto Lakja Selatan,
with the ranging pole indicating the spot where the five *tempayan* (stoneware jars) were reportedly found.

Photo 11-18.
Bonto Lakja Barat Daya, showing the sheltered grave of "Tuan Said" and the brick platform beneath it.

Photo 11-19.
Bonto Lakja Barat, with zone 13 in the centre of the photo. The line of trees at rear marks the course of the Sungai Banda.

Photos 11-20 to 11-22.
The brownware *tempayan* found at Bonto Lakja Selatan.
Jars 1 to 3 from top to bottom.

Photo 11-23.
Jar 4 or the spouted jar (left), and Jar 5 or the blakcware jar (right), found at Bonto Lakja Selatan.

Photo 11-24.
The *Ming merah bulu-buli* (Ming jarlet with overglaze enamels) reportedly dug up at Bonto Lakja Timur Daya. Base unglazed.

Photo 11-25.
G.5.1.2, basal sherd to a bowl found at Benteng Garassik. Note the solar motif in centre and unglazed stacking ring. Base unglazed. Apparently A Vietnamese iron-painted ware.

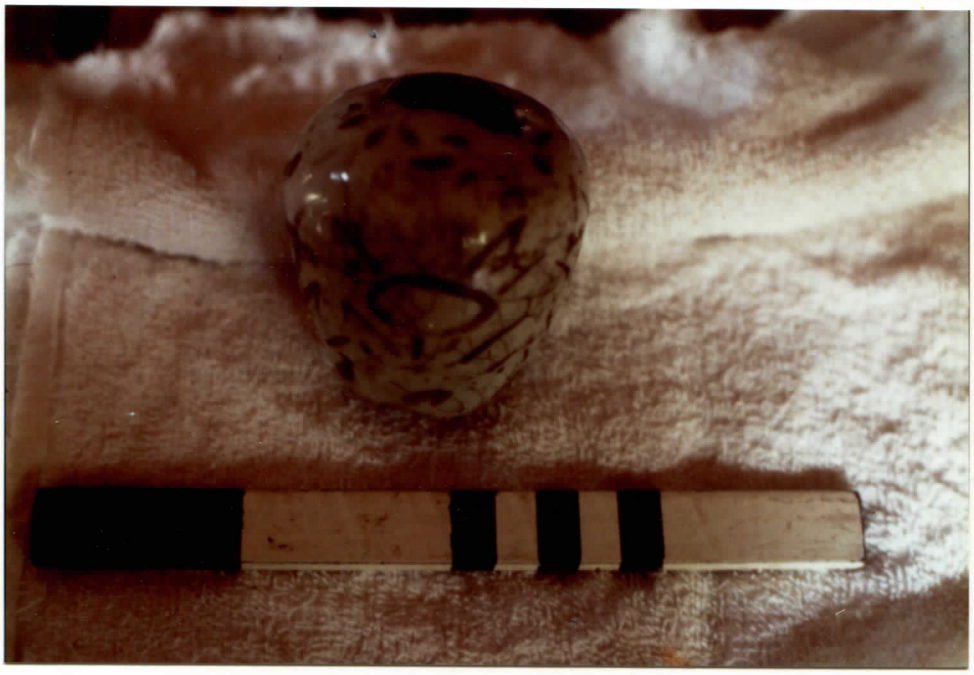


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Photo 11-26.
The hole at Benteng Garassik exposing the apparent intersection of the coastal wall (which continues in front of the photograph) and the short line of brick striking westwards.

Photo 11-27.
The masonry post-support seen in the northwest corner of Benteng Garassik, apparently one of five found at the site.

Photo 11-28.
Bayoa *Empang*, north face, zone 1.

Karaeng Demmanari is shown crouched, recording the artefactual contents.

Photo 11-29.
The five fragments of bronze leaf collected from Bayoa *Empang*. Thickness varies between 0.5 mm and 2 mm. Total weight 1.5 gm. Oxidised; surface colour is greener than Munsell gley 5G 5/2.

Photos 11-30 and 11-31.
The Bayoa *Empang duni*, as first seen (left) and after its excavation by Suaka (right). Note the complete and semi-complete *Tridacna* shells near the *duni* (left). Photographs look south-east-east.

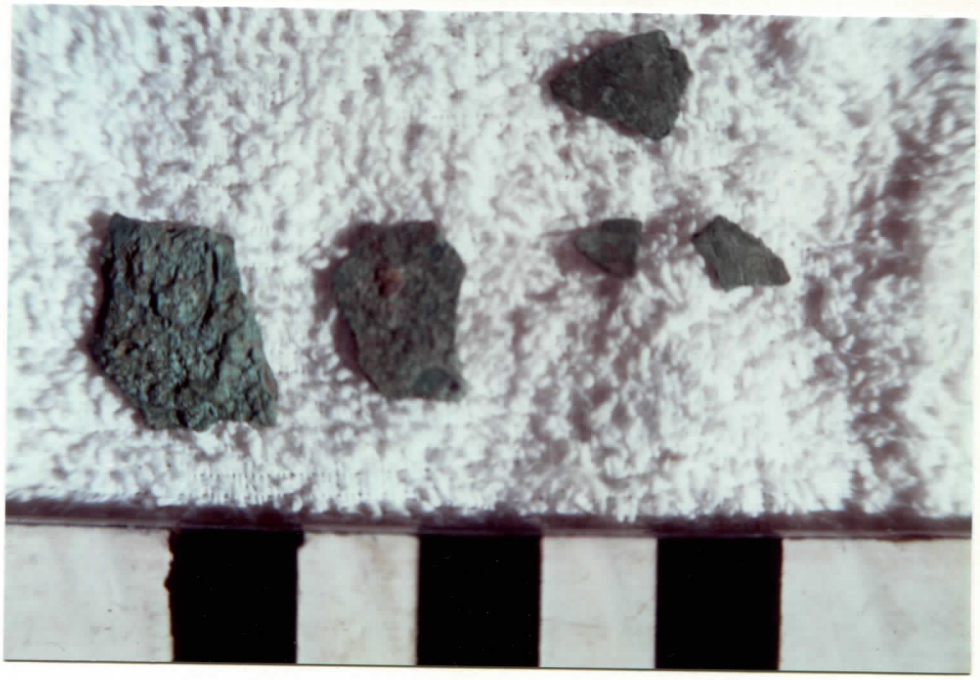

Photo 11-32.
Bone fragments found along the west face of Bayoa *Empang*.
None looks human, and interpretation is unclear.

Photo 11-33.
One of the east-west oriented, masonry marked graves
in the Islamic cemetery at Bayoa 1.

Photo 11-34.
Bayoa 1, zone 34, on the bank of the Sungai Bontorea (Banda)
where an unusual collection of objects was found
eroding from the bank, and in the water immediately below.

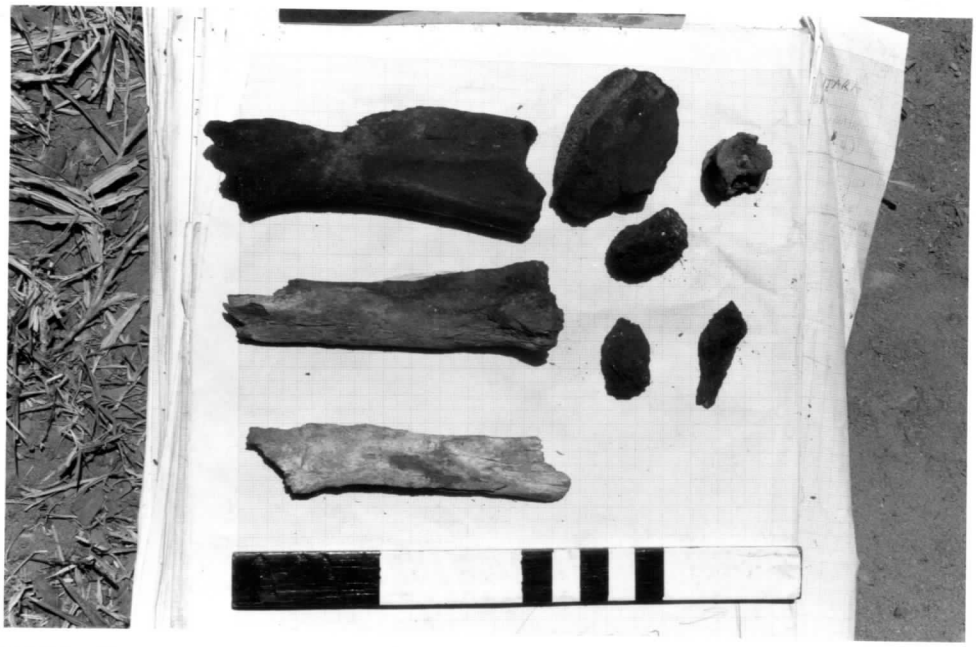

Photo 11-35.
Bases to two miniature blue-and-white covered bowls reportedly found in the general kampung area of Bayoa 1.

Left: Swatow, exterior decorated only with Swatow roundels.

Right: Identified as "Ming Swatow". A complete specimen of the piece, G.62.13.71, from Bonto Lakja Barat.

Photo 11-36.
A third base to a miniature blue-and-white covered bowl found at Bayoa 1 kampung Probably late Ming.

Photo 11-37.
Bayoa 1 footpath at the. southwest of the site, one of the clearer segments showing the line of brick rubble.

Photo 11-38.
Fragments of old red bricks found at zone 34, Bayoa 1.

Photo 11-39.
Some of the rocks found at zone 34, Bayoa 1,
including two limestone pebbles
a quartz pebble (right) at the front.

Photo 11-40.
The exposed line of *in situ* brick wall at Pattukangang where
it crosses the road to join the Barombong wall.

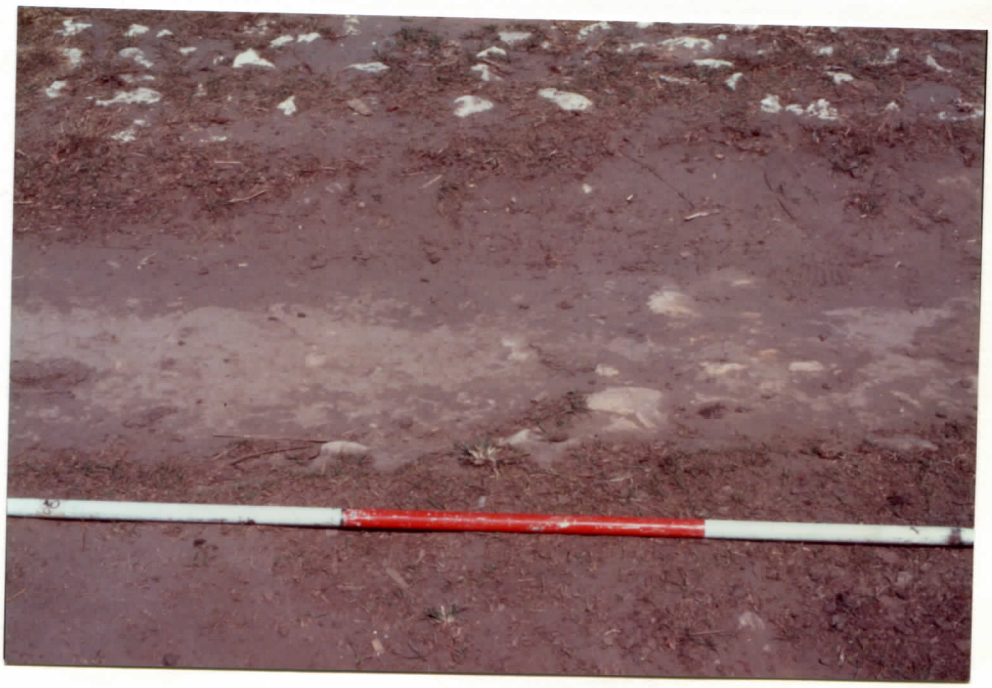

Photo 11-41.
Hole exposing the foundations of the Paknakkukang coastal wall where it runs above the backswamp entrance. Note the presence of both large and small bricks.

Photo 11-42.
The central eastern bastion mound of Benteng Paknakkukang, locally interpreted as a *pakbenderang* (flagstand).

Fieldworkers Dubel Driwantoro and Iwan Sumantri (obscured) are on top.

Photo 11-43.
A looter's hole in the wall of Benteng Paknakkukang, showing a coral block which was presumably placed there as support.

Photo 11-44.
Paknakkukang's *tokoh masyarakat* (social exemplar) and his wife inside the tomb of the grave of "the man from London".

Photos 11-45 and 11-46.
Antiques reportedly looted from the cemetery inside Benteng Paknakkukang.

Photo 11-45:
top row, left to right, Ming BW bowl and Wanli BW plate; bottom row, left to right, Ming Swatow BW bowl, Ming whiteware teapot and cup.

Photo 11-46:
top row, left to right, Swatow cover to bowl, body to Swatow covered bowl, body to Ming Swatow covered bowl, Ming BW bowl; bottom row, left to right, Swatow cover to bowl, body to Ming Swatow covered bowl, cover to Ming whiteware covered bowl, cover to "Transitional BW" bowl.

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Photo 11-47.
Mamampang,
with the boy crouched at the scatter of "Ming" pieces.

Photo 11-48.
Gotong, the area looted for antiques.

Photo 11-49.
Makam Karaeng Papok, Timbuseng.

Photo 11-50.
Bilaya Lama, the sheltered grave of a Gowa Karaeng whose name has been forgotten.

Photo 11-51.
A tempayan (stoneware jar) reportedly recovered from the ground at Jonggoa Batu-Batu, identified as a Qing brownware.

Photo 11-52.
Antiques reportedly recovered during the excavation of a fish pond by the inhabitants of either Karama or Aengtoa.

Font left: two Wanli BW bowls.
Behind them: three Qing BW pieces (cover, bowl lacking cover, spoon) and a Swatow BW bowl (lacking cover) at right.
To the immediate right: two Vietnamese monochrome bowls.
Front right: Dehua early whiteware bowl (lacking cover).
Rear right: Late Ming brownware jar (glaze mostly lost).

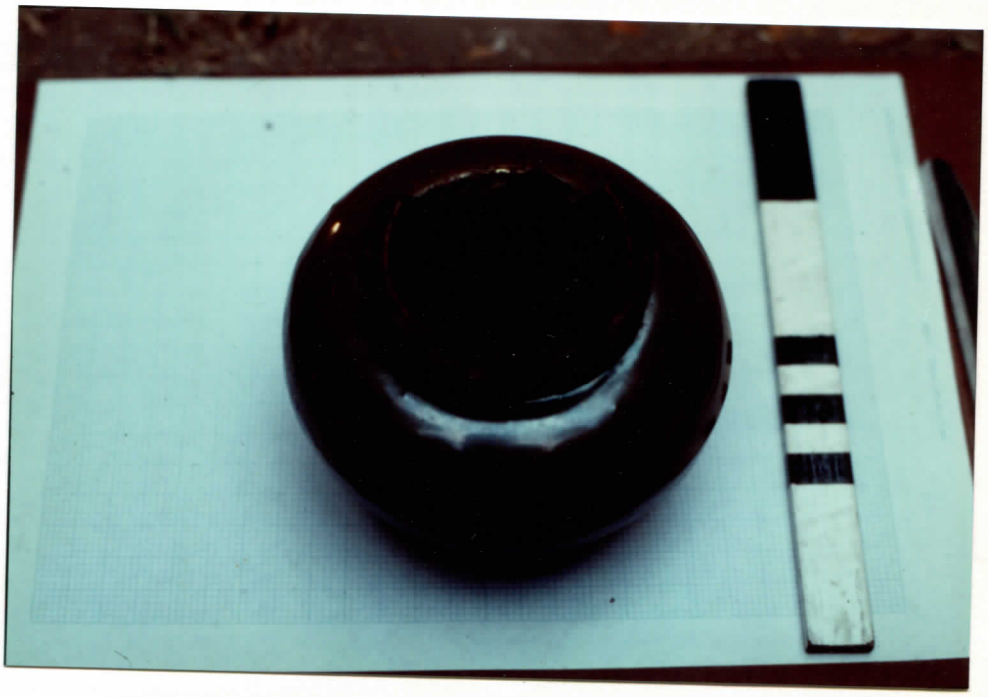

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Photo 11-53.
Barombong, zone 3, the reportedly looted area. Behind it is the same inlet shown in Photo 11-1.

Photo 11-54.
Kampung Bontoa, where the 1667 Bungaya Treaty was signed. Some of the old graves at the Islamic cemetery.

Photo 11-55.
Ujung Kassik, showing the old Islamic grave overgrown by a cactus at front, and the general area of reported looting behind it.

Photo 11-56.
The Islamic cemetery at Jonggoa Batu-Batu, showing some of the old masonry markers and the modern brick corral at rear.

Photo 11-57.
Kuburan Islam Summanak,
showing some of the old masonry graves.
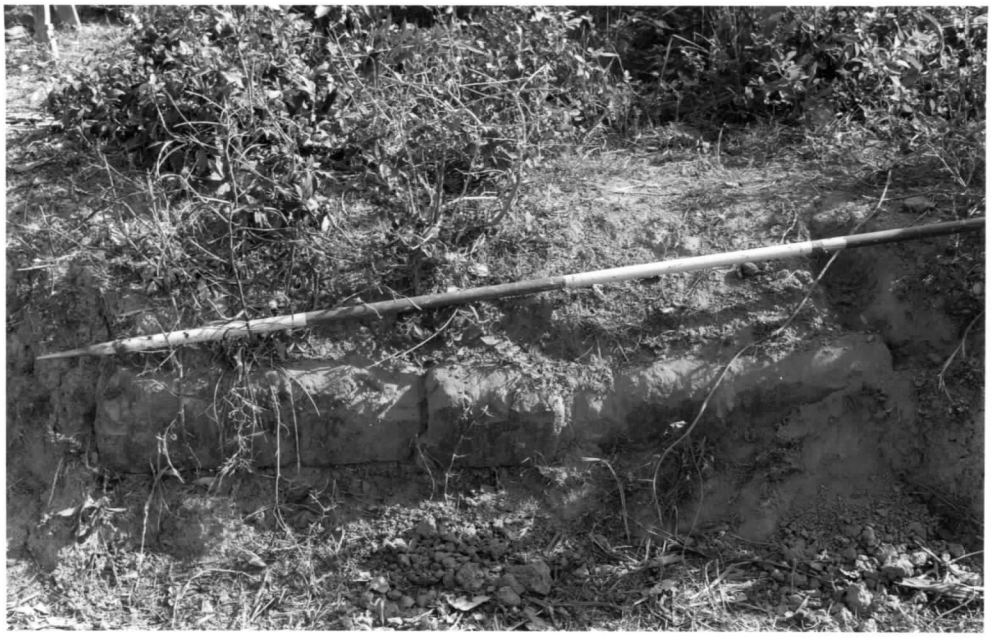
Photo 11-58.
Pakkala Toa Barat, showing the east-west directed line of masonry blocks buried by deposits except at this exposure, interpreted as an east-west oriented Islamic grave.