

'THROUGH A GLASS DARKLY': THESIS SUMMARY

*James W. Rhoads  
Australian National University  
Canberra*

This study presents the findings of ethnographic and archaeological fieldwork conducted in the Papuan lowlands over a 13 month period between February 1976 and July 1977. The investigation focuses on societies subsisting on sagopalm starch, and is broadly structured within an ecological model of human behaviour (see also Rhoads 1977). As well, the thesis (Rhoads 1980a) addresses a larger, more theoretical issue of current interest in anthropology and archaeology: the application of ethnographic information to the understanding of prehistoric peoples.

The research area (Fig. 1) is situated in the vicinity of the confluence of the Sirebi and Kikori Rivers (7°14'S, 144°12'E), among the landholdings of the Kairi peoples. The landscape is comprised of a broad, irregularly drained alluvial plain. Low cone-karst hills occur as either isolates or in small clusters throughout the plain and an almost impenetrable karst plateau and sinkhole country lies further inland. The eastern portion of the Kairi territory, which is located some 30-40 km upstream from the contemporary villages, consists of heavily dissected volcanic foothills. Lush tropical rainforest covers most of the area. Year-round the weather is characteristically hot, humid and, with the exception of occasional respites, rainy.

ETHNOGRAPHY

The Kairi, who today total approximately 500 people inhabiting eight villages, speak a Non-Austronesian or Papuan language. Metroxylon palm starch and fish comprise the bulk of the Kairi diet with game and garden vegetable greens appearing regularly in small proportions. The women harvest sago from large cultivated palm stands situated adjacent to contemporary or past villages (cf. Rhoads in press, a). The processing technology, which has remained unchanged since European contact, is generally comparable with that documented for other Melanesian sago eaters. One aspect bearing some import for archaeologists is the use of a pith chopping implement equipped with a flaked stone tool, which closely resembles a blade core and is still manufactured by Kairi men.

Fishing, an activity almost equally shared by men and women, is today conducted in a variety of habitats. The use of fish-hooks and nylon line and nets has become popular in recent years and allows the exploitation of large rivers. Traditional fishing equipment and strategies are ineffective in this setting and fishing expeditions in earlier times were most often concentrated along the small waterways

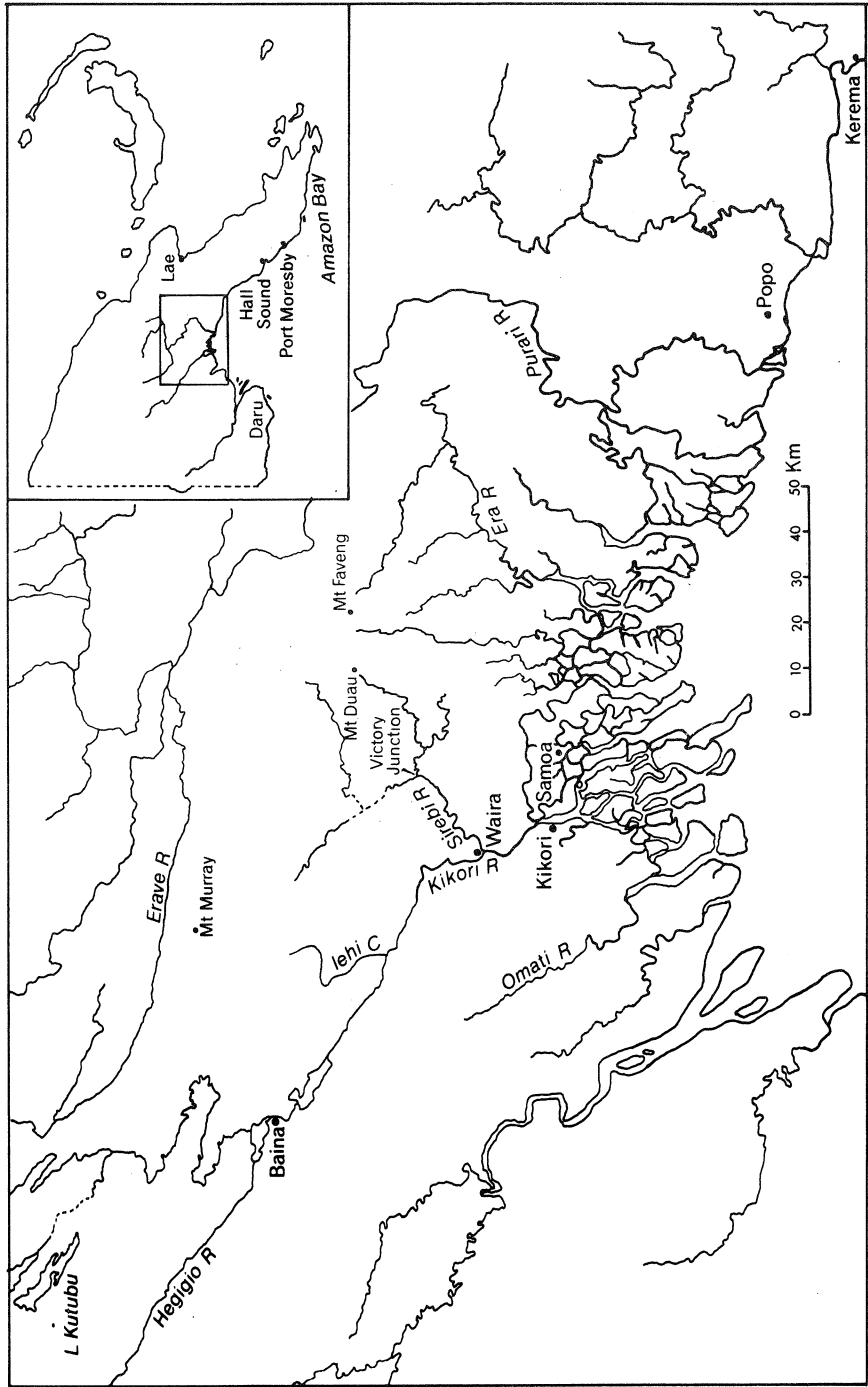


Figure 1. Map of the Papuan Gulf and inland regions

draining the alluvial plain. Seasonal fluctuations in the water-level of these creeks played (and continue to play) a large role in influencing the selection of fishing sites and the techniques used. Perhaps the most notable example concerns the exploitation of doline ponds. During the height of the 'dry season' (October-April) these ponds hold little water, thus enhancing the usefulness of 'fish poison', and the Kairi exploit this resource zone repeatedly and in large groups.

Hunting is an extremely generalized and mostly individual activity conducted throughout the alluvial plain and along the karst plateau escarpment. Shotguns have recently gained some popularity over the traditional hunting equipment, the bow and arrow. However, field observations suggest that their use has only made arboreal game more readily bagged and has not increased the surety of a kill.

Other major subsistence activities include gardening, gathering and collecting. Of these only gardening may be considered an occupation, rather than a pastime. Most garden plots are situated near the village and contain a wide variety of plants. Cassowaries and pigs are kept by Kairi villagers, but they are consumed only on ceremonial occasions.

The Kairi practise a bimodal settlement pattern comprised of a permanent village and temporary encampments. In order to interpret the interrelationship of subsistence and subsistence patterns, I monitored the daily work activities of all adults living in Waira Village, which served as my field base camp. The sampling period lasted 98 days and the information obtained was analysed by geographical techniques commonly applied to land-use studies (e.g. Chisholm 1962). The findings may be summarized as follows:

All landholding groups resident in a particular village conduct over 80% of all subsistence and non-subsistence activities within a 2.5 km radius of their primary sagopalm plantation, instead of from their village site. Exceptions to this rule only include the use of temporary encampments to avoid intra- or inter-village conflict or to exploit resources on distant landholdings or localities where fish and/or game are more accessible due to seasonal factors.

#### MODEL BUILDING

At this point in the thesis, I translate the ethnographic and historic information on Kairi land-use strategies into two general models (i.e. the 'ethnographic' and the 'direct historical' analogies). From these I deduce a set of 'working hypotheses' which posit a suite of behavioural conditions whose occurrence is sufficient for the modelled land-use system to occur. Each hypothesis is then reduced to a series of 'test hypotheses' which assert the material culture products of the proposed behaviour patterns.

Working on the assumption that land-use strategies other than those of the Kairi may have operated in the research area during the past, I next examine the range of subsistence strategies and settlement patterns practised by other Melanesian sago-using peoples (cf. Rhoads 1981). Based upon this study I construct five additional land-use models: Vagabond, Gardening, Residence Flux, Ecotone and Wet Season Dispersal.

#### PREHISTORY

The remainder of the thesis is given to a description of the material recovered from eight excavated sites discovered in the central region of the Kairi territory (cf. Rhoads 1980b). Based upon radiometric determinations and types of cultural remains, I divide the archaeological deposits into four periods: Pre-ceramic, Early Ceramic, Middle Ceramic and Proto-historic/Historic (Recent Ceramic).

Pre-ceramic remains occur at two rockshelters, Rupo and Ouloubomoto (Fig. 2), and date from approximately 3000-2160 B.P. The nature of the deposits at each suggests that the shelters are used sporadically and for relatively short periods of time. Subsistence debris almost exclusively comprises the cultural material at each. Aquatic faunal remains representative of species inhabiting waterways found within or fringing the alluvial plain are present in highest proportions. Terrestrial faunal remains include animals living on the plain and near its inland margin. Taking into account the ecology of animals inhabiting the region (cf. Aplin and Rhoads 1980), it may be concluded that the scheduling of site use is not necessarily restricted to one season and probably occurs during a period marked by a change in rainfall patterns.

The land-use system associated with the Pre-ceramic occupation cannot be readily determined because of insufficiency of data. Either the Contact (i.e. historic) or Vagabond Model may apply. As well, the information may be interpreted to represent the remains of peoples who reside outside the research area during most of the year.

Early Ceramic deposits appear at one open site (Kulupuari) and three rockshelters (Rupo, Ouloubomoto and Herekuna) and date between 1500 and 1150 B.P. Stratigraphic and radiometric evidence suggests that all sites are occupied a number of times during the period, but despite this, the cultural material at each is generally homogeneous.

Kulupuari is a village site where moderate to large structures with raised floors were constructed. A wide range of activities are conducted here. Among these are the manufacture and repair of stone implements, the use of ground stone tools, and food preparation by boiling and steaming. Sago is probably also processed from nearby Metroxylon palm plantations. Hunting and fishing expeditions are staged from Kulupuari and are sited in a number of habitats ranging

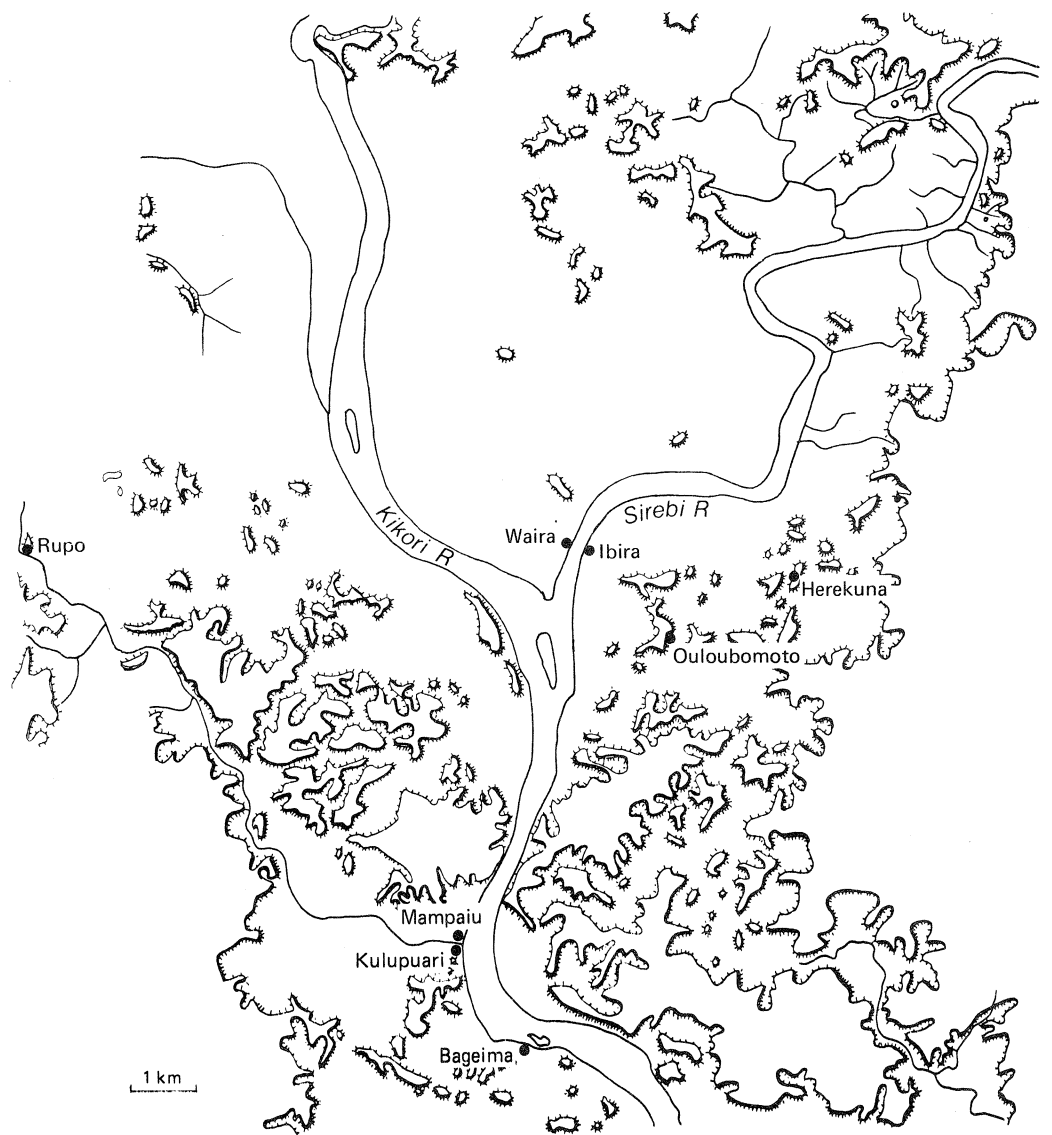


Figure 2. Site location map.

from along creeks and streams close to the village to near the karst plateau. It is also believed that the people practised pig husbandry. Taking into account the characteristics of the faunal assemblage, the site is primarily occupied around the beginning and end of the 'wet season' and possibly during it.

The rockshelters are inhabited intermittently as temporary encampments by small-sized groups. A limited range of activities are carried out at these sites. These mostly include wood-working, tree-felling and the repair of stone tools. There is no evidence supporting the processing of sago while people lived at the shelters. Although hunting from these sites becomes more important in this period, the procurement of aquatic fauna from nearby creeks and streams remains the major subsistence activity. Site use is mostly limited to the 'dry season'.

The Early Ceramic land-use most closely corresponds to the Contemporary Model. However, the lack of evidence for continued permanent settlement along the major rivers suggests that some variant of this system may have been in operation or that population levels are lower at this time than they are today.

Middle Ceramic cultural material appears at Rupo and Ouloubomoto and dates radiometrically from 900-700 B.P. The shallow depth of deposits at each indicates infrequent use. Both contain little evidence of work activities other than those directly associated with the acquisition of animal foods, most of which may be obtained from the alluvial plain. The timing of site occupancy is most probably limited to the 'dry season'.

The Contact Model best describes the land-use system practised during the Middle Ceramic Period. Certain predictions, especially those relating to 'wet season' exploitation patterns, do not, however, obtain. This is not judged sufficient to reject the model. Rather, a modified version of the model accommodates the data, particularly if the information for the previous periods is taken into account.

Between 700-400 B.P. there is no archaeological evidence for the Kairi area having been inhabited. But I believe that this does not denote the region's being abandoned. The material culture remains from and the structure of land-use systems for the periods preceding and following do not corroborate a break in cultural continuity.

Proto-historic/Historic remains occur at four open sites - Kulupuari, Waira, Bageima and Ibira - and the Herekuna rockshelter, and date from 400 B.P. None of the open sites seem to have been occupied for very long and all have post hole patterns most representative of small stilt houses. With the exception of

Kulupuari, each site exhibits a limited range of activities. Evidence for sago processing appears at Kulupuari and Bageima. Animal food remains are strongly oriented toward mammal hunting. The timing for site habitation is not certain, but the bulk of evidence suggests only during the 'dry season'.

Herekuna's occupation differs little in character from that in the Early Ceramic Period, except that the greatest proportion of food remains includes only mammal bone. The alluvial plain is the primary food resource area. Site use probably occurs in the 'dry season'.

The Contact Model best describes the land-use system for this period. However, as was the case for the Middle Ceramic Period, my hypothesis concerning 'wet season' exploitation strategies is not confirmed. Since the archaeological evidence from this period does not conform in all aspects with the model derived from ethnographic observations and historic literature, I must assume some error in my hypothetical reconstruction.

The thesis concludes with a discussion of the role played by other peoples in influencing the land-use strategies of the inhabitants of the Kairi area. Exotic goods, which usually comprise all of the artefact remains in the sites investigated, serve as the focus for this study. As I detail my findings elsewhere (Rhoads in press, b), I present only a brief summary here.

With the exception of the Early Ceramic and Proto-historic/Historic Periods, the land-use systems practised throughout the research area's occupation are generally centred around localities well away from major rivers. During these two periods, there is a high incidence of exotic goods (e.g. pottery, stone axes, shell ornaments and chert cores). Many arrive via coastal trading systems from sites situated 250-400 km to the east. Others come from areas near the Highland Fringe, some 80 km inland, and from the Highlands (only in the recent period). I believe that the move toward riverside settlement was only made in response to the availability of large quantities of these goods and that the desire for their acquisition during the Early Ceramic Period was the result of the establishment of a prestige goods economy in the Gulf region. The re-occupation of the hinterland between 1200 and 400 B.P. ensued from a breakdown in the coastal trading system among the pottery producing communities. The revival of Gulf-oriented trading systems by the Motu and others led to the beginnings of Kairi settlement along major rivers in Proto-historic times.

#### REFERENCES

- Aplin, K. and J. Rhoads. 1980 Animal ecology in the Waira region. In J.W. Rhoads (1980a), pp.A.123-47.
- Chisholm, M. 1962. Rural settlement and land use. London: Hutchinson University Library.
- Rhoads, J.W. 1977. For want of a chopper: research on sago prehistory in New Guinea. In Papers of the First International Sago Symposium (ed. K. Tan), pp.31-8. Kuala Lumpur: Kemajuan Kanji.
- Rhoads, J.W. 1980a. Through a glass darkly: present and past land-use systems of Papuan sagopalm users. Canberra: Australian National University (unpublished PhD thesis).
- Rhoads, J.W. 1980b. But how did you know where to look? Ethnographic facts and archaeological strategies. In Holier than thou: Proceedings of the 1978 Kioloa Conference on Australian Prehistory (ed. I. Johnson), pp.147-50. Canberra: Australian National University, Department of Prehistory.
- Rhoads, J.W. 1981. Variation in land-use systems among Melanesian sago eaters. Canberra Anthropologist. 4(2):45-73.
- Rhoads, J.W. In press, a. Sagopalm management in Melanesia: an alternative perspective. Archaeology in Oceania, April 1982.
- Rhoads, J.W. In press, b. Prehistoric Papuan exchange systems: the hiri and its antecedents. In The Hiri in history: further aspects of long-distance Motu trade in central Papua (ed. T. Dutton). Canberra: Australian National University, Research School of Pacific Studies.

Editor's note: Dr Rhoads' thesis (1980a) is available for purchase, and enquiries should be addressed to him C/o Department of Prehistory, Australian National University, Box 4 P.O., Canberra, A.C.T., 2600, Australia.