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THE PA OF HAWKE'S BAY: PRELIMINARY RESULTS OF FIELDWORK

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This report briefly describes results from archaeological survey and mapping conducted in Hawke's Bay from January to December 1990. The fieldwork was part of a research project on the development of socio-political complexity in prehistoric Mid-Hawke's Bay. The work was funded by the New Zealand-United States Fulbright program, the Department of Conservation, and especially by the Runanganui o te Ngati Kahungunu. Much of the fieldwork was conducted by trainees in the Runanganui's MACCESS course on archaeological survey.

THEORETICAL ORIENTATION AND PROJECT GOALS

Complex societies are perhaps best described in terms of regional integration, centralization, and stratification (Peebles and Kus 1977; Carneiro 1981; Wright 1984; Earle 1987). This project is an attempt to examine these characteristics among the prehistoric chiefdoms of Hawke's Bay through analysis of the form and distribution of pa.

My research views the development of pa as both a solution to problems faced in many regions of New Zealand, and an opportunity for rangatira or ariki to develop their own positions of leadership. Pa protected people, land, travel routes, and other resources, but they were also a focus of political and social activity. Pa functioned as forts and refuges, but they also expressed the strength, ability, and mana of leaders and their hapu. Polities required organization and capital investments to construct effective pa. By providing them, leaders were able to secure more power or authority for themselves. It is only through such 'trade-offs' that elites are able to develop their positions.

The distribution and nature of pa are appropriate means to study the regional development of socio-political complexity in New Zealand. First, to measure the extent of regional integration, polity size as well as reconstructed social boundaries will be utilised. Second, labour investment estimates based on the volume or area of terraces, defensive structures, pits, and other visible surface features, as well as the degree of site planning provide a means of considering centralisation. Third, the relative size and locations of residences within and among pa will be an indicator of the extent of stratification.

METHODOLOGY

The archaeological data required to fulfil these objectives are: detailed plan maps of sites, pa locations relative to other sites and ecological or other resources, and a reconstructed prehistoric environment. Sites must also be dated to consider contemporaneity and diachronic development. The site recording system of the NZAA is an invaluable resource for such research. It provided site locations and plan maps for a large percentage of the pa in the study area. Site recording in Mid-Hawke's Bay has been quite productive owing to several surveys of particular areas (Ritchie and Cave 1975; Menzies and Jeal 1976; Millyn and Nevin 1977; Fox and Jeal 1977; 1978; 1979; Jeal and Walton n.d.; Fox 1982). Moreover, a great deal of site recording along the coastal ranges has been conducted by Mr Robert Hunter.

Aerial photography permitted the entire study region to be surveyed for archaeological sites. New Zealand Aerial Mapping's 226 and 541 series taken in the 1940s and early 1950s were utilised to fill in 'blank zones' in the region, as well as to check previously surveyed areas. Possible sites were located on topographic maps and then field-checked. All observed sites, pa or otherwise, were recorded for the NZAA file. Due to the extent of forest and scrub clearance in Mid-Hawke's Bay and the high quality of early aerial photographs, it is felt that few extant pa within the study area were missed. All newly identified pa were mapped by tape, pace, and compass or by plane table and alidade.

In addition, many of the previously recorded sites were re-mapped or mapped for the first time to ensure that adequate information for the project's goals was obtained. This was particularly important for larger or more complex sites which required plane table mapping for accuracy.

The last phase of the fieldwork involved test excavations and shellfish sample collections. These were conducted in November and December of 1990. Radiocarbon samples were obtained from approximately 10 percent of the pa in the study region. Charcoal samples were identified by Dr Rod Wallace of the University of Auckland to enable the selection of charcoal with a low built-in age for dating purposes.

THE PA OF HAWKE'S BAY

The following is a qualitative account of the results of the site survey. It presents a brief description of the different districts within the study area. The study area (Fig. 1) is approximately 65 by 55 km. The northern boundary is the Esk River. The coast and the Ruahine and Kaweka Ranges form the eastern and western boundaries, and the southern end is defined by the Tuki Tuki River, and an arbitrary line east to Kairakau Beach. Currently, there are 136 recorded pa in the study region. Unfortunately, over a dozen have been destroyed at some point in the fairly recent past. Except for those destroyed and the immense site at Otatara (V21/41), each pa has been mapped.

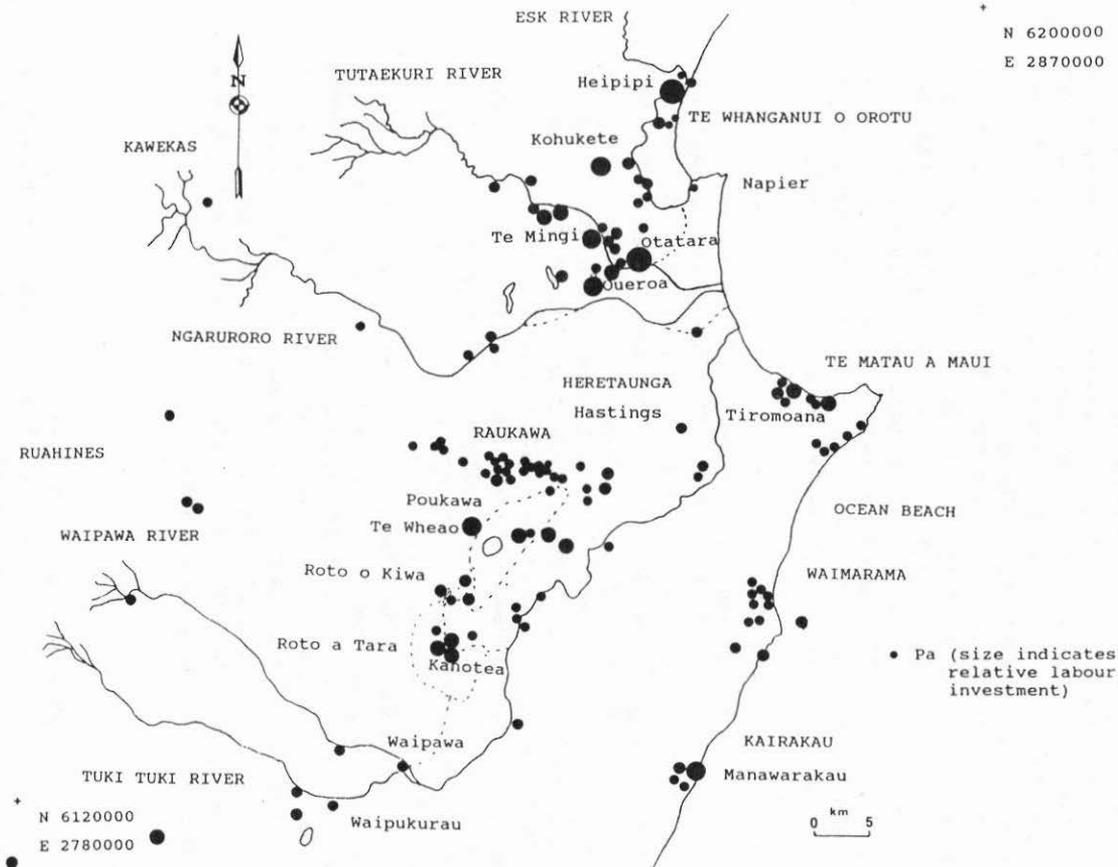


Fig. 1. Map of study region in Hawke's Bay, showing all prehistoric pa, sites and districts mentioned in text, modern cities, and major rivers. Dotted lines show former river courses and lake margins.

TE WHANGANUI O OROTU

This district contains Te Whanganui o orotu, the former Inner Harbour of Napier, and the surrounding hills. The protected harbour supplied fish, shellfish, and birds. It was located near sandy loam soils with northern aspect which were well suited to gardening, as well as coastal resources. It was also convenient to the major river systems of Hawke's Bay which had their own resources as well as providing transportation routes.

The northern and southern margins of the harbour featured the largest pa of Mid-Hawke's Bay. Heipipi (V20/9-14) extends for over 1 km along a ridge at the northern edge of Te Whanganui o orotu. Although the site has been severely damaged, visible surface remains, early aerial photographs, and a description by Best (1975) suggest numerous house sites, pits, terraces, middens, and some defensive features. This is a traditionally important site attributed to early occupation of the region (Buchanan 1973; Prentice 1976; McEwen 1986).

Near the southern end of the former harbour, along the Tutaekuri River, is one of the largest prehistoric sites in New Zealand. Otatara sprawls over five radiating ridges for over 30 hectares (Fox 1980). The ridges are extensively terraced and there are a large number of likely house sites and pits. Defences consist of a long length of low bank over a route of easy access, a small ditch and bank at the northern edge, and a double line of ditches which have unfortunately been quarried away. This site is traditionally a contemporary of Heipipi, as both were attacked by the Ngati Kahungunu around the 16th century (Mitchell 1944; Prentice 1976; Buchanan 1973; Fox 1980; 1982).

Clearly, Otatara and Heipipi were occupied by large populations relative to other sites in the region. Both are located to take advantage of defensive positions adjacent to the harbour, appropriate soils and slopes for kumara cultivation, and access to major rivers.

Other pa in the district were mainly located on small islands in the harbour which are now mostly destroyed, or on spurs along the harbour's western edge. Most were of small size, though strong defences are common. One notable exception is the third largest site in the region, Kohukete (V21/3-7). It is located a few kilometres inland from the harbour on a high isolated hill. The site is defended by extensive lines of ditch and bank. It is traditionally attributed to the early 19th century (Prentice 1976). The majority of the sites, however, probably functioned to protect small groups of people.

TUTAEKURI

There are 15 fortified sites along the Tutaekuri River as far as 20 km from the coast. The majority, however, are located near Otatara. Two of these are quite large and represent considerable investment of labour. These are Oueroa (V21/72) above the small lake Rotokare, and Te Mingi (V21/49) on the western side of the Tutaekuri (Buchanan 1973; Prentice 1976). Although Te Mingi was all but destroyed in the early 1970s, aerial photographs and present surface

evidence indicate that these two pa contained large numbers of terraces, likely house platforms, pits, and perhaps open public areas as well. Both were heavily fortified with earthworks. While Oueroa figures prominently in local traditional history (Buchanan 1973; Prentice 1976), little is known of Te Mingi.

The remaining fortified sites along the Tutaekuri represent much smaller investments of labour, and probably different functions as well. Several near Otatara contain evidence of habitation in the form of terraces and likely house platforms, but sites further upriver probably functioned as fortified food storage areas given the large number of pits in clusters and rows, and the paucity of middens, terraces, or other habitation evidence. These sites may well have protected stored food supplies for the concentrated populations at and around Otatara.

NGARURORO

The district along the Ngaruroro River contrasts remarkably with that along the Tutaekuri. There are fewer sites, and no evidence for concentrated populations. Buchanan (1973: 18) refers to part of this area as 'something of a no-man's land'. There is no apparent ecological restraint to prehistoric settlement of this region as the elevation, soil types, and waterways are similar to the Tutaekuri district. Further up the Ngaruroro, however, the width of the valley and the height and steepness of its sides may have made it a difficult location to control river access. The relatively low site density near the Heretaunga Plains, however, is understandable as a boundary area between the more densely populated Tutaekuri and Raukawa districts.

HERETAUNGA

Prior to uplifting from the 1931 earthquake and modern drainage, the Heretaunga Plains were a swampy lowland dominated by raupo, flax, and shrub (Colenso n.d.; Guthrie 1948). There are currently no visible remains of any prehistoric pa in this area. Certainly, however, there were Maori settlements in Heretaunga in the 1840s, as described by Colenso (n.d.) in his journals. The locations of some of these are noted in Mooney (1973). Some of these sites may well have existed for a considerable period prior to this, but others were probably established after the Treaty of Waitangi enabled several thousand Ngati Kahungunu to return to Mid-Hawke's Bay from the Mahia peninsula and other areas. These people had been absent from the region for nearly 20 years in order to avoid raiding parties armed with muskets (Colenso n.d.; Prentice 1976; Buchanan 1973). Early European accounts and Maori tradition both suggest that there were indeed a few fortified settlements along the waterways of Heretaunga, near the coast. In the mid 19th century, however, Heretaunga was the focal point for Maori settlement, as Colenso's journals consistently indicate that few people lived in inland villages or hamlets. Areas which were of prime importance for prehistoric habitation were nearly abandoned in the mid-1800s. A dramatic population decrease beginning in the early 19th century and/or a

major change of settlement pattern after the Treaty of Waitangi is suggested by this pattern.

RAUKAWA

This district contains the greatest density of pa in Hawke's Bay. There are over 20 fortified sites on a series of ridges which trend from the southwest to the northeast. These pa controlled valleys which give access between Heretaunga and the former large freshwater lakes in Central Hawke's Bay. These sites indicate a potentially large population in the district, but with a different distribution than those of the Inner Harbour or the Tutaekuri. People in this district were more or less evenly spread out in the various sites, with no centres. Sites reveal substantial defences in the form of transverse ditches and lateral scarps. Moreover, they contain numerous terraces and pits, which suggest protected households and food storage.

Unfortunately, this district has little known traditional history. Few of its pa have known names or close connections with modern communities. Since this inland district clearly became less significant in the 19th century, as evidenced by the low population noted by Colenso (n.d.), it is likely that considerable traditional information for the locality was lost. The nature of the sites and their distribution, however, suggest that many of these sites were allied and functioned together to provide mutual security and to control adjacent valleys. There is little evidence of hierarchical relationships amongst these sites, as they indicate similar investments of labour and population size. Similarity of style and site distribution also suggest contemporaneity.

INLAND LAKES

A second important inland region in Mid-Hawke's Bay is the area around three former freshwater lakes between the Heretaunga Plains and the Waipawa and Tuki Tuki Rivers: Poukawa, Roto o Kiwa, and Roto a Tara. The latter two are now visible only after heavy local rainfall. Poukawa is much diminished, but has not been completely drained. The district was heavily populated in the prehistoric period, as evidenced by the size and number of sites. Two pa, Te Wheao (V22/56) at Poukawa and Kahotea (V22/90,119) at Roto a Tara, clearly were associated with particularly large populations. Both exhibit considerable site planning, and large numbers of terraces and house sites. All access routes to and through the lakes are defended by one or more pa. In addition, many of the sites are heavily fortified relative to others in Hawke's Bay, and defences tend to form squares of fairly equal sides. The inland lakes district held great importance in prehistoric Hawke's Bay due to its resources and as a travel route.

TUKI TUKI

More so than the Tutaekuri or Ngaruroro, the pa along the Tuki Tuki are spread out evenly and are of fairly uniform size and labour investment. The river flows through ranges of hills south to Waipawa, then curves to the west across the Ruataniwha Plains. Pa are limited to the north-south part of the river, and often take advantage of former river terraces to provide natural defences. None of the Tuki Tuki sites indicate large populations, and there are no obvious socio-political centres. The traditional hapu boundaries along the river (Parsons 1984), moreover, reveal the same pattern: small groups in control of consecutive segments of the river. The Tuki Tuki, like the inland lakes, held importance as a transportation route.

COASTAL SITES

The coastal pa of Mid-Hawke's Bay are concentrated in three areas separated by coastline without fortified sites. The northernmost group is along Te Matau au Maui. There are a dozen pa located along the high cliffs above the narrow beach. These sites rely on steep natural defences and usually one or two lines of transverse ditches across spurs and ridges. They contain many pits, terraces, and shell middens. Three of the pa are considerably larger and more complex than the others on the cape. All three are located on the north side on top of the cliff, within approximately 5 km of each other. Two contain numerous terraces, middens, and pits, and probably functioned as defended habitation sites. The third is Tiromoana (W21/1) excavated by Lady Fox (1978). This site contains many pits, a wharepuni, and evidence of a few other structures. It may not have functioned primarily as a fortified habitation site, but rather as a defended storage area with a large open public space.

Between the cape and the next concentration of coastal pa at Waimarama is Ocean Beach. Many early shell midden sites are scattered along this beach, and the area has long been a productive one for artefact collectors (Fox 1982). There are certainly sites with pits and terraces at Ocean Beach as well. Fortification, however, does not seem to have been common in the area. A major factor in this pattern is undoubtedly the scarcity of dependable freshwater. It may well have served as a boundary zone between the cape and Waimarama. Whatever the reasons, there are no recorded pa for about 12 km of coast.

Waimarama, on the other hand, has a dense concentration of fortified sites in addition to vast numbers of open sites and middens. There are 11 known pa in the area, mostly on hills close to the beach. Several of these contain numerous terraces and pits, suggesting fairly large investments of labour. However, there is not a readily apparent socio-political centre. Some do have particularly commanding positions or one or more wharepuni which suggest some differentiation among the Waimarama sites.

South of Waimarama is another stretch of coast which lacks fortified sites. The coastline is quite rugged with high cliffs making access to the rocky shoreline difficult. There is also no dependable freshwater stream in the area.

Kairakau, however, has a sandy beach, a permanent stream, and gentler slopes suitable for cultivation and habitation. There are three pa connected by a long ridge just above the stream. The most complex of these is Manawarakau (V22/268), but a pa (V22/271) on the highest point in the area commands a better view. The latter also has the largest wharepuni platform in Mid-Hawke's Bay, measuring over 35 by 15 m with banked sides. These two sites required considerable site planning and investment, and indicate a fairly integrated population at Kairakau.

THE HINTERLAND

Beyond the districts described above, there are a small number of pa. They tend to be isolated from other sites, and are associated with rivers or streams. They occur as far from the coast as the foothills of the Ruahine and Kaweka Mountains. Though terraces are common, few of these more remote sites contain large numbers of storage pits. The most striking characteristic of these pa is that they show less investment of labour towards earthwork defences relative to those in more densely populated areas. Rather than scarps and ditch systems, almost all of the hinterland pa relied only on natural slope, terracing, and probably palisading. One interpretation is that the remote sites do not function to protect key resources or transportation routes. As undesirable targets they were probably not worth the investment of artificial defences. Another possibility is that populations in the hinterland (sedentary or temporary) were too small to manage earthwork construction, but this is unlikely as small pa in other areas attest to considerable effort to fortify. It is also important to recognise that sites in the hinterland could be located with more regard to natural defensibility than to control of key resources or the proximity of other pa. In other words, pa locations could be chosen mainly to minimise the need for earthworks.

CONCLUSION AND ACKNOWLEDGEMENTS

These preliminary impressions and observations are currently being refined by quantitative analyses. Radiocarbon dates which have been processed will soon be made available as well.

Above all, I wish to thank the tangata whenua of Hawke's Bay and the many landowners for permission to conduct the fieldwork. Tohara Mohi and John Mackie of Te Runanganui o te Ngati Kahungunu were particularly instrumental in the completion of the project. I also wish to thank: the MACCESS trainees, Diane Adams, the Department of Conservation, the Historic Places Trust, the New Zealand-United States Education Foundation, the UCLA Friends of Archaeology, Elizabeth Pishief, Mary Jeal, Chris Arvidson, Nigel Hadfield, the Department of Anthropology at Auckland University, and New Zealand Aerial Mapping. All errors and omissions are the fault of the author.

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