

## CHAPTER 5. THE SOUTH SULAWESI PREHISTORICAL AND HISTORICAL ARCHAEOLOGY PROJECT (SSPHAP)

### 5.1 Introduction to the Gowa Site Survey

As outlined in my research proposal to the Indonesian government (Bulbeck, 1985), the South Sulawesi Prehistorical and Historical Archaeology Project (SSPHAP) was originally formulated as a broad treatment of Bugis-Makassar pre-Islamic archaeology with attention to be focussed on some main historical areas. During a preliminary fieldtrip I had spent a month, partly in the company of my supervisor, Campbell Macknight, looking for suitable areas. I visited Bugis territory as far north as Kabupaten Luwu. Also Drs Masdoekhi, head of Suaka Peninggalan Sejarah dan Purbakala Sulawesi Selatan (Suaka), treated me to a tour of the historical ceremonial sites which Suaka has restored and keeps maintained in the southern peninsula. After taking up my research visa in April 1986, I spent the first three months studying South Sulawesi archaeological materials held in museums in Jakarta and Ujung Pandang, as well as accompanying archaeologists from Indonesia's National Research Centre for Archaeology (Puslitarken) and Suaka on field trips to Selayar and the adjacent mainland.

These preliminary activities gave me an essential background with respect to appreciating the landscape of the South Sulawesi lowlands and the range of archaeological resources which could be expected. But as one most useful outcome, I realised that the sheer archaeological riches of the South Sulawesi lowlands precluded any attempt to add substantially to the available database over too large an area. Far more value could be expected from intensive study within a small areas, even though this entailed reliance on the literature, or rather the lack of it over most of the area, as regards a general archaeological perspective on the Bugis and Makassar.

In the end only one short survey was undertaken, a survey of the key historical sites associated with the Bugis kingdom of Soppeng (Kallupa et al., 1989). The project was prompted by the availability of Ian Caldwell who was then in South

Both the Gowa survey and the documentation of the curated materials involved an enthusiastic team whose regular participants included Karaeng Demmanari of Suaka; Iwan Sumantri of Universitas Hasanuddin; Agustian, A. Said Cam and Budianto H. (students of archaeology within Sumantri's department); and Dubel Driwantoro before he joined Puslitarkenas.

Cultural resource surveys such as SSPHAP have a responsibility to report all finds, but in this case it must be balanced against producing a thesis argument and fitting inside a thesis framework. Hence I do not have the

survey. documenting the archaeological remains collected during Tallok (12.2), because the months in waiting had been spent wrapped up after completion of the main outstanding survey of expecting. In addition SSPHAP's fieldwork could now be disruption of some further funding which I had been had worn down my endurance, particularly owing to the indeed granted. But by June the uncertainties of my status finally approved in June, the six months I had requested were extensions. Combined with a three-month extension which was Elections, but instead received three sequential, month-long research visa in April, to carry me beyond the General six-month extension beyond the original expiry date of my provincial capitals. During these months I also applied for a researchers were barred from conducting fieldwork beyond Elections (March to May 1987) during which time foreign followed by the lead-up period to the Indonesian General intervening months embraced the height of the monsoon, and January 1987 plus some final surveys in June 1987. The The "Gowa survey" covered the months between August 1986 grew into an intensive archaeological survey of Gowa. for my own fieldwork procedures (5.5) when the sub-project to the fortifications sub-project constituted the springboard Puslitarkenas. The translation of his methodology for Selayar fortifications, co-directed by Sonny Wibisono of originally planned as a sub-project mapping greater Gowa's The grant from the Myer Foundation also funded what was complementing the main body of my fieldwork research. Foundation earmarked to support some discrete sub-project Sulawesi on fieldwork, and tied in with a grant from the Myer

opportunity here to cover all of the sites, and will report the remainder separately (Bulbeck, in prep. b). Here my site reports concentrate on detailing the archaeological basis of Gowa and Tallok. In addition, high-fired ceramics (or tradewares) are so critical to my site interpretations and general chronological scheme that I have placed enormous emphasis on their study (Appendix B). SSPHAP's large body of data on bricks (Appendix E) and Islamic grave styles (Appendix F), and small collection of human bone, are also described in detail. Stone artefacts (which are a valuable source of information on the landscape) and metal artefacts are, however, described only as unanalysed, individual finds (Appendix G). In particular local earthenwares receive very scant attention, not because they lack importance, but because they encompass issues of chronological, technological and spatial variability which cannot be addressed here.

## 5.2 Scope of the Gowa Site Survey

To take best advantage of the rich textual evidence, the objectives of the site survey, and the land surface finally covered, were geared towards answering specific questions raised by the Makassar texts.

One of the main objectives was to locate the historical toponyms. Many of the Gelarang communities, karaengships and even the smaller polities discussed in Chapter 4 had not been clearly located before SSPHAP's survey, which obviously would have debilitated the basis for historical interpretation. Moreover, SSPHAP was specifically geared towards locating toponyms associated with the origins of Gowa and Tallok (Figure 2-2). Any community or polity explains its origins largely as a function of how it perceives its legitimacy (e.g. Vansina, 1985). The archaeological record has the capacity to distinguish between historical memories (including those netted by the texts from preliterate historical memories) and subsequently elaborated origin myth. The exercise is important not only to identify apparently reliable history, but also to know which events, though dressed up as legend, are not amenable to allegorical interpretation.

As no intensive survey within the subdiscipline of historical archaeology had been carried out in Indonesia, let alone South Sulawesi, before SSPHAP's survey, I had little idea of the precise scale of archaeological evidence which could be expected, or the inferences on social organisation and settlement patterns which might result. However, I was aware that anthropological archaeology (e.g. Flannery, 1976a; Gibbon, 1984) operates on a systematic documentation of the sites at as fine a grain as possible, which limits the amount of terrain which can be reasonably covered.<sup>2</sup> In particular, I adopted the policies of continuous survey between the loci of crucial historical interest, and bracketing these loci within "buffer zones" apparently devoid of historically crucial sites. In the end substantial progress was made in the archaeological documentation of three critical themes in historical reconstruction.

Fortifications. The fortifications sub-project determined the extent of the survey along the coast. Makassar entrepôt was guarded by a continuous line of fortifications between the inlets at Tallok and Aengtua (see Figure 5-1). Further south Galesong was also reportedly fortified (Andaya, 1981:88), and southwards again lies Sanrabone fortress (Ibrahim, 1985). Ideally SSPHAP would have surveyed the entire coast from Tallok to Sanrabone. However, the land between Tallok and the mouth of the Jeknekerang is now fully urbanised and any surface archaeological remains have probably been destroyed. Also, time ran out before the coastal survey could be extended south of Galesong to connect with the Sanrabone survey. Filling this gap, as well as recording oral reports of early burial grounds within Ujung Pandang's urban areas, were among the projects I had hoped to do after the General Elections.

Early Gowa toponyms. The centre and north of the intensively surveyed area (Figure 5-1) include sites which match most of Gowa's early toponyms, including those of

<sup>2</sup> Although I surveyed a more extensive area than I can report here, this does not mean that the ensuing perspectives from a wider survey would not have refined the level of my interpretations.

Gowa's "legendary phase" (2.5.2). Extension of the survey to Bontomanaik (see Figure 5-2), which circumstantial evidence identifies as an important toponym (9.7), was another of the projects in my application for an extended research visa.

Changes in the behaviour of the Jeknekberang River. During his second supervisory visit, Peter Bellwood pointed out that the Jeknekberang River had stolen the Gumanti headwaters, and recommended survey along the Jekenekberang to investigate the issue (see Figure 5-1). This survey should have been complemented by a transect along the Gumanti, which again was listed in my application for an extended research visa.

### 5.3 Modern Maps and Related Images

#### 5.3.1 Geomorphological aids

To recover and interpret larger types of sites such as settlements and agricultural fields, archaeologists now regularly use aerial photography, including false-image photography (e.g. Lyons and Avery, 1977; Dunnell, 1980; Parry, 1977, 1982, 1987; Brookes and Johannes, 1991). These resources are available in scales up to 1:20k for some parts of South Sulawesi, but only in scales of 1:50k and smaller for the Gowa survey area (Moss and Raimadoya, 1985). I purchased 1:250k Landsat images covering most of South Sulawesi, and I also photocopied the relevant 1:50k black-and-white air photographs made by the FAO in 1976 and held at the Bogor Centre for Soil Research. At these scales the images are more useful in geomorphological interpretation than in archaeological survey.

The 1:250k scale of the geological map of Selayar and the southern peninsula mainland (Sukanto and Supriatna, 1982) is too small to display every minor surface geological feature, and I have some additional observations to note when relating the site clusters to local geomorphology (Chapters 6 to 12). Reproducing the geological map for Sulawesi's southwest corner does however illustrate the broad geological basis underlying my main survey area (Figures 5-1 and 5-2). The Camba Formation, comprising Miocene volcanics mixed with uplifted marine sedimentary rocks, either underlies the study

The most useful land-use maps result from the surveys which the Netherlands Indies Topografische Dienst carried out between 1914 and 1931 and published between 1921 and 1933. The service surveyed the whole peninsula using a 1:50k grid, in some places further divided into 1:25k quadrants. The 1:50k maps were reproduced in English by the U.S. Army during World War 2. These maps are remarkably detailed in their topographic and land-use information, as well as toponymic

### 5.3.2 Available land-use maps

alluvial plain (Chapters 6 to 11). Formation and Baturape-Cindako outcrops where they border remnants within the coastal plain, or along the Camba modern levees, former levees and other raised alluvial "toponymic sites" (Figure 5-2) occurred most frequently atop Holocene ancestors (Sobur, 1984/85: 11.1). SSPHAP'S features deposited by the Jeknekerang's Pleistocene and periods of low sea levels (10.1), and remnant floodplain the outcrops, the etching of deeper river valleys during relief to factors such as local ponding effects created by The southwestern coastal plain owes its complex if gentle stable during the Holocene (Sukanto and Supriatna, 1982). (Figure 1-4). The southwest peninsula has been tectonically Pleistocene with the formation of the Lompobattang volcano Pliocene ancestor. Tectonic activity continued during the even have flowed down the valley of the Jeknekerang's late geological fault, and that the Baturape-Cindako Volcanics may River, suggesting to me that both features follow a minor coastal plain closely follows the course of the Jeknekerang outcrop of these volcanic deposits on the southwestern Pliocene near the Jeknekerang's headwaters. The major lava flow from a volcano which had erupted in the late 1984/85). The Baturape-Cindako Volcanics were deposited by a limestones in the peninsula's southwest corner (Sobur, an outcrop of early to middle Miocene Tonasa Formation Tallok inlet in the north, to where the coastal plain abuts Jeknekerang River and its ancestors, stretches from the the east. An extensive coastal plain, deposited by the area or crops out as low rises in the west to high peaks in

information such as the names of the settlements and Dutch administrative divisions. Figure 5-3 shows the 1910s land-use patterns for my intensively surveyed area.

In 1969, before the various aerial photography projects were undertaken in South Sulawesi (see Moss and Raimadoya, 1985), the Indonesian Department of Internal Affairs prepared 1:50k land-use maps of South Sulawesi.<sup>3</sup> They retain the grid system used for the Dutch maps and bear a remarkable resemblance overall, suggesting that the 1969 maps do little more than edit the Dutch maps with the help of some cursory fieldwork. Among the main observable changes, the Indonesian cartographers had plotted the new administrative boundaries, annotated the rice fields according to whether the harvest occurred once or twice annually, removed most of the toponymic information, and indicated some enlargements to the area under settlement, particularly along main roads. Accordingly, during SSPHAP's fieldwork we used both sets of maps and annotated them according to the often quite different geographical situation we observed, to produce a best approximation to the landscape we were surveying.

Comparison of early 20th century land use with the geological map demonstrates the geomorphological basis of the Makassar land-use patterns within the study area (Figures 5-2 and 5-3). Apart from the Tallok inlet, there is a general shift from wet rice land, studded with settlements and gardens on raised surfaces, within the coastal alluvial plain, to a pattern of much sparser population supported by mixed gardens or dryland farming in the outcrops and foothills. We can also observe an apparent tendency for SSPHAP's sites to fall either within or next to the 1914 settlements (Figure 5-3).

#### 5.4 The 1693 Dutch Map

##### 5.4.1 Mode of preparation and accuracy

SSPHAP's archaeological survey has the unusual advantage of a

<sup>3</sup> At the time of my fieldwork these were distributed by the Indonesian Department of Agriculture.

detailed map depicting the settlement system under study. In 1693, spurred by the complaints of Gowa and Tallok concerning the loss of their former lands, the Dutch East Indies Company (VOC) in Fort Rotterdam drafted a map of the South Sulawesi peninsula. Batavia had ordered that the map show the lands occupied by the Makassar people, the lands now belonging to the VOC, and the lands formerly owned by the Tallok sultan (Abdul Kadir) and his forefathers (Andaya, 1981:264-5).

Fort Rotterdam produced a map whose remarkable detail extends to many places where surely no European had set foot. The Dutch, who were the unrivalled cartographers of the period (Reid, 1981:22), could have used their own observations to draft a skeleton map showing the coastline and coastal rivers, some or all of the mountain chains, and the settlements near Fort Rotterdam. Further details could have been supplied by Bugis and Makassar informants. Indeed there were probably Bugis and Makassar parties competent to assist the Dutch throughout the exercise, since a local interest in cartography extends back to at least the 1640s when Sultan Mahmud had acquired an enviable collection of globes and atlases (Reid, 1981:21-22). Confirming the latter suggestion, the map's depiction of the peninsula's southwest corner would appear remarkably accurate.

#### 5.4.2 Matching toponyms

I found I could match over 150 of the 1693 with the modern

toponyms, particularly in the area between the Bonelenga and Cikkoang rivers which I know reasonably well (Figures 5-5 and 5-6).<sup>4</sup> A small percentage of these matches may be spurious, owing to the somewhat variable legibility of my photographs of the 1693 map, and the point that certain Makassar place names appearing on the 1693 map (e.g. Bontomanaik, Bonto Tanggana) recur widely in the modern landscape. Nonetheless the correspondence is close enough to suggest that the 1693 map can be used to confirm the identification of particular historical toponyms with particular sites.<sup>5</sup> Indeed the 1693

<sup>4</sup> For the sake of simplicity, I show the Dutch 1693 toponyms by their modern equivalent spellings.

<sup>5</sup> Or to identify old administrative districts, as with Manuju (see Figure 4-2).

map locates quite a few important historical toponyms which have only survived in some other form, such as the 1693 kampung called Bori Sallo whose name is now restricted to a mountain, or toponyms which appear to have disappeared altogether such as Katingang, Batu-Batu and Mangallekana.

#### 5.4.3 Drainage patterns

Figure 5-4 compares the modern drainage systems with those on the equivalent section of the 1693 map. The complex anabranches of the 1693 rivers may look improbable, but the modern rivers exhibit the same pattern where they meander through coastal alluvial plain. The 1693 river systems are matched in sequential position and approximate form by the modern Labakkang, Sangkarak, Maros, Bonelengga, Tallok, Jeknekberang, Sanrabone, Cikkoang and Alluk rivers.

Given the general agreement, where the 1693 map does sharply diverge may accurately reflect the old situation. Note how the main river on the 1693 map bifurcates into the Garassik and Sanrabone rivers, and the latter then anastomoses with the Cikkoang. Today the Gumanti River, i.e. the upper Sanrabone River (Figure 5-1), originates within the coastal alluvial plain where the Jeknekberang<sup>6</sup> bends sharply northwestwards, cutting through Baturape-Cindako volcanics.

The Gumanti (Sanrabone) had clearly once taken a far greater discharge. Numerous remnant river channels issue from the Gumanti (Figures 5-1 and 5-4), e.g. the one which today loops from the Gumanti River towards Parappa and Mangindara, but which was apparently a river in 1693 (Figures 5-5 and 5-6). The 1693 drainage system fits the late 17th century description of Polombangkeng as a fertile and populous area (Andaya, 1981:194,264), whereas today the corresponding area of Takalar is known for its aridity, overpopulation, and inability to produce its own rice requirements. Thick deposits of river gravels underlie the Sub-BPT Gowa station on the banks of the Gumanti (Brian Warren, pers. comm.).

<sup>6</sup> According to my co-worker Iwan Sumantri, the river's modern name means "knife river", from the Makassar "berang" which is probably cognate with Indonesian "parang".

The matter has been confirmed through a visit by Peter Bellwood and myself to the point of bifurcation which, as shown by the 1693 as well as the modern map (Figures 5-5 and 5-6), was immediately downstream from Lassang. At this point, called Bissua, the Jeknekerang makes a V-shaped valley approximately ten metres deep where it has cut into the soft volcanic rock (see Figure 5-2). A stone-and-cement lock in the bank, reportedly built by the Indonesian government in 1971 when it contemplated an irrigation project here, marks the point where the present valley intersects with the former valley. The old valley, depicted as an intermittent on the Dutch land-use maps, reportedly still receives some discharge from the Jeknekerang during extreme floods. It is surfaced with sands which occasionally break apart to reveal a substratum of gravels, both remnants of the much greater discharge which had once prevailed. It cuts southwest across the landscape of alluvial deposits before becoming the Sungai Gumanti at "Sub-BPT Gowa" (Figure 5-2).

According to local reports, the remnant channel was the original river which flowed down to Sanrabone, and both the remnant and modern channels were active "during the time of the Gowa kingdom". The latter report would indicate the approximate date of headwater capture rather than a phase of two equally active main channels, because the situation would have been unstable and hence short lived. The discharge of the Jeknekerang in the vicinity of Bissua exceeds 100 cubic metres per second during the monsoon peak (Sobur 1984-5:15), and the prevailing land surface slopes approximately six metres per kilometre downstream from Bissua. So taken at face value, the 1693 map implies that the nick point of the river called the Garassik had cut back through the soft Baturape-Cindako volcanics, and articulated with the main river draining the Gowa highlands no earlier than the late 17th century. However, this could have occurred considerably earlier, as the 1693 map could depict what was already a memory. Hence the evidence reviewed here indicates that either (i) the Garassik had stolen the Gumanti headwaters before 1693, or (ii) it was then in the process of doing it.

#### 5.4.4 Makassar settlement patterns

The 1693 map depicts high densities of settlements along the coastal alluvial plain and the valleys immediately east, and lighter densities in the mountain chains and "Turatea" (Figures 5-5 and 5-6). This apparent emphasis on settling the coastal plain accords with the modern population densities and the available data on Makassar historical archaeology (13.3.2). Furthermore Gowa, Tallok and hinterland Galesong appear to have been less densely settled than Siang, Maros or Polombangkeng in 1693 (Figure 5-5). Unfortunately, SSPHAP's survey was not extensive enough to test this important suggestion.

If we compare the 1693 Garassik River with its modern counterpart, the only notable differences are that Palangga appears on opposite sides of the river, the Jeknekberang shows a straighter course than that of the Garassik, and the modern Jeknekberang delta has prograded considerably from the 1693 position. True, the order of the toponyms along the river is not totally consistent between the two maps, but the discrepancies do not evince any particular pattern. The few disagreements between the 1693 course of the Garassik River and the Jeknekberang's course through the coastal plain could be due to minor errors in the 1693 map, minor settlement relocations, or localised lability in the river's course.

#### 5.4.5 Geopolitical divisions

Although the 1693 map divides the southwestern coastal plain into administrative areas (Figure 5-4), it would be rash to assume that these prevailed at any time preceding the Makassar War. When Gowa signed the Bungaya Treaty, Gowa ceded the lands which the VOC had conquered during the war, from Bulu-Bulu to Turatea and on to Bungaya (Andaya, 1981:306). As it turned out Bulu-Bulu and Lamatti, Gowa's one-time allies to the immediate south of Bone, had been handed over to Bone by 1693 (Andaya, 1981:Map 9) - presumably because they were the direct conquests of the VOC's Bugis allies (Andaya, 1981:85-86) or because of their proximity to Bone. As regards the coastal stretch which the VOC retained, its partitioning

into Bulukumba, Turatea, Polombangkeng and Galesong (Andaya, 1981:Map 9) would reflect how the Dutch wished to administer their acquisitions. Fortunately, the changing geopolitical boundaries of Gowa and its neighbours prior to the Makassar War can be reconstructed in considerable detail (13.3.3).

## 5.5 Implementing the Gowa Survey

### 5.5.1 The target sites and universal sampling

On advice from my Puslitarkenas sponsors I undertook to record only surface phenomena, including those on vertical exposures, without recourse to excavation (Bulbeck, 1985). This was a fortunate eventuality, because the reconstruction of a former, dense settlement pattern over a large area would impose an impossible workload if the exercise were to be based on excavations (e.g. Snodgrass and Cherry, 1988).<sup>7</sup> Accepting that the phenomena available to SSPHAP's database consist in some sense of "surface archaeological sites", we then face the issue of which universe, if any, they represent. The issue of representativeness is not just a statistician's pedantry. Ignoring it can in extreme cases lead to the spurious assumption that the cited examples are rare and special, as in the inferences on the Bugis past which Pelras (1977) draws from two undated, poorly described, possible archaeological sites. The more common fallacy, however, is a tacit assumption that the studied cases are representative of the phenomenon under review. Such an assumption can lead to gross self-deception unless an unbiased sample has been obtained (see Flannery, 1976a; Cherry et al., 1978).

When the research questions focus on the relationships between the studied phenomena and discrete environmental variables, then reliable answers can be efficiently achieved through discontinuous survey, employing stratified random sampling or some other probabilistic technique (e.g. Haggett et al., 1977). However, I am interested in the sites' wider

<sup>7</sup> In addition, negotiations to excavate in Indonesian require considerable prior organisation and expense, especially when managed by foreigners.

spatial interrelationships, and these can be seriously distorted by the bounded survey units which discontinuous survey imposes. The wider spatial patterns may be larger than the survey units, or dissected by the survey boundaries, or misrepresented owing to the lack of a still wider surveyed context (Hodder and Orton, 1976).

Furthermore, the decision to sample probabilistically necessarily means that examples known by other means cannot be formally included in the analysis. Let us consider the classical case in this line of argument, the so-called "Teotihuacán problem". Based on the results of the exhaustive archaeological survey of the Valley of Mexico, Mayer-Oakes and Nash (1964, 1965) simulated a series of probabilistic surveys which all managed to "miss" the major site of Teotihuacán. Of course, any archaeologist working in the Valley of Mexico could hardly fail to be aware of Teotihuacán (Flannery, 1976b:159). But this does not address the problem of how to include Teotihuacán, or any other capital city of a multi-tier settlement hierarchy, inside the context of a partial survey. Inclusion exaggerates the rôle or the frequency of the outsized site or sites; exclusion leaves the settlement system uncapped.

The methodological problems discussed above can be formally addressed only through universal sampling which is both continuous and representative. To be sure, I could have defined my universe of relevant sites as the fortifications and the historical toponyms - the sites whose recovery essentially determined the thrust of the survey. But this approach would have left the sites devoid of any wider context, and would not have remotely approached a settlement pattern study. On the other hand, an attempted universal recovery of the former settlements would have faced insurmountable obstacles. Among them can be cited (i) the logistic difficulties of surveying the luxuriantly vegetated and periodically inundated land-use zones which constitute so much of the survey area (Figure 5-3); (ii) the extremely poor understanding of the spatial and chronological variation of Makassar earthenwares; (iii) the impractically small area which could have been surveyed within the available time

frame, especially given the above-mentioned obstacles; (iv) the theoretical difficulty that the recorded "sites" may more closely reflect patterns of modern exposures rather than the locations of former settlements; (v) the distinct possibility of a dispersed rural settlement system such as prevailed in the 1910s (Figure 5-3), in which case the target sites could have reached down to individual houses; and (vi) the methodological difficulty of integrating sites observed from surface remnants with the many sites readily locatable by another means altogether.

Here I refer to Makassar cemeteries characterised by east-west oriented skeletons buried with gravegoods, a tradition which was only gradually phased out after greater Gowa's adoption of Islam in 1605. These sites have been systematically looted since the 1930s (Hadimuljono and Macknight, 1983) and so the vast majority must have been discovered by now. Looting has been recently outlawed (even if hardly stopped everywhere). Nonetheless information on looted sites is obtainable from those who have been active in the trade or from the general inhabitants at the sites. Looting of course constitutes a regrettable loss of cultural resources, but the amount of formal archaeological work required to reduplicate such a body of sites defies contemplation.

However, SSPHAP's main period of historical interest continues to the Dutch colonisation of Makassar rather than greater Gowa's adoption of Islam, and so suitably-dated Islamic burials (i.e. those of the 17th century as an operational definition) are as relevant as pre-Islamic burials. In Indonesia, Islamic burials should be oriented north-south with the corpse's position ideally marked by a permanent structure. In practice the markers can disintegrate or be restored according to later tastes, so that even if the 17th century Makassar styles had differed uncompromisingly from later styles, many cases would be unrecognisable (see Appendix F). Hence circumstantial evidence (such as proximity to pre-Islamic cemeteries) was just as important as grave styles in deciding whether or not an Islamic graveyard could be dated to the 17th century (Chapters 6 to 12).

Islamic cemeteries also served as a crucial introductory stage in SSPHAP's general survey procedure. Upon entering a new area, we drove along the motorable roads and interviewed bystanders every hundred metres or so on the whereabouts of Islamic cemeteries. The approximate antiquity of the cemetery could be gauged from visual inspection, and the venue promoted further enquiries about the past. The question "Have antiques been found here?" - a tactless enquiry up front - came within the general ambit of our interest in the local community roots. If indeed looting was reported, we asked where and what had been found. The procedure worked smoothly owing to the enthusiasm of the local Makassar for displaying their past.

On the face of it, SSPHAP's target sites were found through three distinct means: (i) local renown, identifying the main fortifications and toponymic sites;<sup>8</sup> (ii) inspection of the various maps dated between 1693 and 1982, in tandem with a review of previous fieldwork results (e.g. Nurhadi et al., 1980; Kallupa, 1985; Ibrahim, 1985); and (iii) the intensive survey of 17th century and earlier burial places. However, distinct avenues to site recovery do not necessarily imply distinct types of sites. The fortifications were always associated with early burial grounds, and the identification of particular toponyms with particular locales depended on appropriate archaeological evidence such as suitably dated burials. In addition, as regards the sites which came to our attention on the basis of their early burials, we supplemented the mortuary evidence with the traces of directly associated domestic debris or other old remains (5.5.2). Therefore, SSPHAP's target sites can be defined as "surface archaeological remains found either within 17th century and earlier burial grounds, or within the directly associated area". These were the subject of a continuous and exhaustive survey within the intensively surveyed area, such that I believe a claimed recovery rate close to 100% is not unreasonable.<sup>9</sup>

<sup>8</sup> Which, analogously with the "Teotihuacán case", I could not have missed had I tried.

<sup>9</sup> This claim of course excludes those target sites which geomorphological events have left too mauled or deeply buried

SSPHAP's survey methodology departed from textbook methodologies (e.g. Redman, 1974; Dancy, 1981) by its strong reliance on informants' reports, as widely adopted by archaeological surveys in the humid tropics. Notwithstanding the point that few local informants are also trained archaeologists, they enjoy a familiarity with their landscape, notably its historical dimensions (e.g. old place names, areas where antiquities have been found), far beyond the reach of conventional archaeological survey. Where I gladly owe a debt to the established literature is its emphasis on systematic survey, as long as "system" is interpreted as a consistent, well-informed technique rather than a robotic approach to survey (cf. Ammerman, 1981:81-82).

5.5.2 Rationalising survey methodology to fit the conditions The textbooks correctly point out that when the surface remains at a site are only partly recorded, intuitive choice by the recorder of where to survey may well lead to biased documentation. To avoid this problem, probabilistic sampling is usually recommended via transects or quadrants (e.g. Redman, 1974; Dancy, 1981). Applying this technique assumes (i) the site boundaries are already known, (ii) variability in the degree of surface exposure is either insignificant or can at least be accounted for, and (iii) the same is true for other potential biases affecting artefact recovery, such as how recently the fields had been tilled. Unfortunately none of these conditions applies to the South Sulawesi sites which I surveyed. Typically the sites were a complex maze of houses, gardens, groves, dry and inundated fields, roads and graveyards - these and the other land-use zones all presenting widely different degrees of disturbance and surface exposure. Occasionally we knew where a "site" ended when a ploughed field or other well-exposed surface was devoid of archaeological remains, but more usually the survey

for recovery by any practical survey technique. In addition the "Gowa historical sites" finally accepted for study include a small number where evidence of occupation by the 17th century, not necessarily associated with burials, was recorded (Appendix C).

had to be stopped where the archaeologically productive area "disappeared" into unsurveyable surfaces.

To survey these sorts of sites probabilistically, firstly an attempt would have had to be made to determine the site's limits. This would have allowed simple random or systematic sampling, but the exercise might have selected only areas of nil or poor visibility, in which case there would have been no effective survey at all. Hence it would have been necessary to employ stratified random sampling tailored to cover the potential effects of land-use variability on the recordable archaeological remains, i.e. to map every land-use zone in the site, work out a suitably stratified sampling procedure from the data, and then peg out the survey units in a subsequent visit to the site. I experimented with this sort of approach at one of the first sites surveyed (11.5), and it took two people pegging out the units just to stay ahead of one person recording the surface remains.

The survey of a complex settlement system can ill afford such gross inefficiencies and SSPHAP had to adopt pragmatic measures. As a first step the sites' maze of land-use zones were treated not as impediments to survey but as the survey units themselves, a procedure also adopted by Bintliff and Snodgrass (1988a:60-63) in their survey of the Bronze Age to Roman city of Askra, central Greece. As survey units the land-use zones presented a key advantage; usually the degree of surface exposure and ground disturbance was comparatively homogeneous within any zone. Hence the site recorders detailing the artefactual content in the land-use zones could also estimate the percentage of surface exposure and note any other factors likely to affect the recordable presence of artefacts. In practice we found that the plane-table mappers could generally stay just ahead of the artefact recorders, allowing a dialogue on the nature of the remains turning up and how the survey should proceed.

SSPHAP's second step, commensurate with the theme of relating the sites to Makassar history, was to employ the social foci of the site as the spine of the survey. The foci included Islamic graveyards, places where antiques had reportedly been found, and the saukang where the local

community spirit supposedly resides. Prior to any mapping the survey team would traverse the general area of the site in the company of our Makassar informants so as to plan a general survey strategy. Then the main features and intervening land-use zones were mapped in such a way that our transects between the focal points incorporated those land-use zones with the best available surface exposure. Finally, further transects of better exposed land-use zones were mapped as far as the site's circumscribing boundaries - natural barriers such as rivers, unsurveyable terrain such as forest or inundated fields, or zones which proved to be archaeologically sterile.

SSPHAP's emphasis on the social foci could be described as "purposive" but not as "hunch sampling" (cf. Flannery, 1976c). Rather it amounted to systematic sampling because the same range of foci was sought at every site. As regards the choice of transects along zones providing useful exposure, this was premised on the logical redefinition of "survey" as the act of seeing the ground and not just walking over it.<sup>10</sup>

#### 5.5.3 Recording the surface remains

During the survey "sites" were operationally defined as occurrences or concentrations of surveyed zones. The sites were enumerated serially by Kabupaten, the zones by site, and the curated artefacts by zone. To take Benteng Tua ("Old Fortress") as an example (Figure 6-2a), a Kabupaten boundary runs through the fort just east of the Syech Yusuf Complex and then eastwards along the main east-west road. Accordingly I identify the areas south of this border as "Gowa 1" (the first site listed for Kabupaten Gowa) and the other areas as "Ujung Pandang 10" (the tenth site listed for Kotamadya Ujung

<sup>10</sup> To be sure, the question remains unanswered of how representative SSPHAP's records are of the surface archaeological remains that would have been recorded in the absence of hindrances to visibility. But tackling that question would amount to a large and very expensive project, involving not only complex, stratified random sampling (based inter alia on modern land-use features), but also the removal of any hindrances to visibility (e.g. vegetation, asphalted surfaces and structures) in the probabilistically selected survey units.

Pandang). All curated artefacts could be individually labelled in a way that shows where they had been found, e.g. G.1.4.1 reads "the first artefact curated from zone 4 of Benteng Tua (within Kabupaten Gowa)", while U.10.133.10 reads "the tenth artefact curated from zone 133 of Benteng Tua (within Kotamadya Ujung Pandang)".

Only a small percentage of the recorded artefacts were collected. They included tradeware sherds which appeared to be particularly early, rare or diagnostic (B.5.1), stone artefacts, decorated earthenware sherds and metal remains.<sup>11</sup> As a standard procedure the fieldworker traversed the zone and counted the plain earthenware sherdage while assembling the tradeware sherds and other archaeological debris. The artefact recorder then classified the tradewares and other remains, labelled any artefacts to be collected, and returned the other temporarily assembled artefacts to the zone. SSPHAP's tradeware classifications and other raw data are given in Appendix D.

Sherds of local Makassar pottery were not considered a useful chronological indicator because their chronological and spatial variation is poorly understood. In contrast the tradeware sherds were readily identifiable, certainly as an assemblage even if some of the sherds were misclassified, and common enough to form the basis for dating the sites. During the Gowa and Soppeng surveys approximately 7000 tradeware pieces were either collected or photographed, and 42,980 pieces were identified overall.<sup>12</sup> Other main phenomena relevant to interpreting the sites included descriptions of the saukang and Islamic graveyards, evidence of looting (e.g. the number of remnant looter's holes), and traces of fortification. In addition, the soil was tested at sites where a geomorphological perspective seemed important.<sup>13</sup>

<sup>11</sup> Occasionally, complete tradeware assemblages were curated to check the reliability of the identifications made in the field.

<sup>12</sup> The age range spans the 11th to 20th centuries, but only those at least as old as the 17th century represent the development and efflorescence of Gowa.

<sup>13</sup> Soil colours were recorded using the Munsell (1975) charts, and are reported in terms of the Munsell soil colour categories. Unless otherwise stated only moist soil samples were tested.

## 5.6 Converting the Data into a Form for Analysis

### 5.6.1 Analytical definitions of "Gowa historical sites"

The conceptual definition of a "Gowa historical site" hinges on evidence of 17th century or earlier burials, but includes directly associated archaeological remains of the same time frame (5.5.1). Tradewares were not only the most abundant of the datable, directly associated remains, but also a primary source of confirmation of the suspected age of any burials. Hence site recording tended to focus on tradeware remains, and the analytical definition of "historical sites" depends more on tradewares than any other source of evidence.

Tradeware identifications made in the field are used for those tradewares which were not collected or photographed; otherwise, identifications subsequently made in the laboratory can be used (B.1). Statistical study of the identifications demonstrates four broad groups - "early", "Ming", "Qing" and "recent" groups - of which the first two are directly relevant to greater Gowa's history. When study under laboratory conditions identified a "Swatow" or earlier piece, then we had located a "historical site" (B.4). The matter is not quite as simple with pieces identified only in the field, however, because, certain of the field identifications did not prove to be particularly reliable. When field identifications had to be relied on, the "Swatow" or earlier "hallmark" is modified to the extent of excluding "Transitional BW" and "Ming red" pieces (B.6).

Area-sites. As well as the "fieldwork sites" (5.5.3), used to report the raw data (Appendix D), I recognise some other definitions of "site" and "sites" to accommodate

interpretation. During analysis it became clear that the fieldwork sites did not all stack up against a single historical site. Some included extraneous information while others confounded two or more historical sites. But as long as a fieldwork site was recorded as two or more zones, then the zones form the fundamental unit of analysis. So we can directly translate the definition of "historical site" to identify "historical zones" - whether from their tradeware

contents, apparently 17th century or earlier burials, fortifications or other phenomena of a comparable vintage.

If the sites are to be subjected to spatial analysis, then the logical definition of a site would be packages of historical zones. Accordingly I define a Gowa historical "area-site" as a continuous or virtually continuous expanse of historical zones, where "virtually continuous" means that the zones are separated by 100 metres or less. To arrive at that criterion I considered all the truly continuous areas, whether isolated zones or truly continuous clumps of zones, and measured the distance between every example and its nearest neighbour within every fieldwork site. Grouping these distances by ten-metre intervals shows a gradual decline in the number of cases up to the 91-100 metre interval, and considerably fewer cases per interval thereafter (Table 5-1).

TABLE 5-1. NEAREST NEIGHBOUR DISTANCES BETWEEN "HISTORICAL ZONES" (ISOLATED OR CONTINUOUS GROUPS) IN THE FIELDWORK SITES

| Distance Interval |        | Number of Cases |
|-------------------|--------|-----------------|
| 1-10              | metres | 34              |
| 11-20             | metres | 37              |
| 21-30             | metres | 30              |
| 31-40             | metres | 20              |
| 41-50             | metres | 15              |
| 51-60             | metres | 13              |
| 61-70             | metres | 16              |
| 71-80             | metres | 11              |
| 81-90             | metres | 12              |
| 91-100            | metres | 11              |
| -----             |        | Cut-off point   |
| 101-110           | metres | 2               |
| 111-120           | metres | 3               |
| 121-130           | metres | 2               |
| 131-140           | metres | 3               |
| 141-150           | metres | 5               |
| 151-160           | metres | 1               |
| 161-170           | metres | 2               |
| 171-180           | metres | 4               |
| 181-190           | metres | 1               |
| 191-200           | metres | 2               |
| 201-210           | metres | 0               |
| 211-220           | metres | 1               |
| 221-230           | metres | 2               |
| 231-240           | metres | 0               |
| 241-250           | metres | 2               |
| 251-300           | metres | 1               |
| 300-350           | metres | 1               |
| 350-400           | metres | 1               |

Point-sites. However, not all historical sites were mapped into zones, as with locations which had yielded antiquities but which are now completely asphalted over (preventing any useful mapping or sherd collecting).<sup>14</sup> Further, some other historical sites cover an insignificant area or no definable area at all. In such cases the site is best represented by a point and can be called a historical "point-site".

Toponymic sites. There is yet an added complication. The largest area-sites sometimes included more than one distinct historical community as deducible from the combined archaeological and historical evidence. For instance, the

Benteng Tua (Figure 6-1) incorporates four Gowa historical toponyms, each associated with at least one old burial ground (Kaballokang, Lakiung, Mangasa and Bone-Bone). If sites are ever to be used to represent the distribution of former

settlements (e.g. Figures 5-2 and 5-3), then even the densely packed communities need to be depicted separately. Mutatis mutandis, there are also cases of spatially distinct sites which need not represent more than one community, e.g. a

looted area with 16th century ceramics 110 metres from an old Islamic graveyard (no recorded sherdage between them, and both covered by the same place name). To reflect SSPHAP's emphasis on using historical toponyms to pinpoint former communities, a Gowa toponymic site is defined as the

coincidence of a kampung-like place name (preferably but not necessarily recorded before 1667) with evidence of 17th century or earlier remains. The advantage of having these intersecting definitions of "historical area-sites", "historical point-sites" and "historical sites" will become clear in the site descriptions.<sup>15</sup>

<sup>14</sup> This example graphically illustrates the difficulties that can confront the attempt to locate sites by surface inspection alone (cf. 5.5.1). While my reduction of what could have been a large site to a single point is scarcely adequate, it can be qualitatively better than not having been able to note the site's former existence at all. <sup>15</sup> Normally a historical site is identical with a point-site or an area-site, but a historical site can include two or more point- or area-sites, and an area-site can include two or more historical sites. These sorts of mental gymnastics are regrettable, but necessary for the present study where the settlement patterns clearly varied from very dense to

These definitions of Gowa historical sites, point-sites and area-sites differ from the definition, used during fieldwork, whereby a site was any occurrence of surveyed zones regardless of their content. Nonetheless the system used during fieldwork remains as the means of identifying and provenancing the recorded artefacts and features. Accordingly, Appendix C cross-tabulates the historical sites, historical area-/point-sites, and fieldwork sites.<sup>16</sup>

### 5.6.2 Standardised chronological histograms

The tradewares are useful not only to identify historical sites but also to date the history of tradeware-related activities. A bare summary of my much larger discussion (Appendix B) is provided here to prepare the reader for my "standardised chronological histograms", also called "tradeware profiles", when they appear in the site descriptions.

The frequencies of tradewares dated to particular 50- or 100-year intervals vary wildly, and so the site descriptions dispense with raw frequencies and instead calibrate the frequencies against the quantity of total tradewares recorded for the various intervals. As the data stand, two systems of tradeware classification should be recognised, and these are called the "fine" classes which number 31 in total, and the

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quite sparse, and where other than strictly archaeological criteria are employed in detecting the sites.

<sup>16</sup> The sites as labelled in Appendix C have already been briefly communicated in monthly reports to my Indonesian sponsors up to and including Gowa 89, Ujung Pandang 24, Takalar 28 and Maros 6. Ujung Pandang 25 and Takalar 30 were recorded during my last fieldwork days. With all these, the enumeration system by kabupaten follows the order in which I commenced work on them. (Benteng Tua is an oddity; I had labelled it Gowa 1 when working on prior collections before my own survey, but by the time I surveyed the site and realised that it crossed into Ujung Pandang, Ujung Pandang 1 to 9 had been pre-empted by other sites.) In contrast Gowa 90 to 93, Ujung Pandang 26 and Takalar 31 to 33, represent records of artefacts or notebook descriptions of cemeteries which I now accept as sites, and so their enumeration does not reflect their date of recording. Note that the sequences include some fieldwork sites which would not appear to be either historical or prehistoric sites. including Maros 1 which has been reported to my Indonesian sponsors but will not figure at all in this thesis.

"broad" classes whose number is reduced to 17. They produce quite different tradeware profiles; in particular, standardisation by 50-year intervals is carried out only with the fine classes. In the chapters describing the sites, the tradeware counts from all of the individual sites, and the site clusters too, are represented by standardised chronological histograms based on both the fine and the broad classes. The choice between them depends on the sample size of tradewares available; fine classes provide a more precise and reliable interpretation when large tradeware samples have been recorded, but the broad classes are safer when interpreting the small sites.

### 5.6.3 Prehistoric stone artefacts

1811 flaked stone artefacts and seven polished stone artefacts<sup>17</sup> were recorded and collected during the Gowa survey (Appendix G; Bulbeck, in prep. b). The majority were found during the surveys of the historical sites, but we also occasionally came upon purely prehistoric sites which we recorded using the modern land-use zones (5.5.2). As regards flaked stone artefacts, this thesis will follow the definitions of the New South Wales National Parks and Wildlife Service (NPWS) whereby a "prehistoric site" consists of two or more artefacts all found within 50 metres of each other, and an "isolated prehistoric find" is any artefact more than 50 metres from any other (see Appendix C). The ground stone artefacts will all be treated as isolated finds because of their rarity and because they would seem to belong to a later period than at least some of the flaked stone artefacts (e.g. Bellwood, 1985). Stone artefacts will be mentioned during the main site description (Chapters 6 to 11), not least because of their possible implications for geomorphological reconstruction.

<sup>17</sup> The word "polished" is used here in its technological sense, whereas a tool polished through use will be designated as "use-polished".

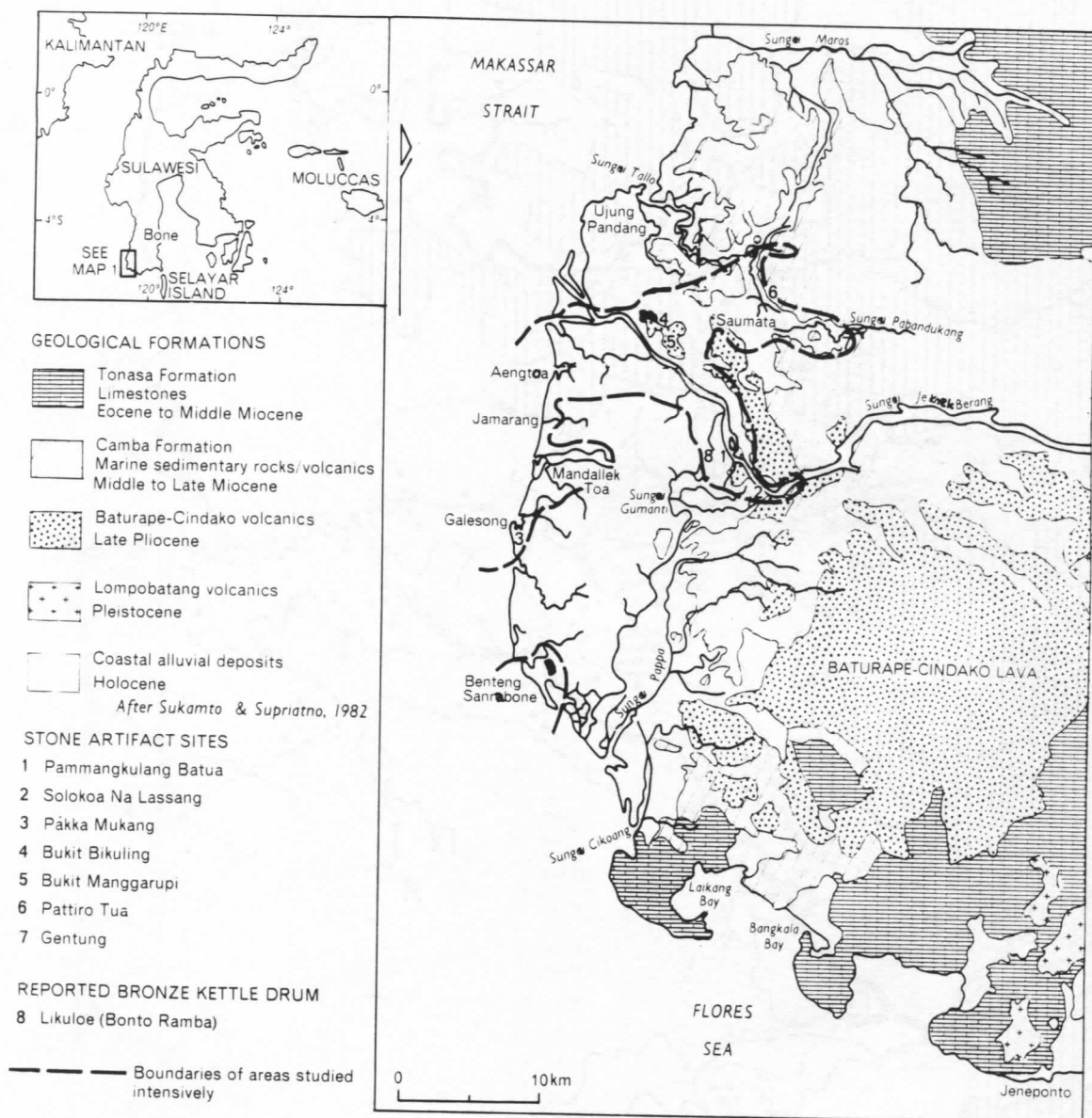
## 5.7 Reconstructing Historical Makassar Settlement Patterns

Virtually all the historical sites recorded during the Gowa survey included 17th century or earlier burial grounds.<sup>18</sup> This presents a logical problem for settlement pattern analysis in that settlements refer to the abodes of the (formerly) living rather than the resting places of the dead. While SSPHAP's fieldwork procedures make this dilemma explicit, it would have lain inherent in any survey of Gowa's historical archaeology. A survey aimed at living sites would have encountered the chronic intrusion of burial zones, and the difficulties in identifying debris of a domestic origin as opposed to debris derived from looted or otherwise disturbed graves.

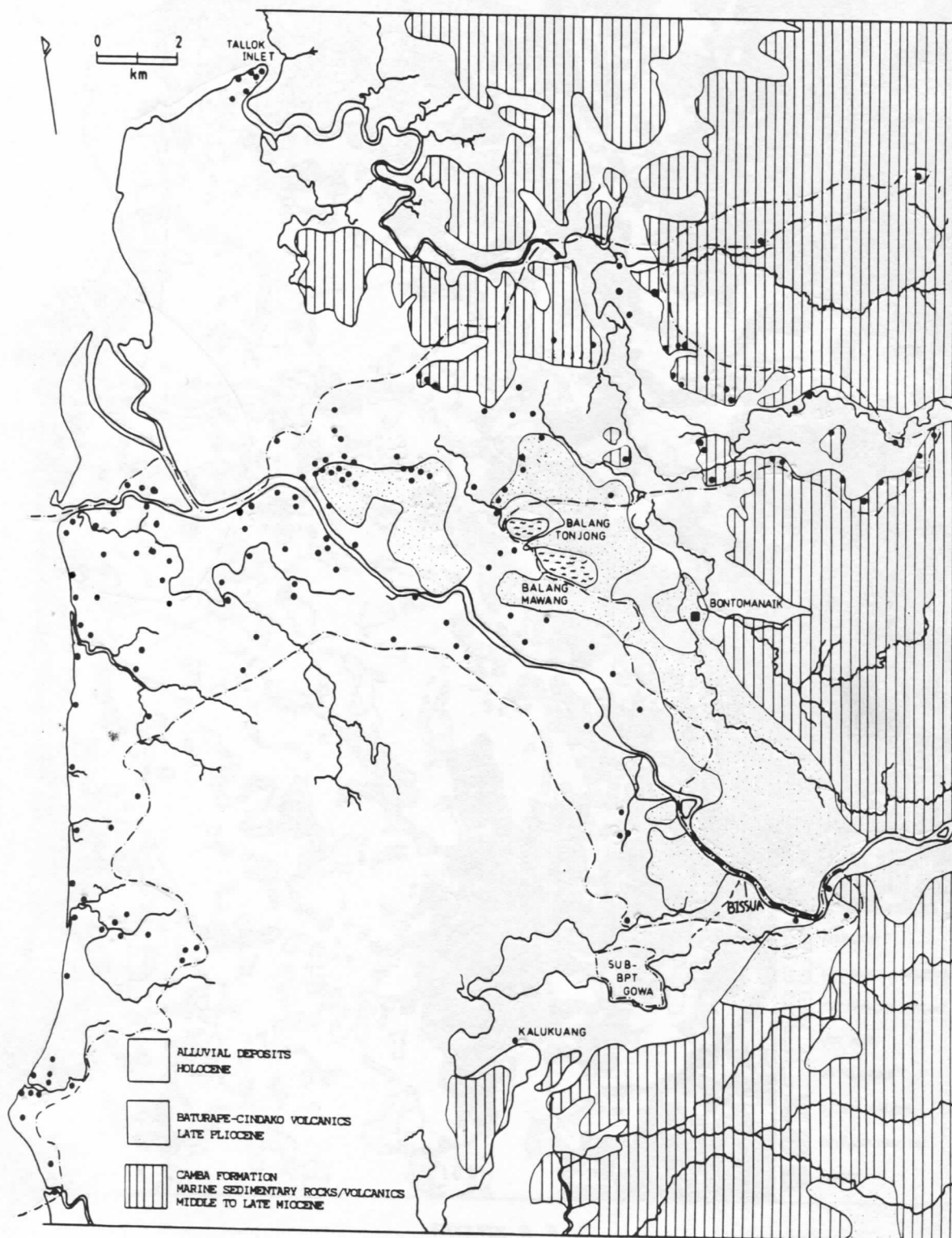
This last point indicates that not too strict a dichotomy should be entertained between living and burial sites. In today's well-populated areas, kampungs tend to include or at least abut the community's burial ground, and the archaeological evidence suggests the same was true during earlier times (e.g. Chapter 6). This pattern of coincidence may reflect both the scarcity of ground raised above the periodically inundated surfaces, and the importance of the ancestors' presence as testimony to the land-holding rights of the descendants (cf. Bloch, 1975). In less densely populated areas, the burial grounds still apparently acted as the social foci of the settlement system, but less intense pressure on land allowed more scope for burial grounds to be sited away from the main settled areas (e.g. Chapter 8). Nonetheless the presence of a burial ground indicates the existence of a coeval community within reasonable proximity.

<sup>18</sup> Twelve (area- or point-) historical sites are accepted on the criterion of suitably dated tradeware sherdage rather than the probable presence of suitably dated burials (Appendix C). Arguments justifying the acceptance of these non-target sites include: (i) the often uncertain distinction between sherdage derived from gravegoods rather than left as occupation debris; (ii) the point that some of these sites, e.g. Borong (Gowa 76), are quite important within their local context; and (iii) the association of most of these sites with sparser populations, such that they would actually be analogous to "surface archaeological remains found within the directly associated area of suitably dated burials grounds" within the densely populated areas.

In general, based on a comparison with the current use of burial areas which I observed, Gowa's historical sites would appear to correspond to a simplified rendition of greater Gowa's settlement hierarchy, shorn of its ephemeral settlements (13.3.1).



**FIGURE 5-1. SULAWESI'S SOUTHWEST CORNER - THE STUDY REGION.**  
(Adapted from Bulbeck, 1986-7:47).



**FIGURE 5-2.**  
SITES WITHIN THE INTENSIVELY SURVEYED AREA (DOT-DASHED)  
COMPARED AGAINST SUPERFICIAL GEOLOGY

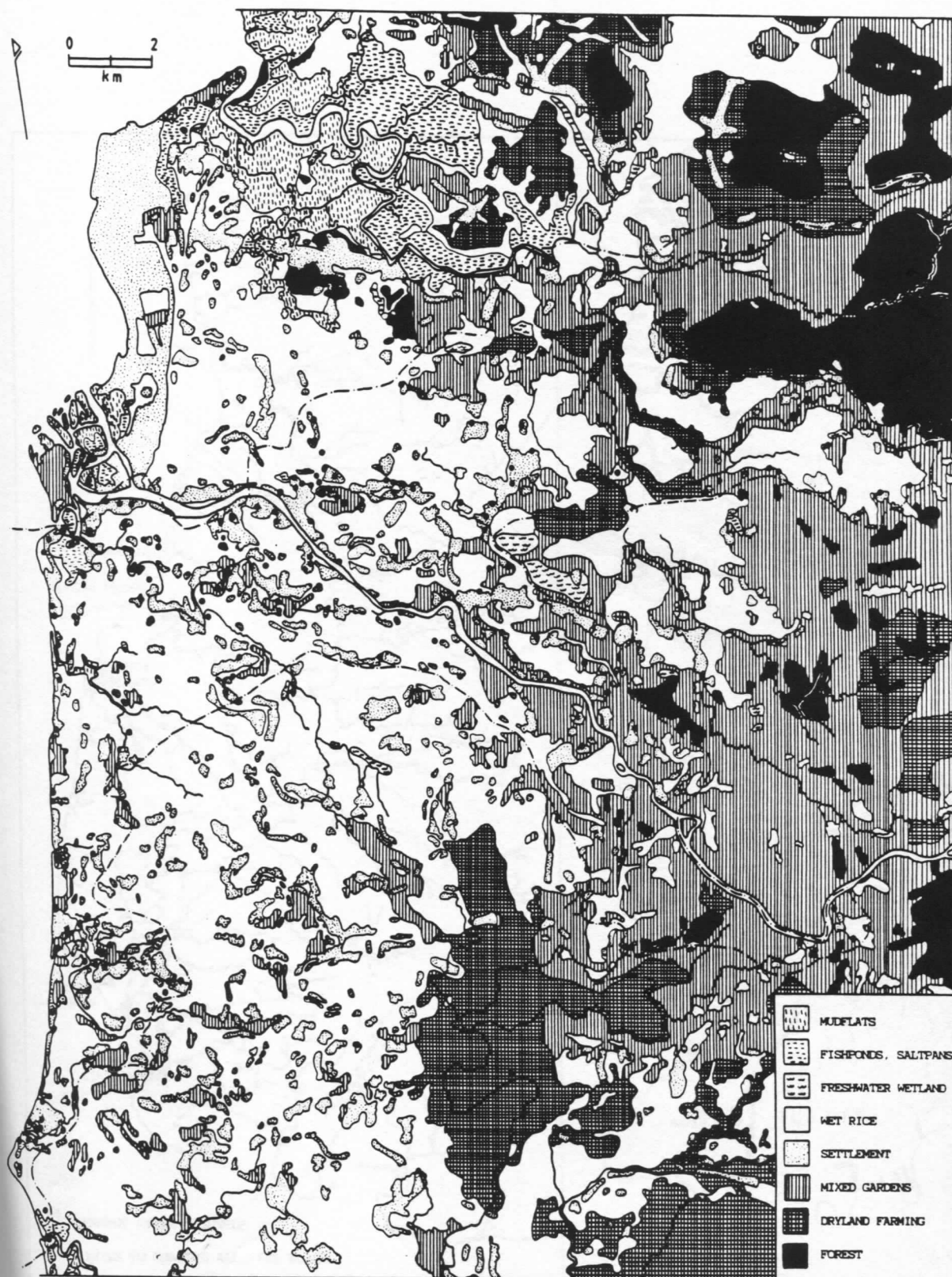


FIGURE 5-3.  
SITES WITHIN THE INTENSIVELY SURVEYED AREA (DOT-DASHED)  
COMPARED AGAINST 1914 LANDUSE PATTERNS

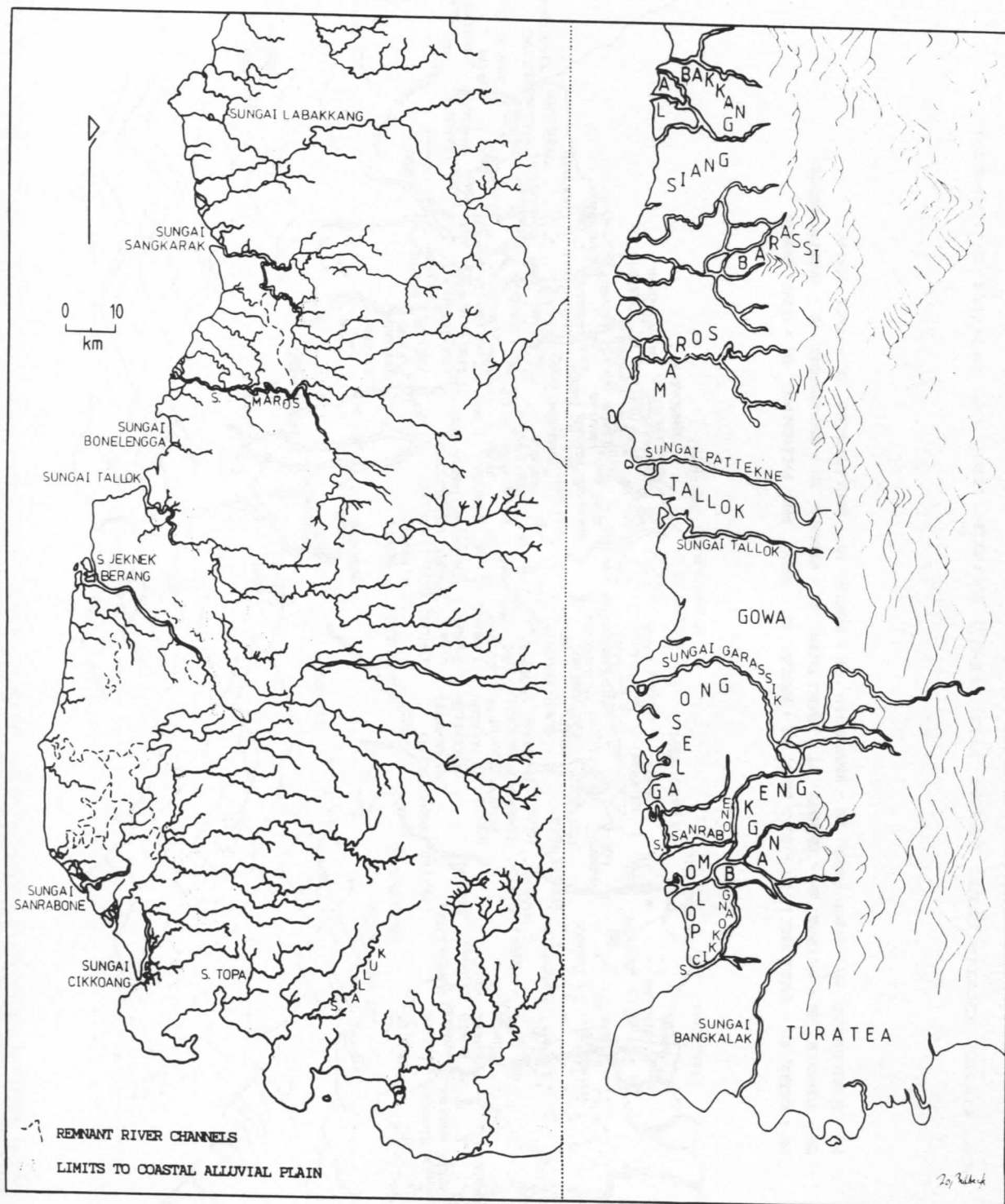
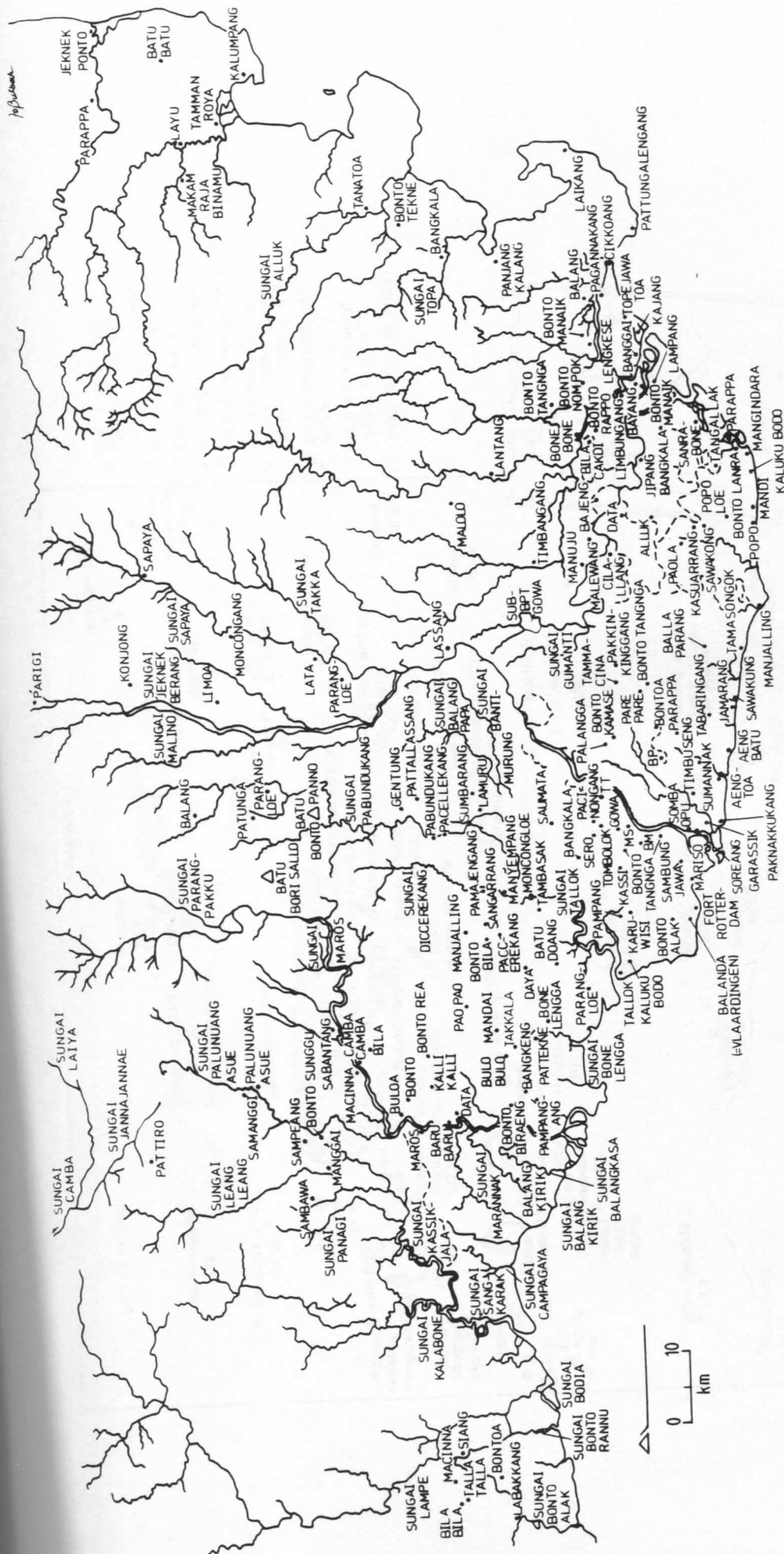


FIGURE 5-4.

DRAINAGE PATTERNS OF THE EQUIVALENT SECTIONS OF THE MODERN (LEFT) AND 1693 DUTCH MAPS OF SOUTH SULAWESI





EM = Bonto Manatik; MS = Mancasa; TT = Taeng Taeng; BP = Bonto Pakja

FIGURE 5-6. MODERN TOPONYMS MATCHING THOSE EXTRACTED FROM THE 1693 DUTCH MAP