

Public Participation in Housing: The Waahi Maori of New Zealand

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The housing action described in this case study involves a tribal minority, a "nation within a nation," quite distinct from the majority society within which they are encapsulated. These are the Maori, the Polynesians who constitute 10 percent of the population of *Aotearoa* (New Zealand).

As indicated in the following pages, the autonomous action taken by the Maori of Waahi Pa involved the generation of money to support housing construction, and the decision of how this money was to be used. What follows is the story of an empowerment process, the union of participation and communication in the production of site plans and housing designs. This is the "spontaneous" aspect of the process: though facilitated by a professional, it was entirely under the control of the users. Other professionals—architects, planners, contractors—were involved as well in the participation process itself or subsequently.

The empowering participation/communication process called "environmental modelling" was devised to bridge gaps between citizens and professionals, between members of one culture and those of another. It is also a suggested way of bridging language barriers. Environmental modelling was originated to meet the needs of the Waahi Maori, but has since been applied in a number of other cultures and situations, and has been amplified and further refined.

Processes do not exist in a vacuum: each has a context. The context of the Waahi housing design and site planning process was Maori culture. Hence, this article begins by placing Maori culture within the context of the Fourth World, and relating it to power, cognition, and concepts of settlement. The task of an outside facilitator in situations such as this, is therefore twofold: to understand appropriate aspects of a novel cultural context, and to use this understanding as an enabling mechanism in facilitating the housing process.

The work reported here, then, has two purposes: (1) to present some aspects of the cognitive systems—environmental values—underlying "traditional" and "modern" Maori house and settlement patterns; and (2) to develop communication tools enabling

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Maoris to communicate these values in terms understandable to *Pakeha* (European) design professionals. The latter constitutes the spontaneous translation of the former into housing needs.

THEORETICAL ASPECTS OF MAORI HOUSING AND SETTLEMENT

*"Haere mai, haere mai, e te manuwhiri
ki te whare mate o aku tipuna."* (Welcome,
visitor, to the deserted home of my ancestors.)

The theoretical framework involves five aspects, related as in Figure 1. One aspect, labelled settlement/resettlement, and including both settlement planning and house design, is conceived to be central, with the other four reflecting it to an extent, and contributing to its determination.

Figure 1: The interrelation of five essential aspects of Maori culture and settlement.

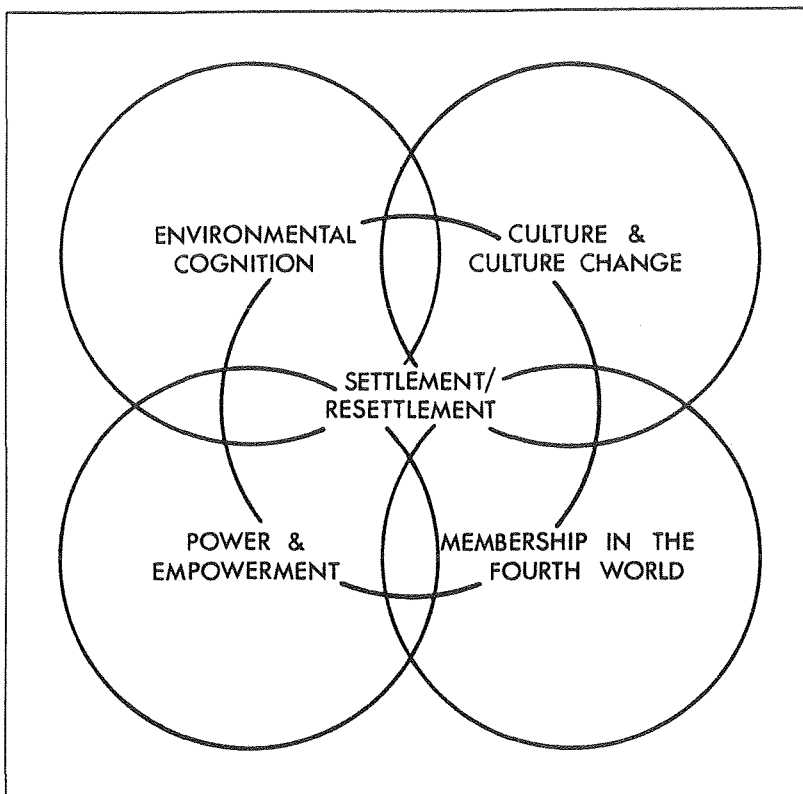


Figure 2: Vertical aerial photograph of Waahi Marae (center), Huntly CBD (bottom) and power station site (right) on the banks of the Waikato River, 1978.
(Courtesy of J. Ritchie)



Settlement/Resettlement

There are hundreds of Maori communities in the North Island of New Zealand, most centering about *marae*, the Maori welcoming grounds with their buildings (Fig. 2). The origin of *marae* can be traced to the challenging and welcoming area of Maori towns (*Paa*), common prior to British colonization. The period of extensive *marae* building in contemporary communities is relatively recent; hence, *marae*¹ can be regarded as part of "new" Maori tradition, fusing elements of Maori spatial cognition contained in the cultural core (Steward, 1955), with new technologies and settlement patterns.

An even newer phenomenon is the establishment of urban *marae* providing a meeting ground and hospitality center for some, at least, of the more than 50 percent of Maori who dwell in urban places. It is estimated that about 1,000 *marae* are currently in use among urban and rural Maori.

The existence of *marae* has enabled the establishment of *marae* community zones, affecting the construction of both housing and community facilities.

Environmental Cognition

Environmental cognition invariably involves the establishment of environmental categories which define relations of equivalence and non-equivalence. We assume that it is both meaningful and possible to talk about elements of settlement form and that these are subject to a variety of changes and manipulations. The classification system (the breakdown of form into elements and equivalence classes) for such elements can be expected to vary from culture to culture. Thus, what is perceived as a significant environmental change by a *Pakeha* may be insignificant to a Maori, or vice-versa. To paraphrase an old cliché, "a difference that makes no difference is no difference."

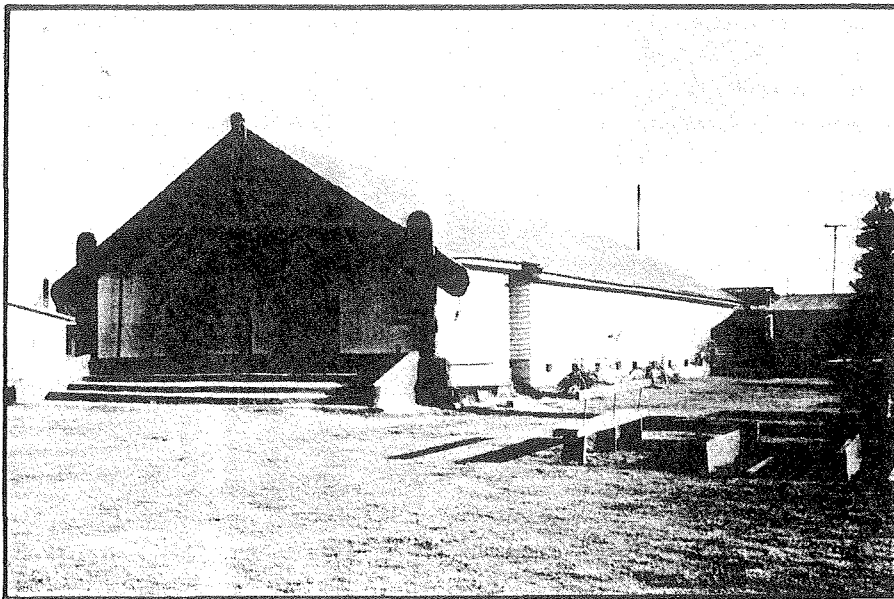
In apparently dialectical relationship, the classification system which enables built form to be subdivided into elements is complemented by another form of cognition which, in many cultures, denies this divisibility: thus, the Maori meeting house with its distinctive barge board, entrance, porch, roof, interior, etc., is also an ancestor (Fig. 3). Similarly, the *marae* is broken down by *Pakeha* observers into entrance-way, guests' waiting area, welcoming hosts' area, meeting house, dining hall, ablution block, and so forth, but is also an indivisible whole, in harmony with its context. Such considerations can be expected strongly to affect the nature of Maori settlement cognition.

Culture and Cultural Change

During the less than 80 years between 1900 and 1978, the Maori population (the one-time "dying race" of New Zealand) increased from less than forty-five thousand to nearly three-hundred thousand, while the negligible proportion of Maori living in cities at the turn of the century increased to over 50 percent. Under strong *Pakeha* influence, Maoris were encouraged to adopt the ways and values of a fundamentally European society. Many Maori indeed made the attempt, but found that total absorption into the *Pakeha* context would require the abandonment of certain values central to their society (and to varying extents, central to Polynesian societies in

general). Of these, two have strong spatial correlates and, hence, considerable relevance to settlement and to environmental cognition.

Figure 3: Meeting house (*Taane*), Waahi *Marae*.



The first concerns the role and functions of the extended family. This relates to such considerations as:

- 1) Ritual—*hui* (meeting), *tangi* (funeral), and *whakapapa* (the recitation of one's line of descent from the original canoes)—each ceremony usually involving a trip to one's home *marae* or (where one exists) to an appropriate urban *marae*;
- 2) Inclusion, the process of welcoming strangers into the extended family which requires a *marae* for its successful ceremonial execution. The *marae* looms so important in Maori society that the Department of Maori Affairs has considered the establishment of an indoor *marae* on one floor of the high-rise office block it occupies in Wellington;
- 3) Hospitality, the feasting and accommodation offered to guests who have gone through the ceremony of inclusion. The anticipated number of guests at a *hui* clearly relates to the required scale of meeting and dining halls (Salmond, 1975). The function of *kai* (food) in the removing of *tapu* (religious power) acquired by

participation in a meeting requires that meeting and dining halls be closely associated;

- 4) "Keeping the *marae* warm" means being ready, continually, to supply hospitality. In principle, this means the presence of *tangata whenua*: in practice, this usually means that one or more elderly couples take prime responsibility for organizing meals, arranging for the disposition of sleeping guests (mattresses being stored, conveniently, next to the meeting house), etc.

The second spatially-related constellation of values centers about land. The Maori word *whenua* means both "land" and "placenta," signifying the intimate ties that bind Maoris to their earth, a relationship not yet fully understood by *Pakeha*. If the *marae* has become the spatial focus of *maoritanga*, *Te Matekite Aotearoa*, the Maori land movement, has become the spatial focus of political action.

Power and Empowerment

Until quite recently, Maori perceived themselves as totally subject to the political and economic domination of *Pakeha*, a power once seen as apart from Maori *mana*. In many respects, the land movement has been the first major assertion of power by a society that now constitutes almost 10 percent of the population of *Aotearoa* and an even larger proportion of the North Island's people. With urbanization, the Maori have become a highly visible minority. Unlike Native Americans, for instance, they cannot be ignored by the *Pakeha* majority.

The process by which an individual or group develops power is termed *empowerment* and such was the focus of the project to be described in a later section. Such environmental empowerment involves increased control over the decisions affecting one's own community. In terms of the built environment, control over design is an issue of paramount importance. Until recently, however, culture never entered as a design determinant in the provision of housing in New Zealand.

Membership in the Fourth World

The "Fourth World," as the term is used here, refers to the original inhabitants of certain colonial nations, people who have become encapsulated minorities in their own land (Manuel and Posluns, 1974). The former colonies of Great Britain include such fourth worlders as American and Canadian Indians, Inuit, Aleuts, Maori, and Australian Aborigines. Their cultural roots differ widely, but they share many current problems in dealing with the European majorities around them. In particular, concepts concerning the nature of extended family privileges and responsibilities and the inalienable nature of land have run afoul of European ideas about the nuclear family and the commodification of land. In this regard, the situations of Fourth World peoples vary: Native Americans hold all rights over their reservation land while mineral rights of Maori land are reserved by the Crown—an important distinction, especially in energy-hungry North America. As for Australian Aborigines, they now hold no rights to land at all, such rights never having been recognized by European colonists. Further, the exercise of kinship obligations in urban areas, which often involves gatherings extending over considerable time, frequently results in social and legal

disapprobation by neighboring Europeans ("Look at what 'those people' do! You just can't give them a decent home!")

RECENT HISTORY OF GOVERNMENTAL HOUSING EFFORTS

During recent years, there has been a substantial effort by the New Zealand Government to provide housing—especially rural housing—for the Maori, who constitute about 10% of the Islands' population, and held almost 1,225,000 hectares in 1979. Unlike the U.S.A. (Stea, 1983b,c), in which the problems of indigenous housing concern both availability and cultural suitability in acute measure, issues of Maori housing in New Zealand revolve much more about the latter.

Table 1: Housing Efforts of the Department of Maori Affairs, 1979-1984
(Partial Summary)

Houses Financed by the Department under Maori Housing and Rehabilitation Act						
	1979	1980	1981	1982	1983	1984
(a) New Houses Built	754	*	*	207	244	258
(b) Through the Maori Trustee	7	*	*	401	402	381
TOTALS	1124**	*	*	620	669	639
Repairs and Additions	308	*	*	*	*	*
Kaumatua (Senior citizen) Flats Completed	11	*	*	25	31	30

* Data Not Available

** During 1978, the New Zealand Government relaxed criteria for lending on existing houses, resulting in more families than anticipated being housed, particularly those on low incomes and/or living in rural areas.

Source: Department of Maori Affairs. Wellington, New Zealand.

"Spontaneous action" in housing often involves stages prior to and after initial house construction, the processes through which housing is planned and later altered to suit user needs. This contrasts with the situation of indigenous peoples in developing countries elsewhere in the world, who have no alternative than to construct their own housing in a quasi-legal, or extra-legal, way.

A partial summary of housing efforts of the Department of Maori Affairs, from 1979 to 1984, is provided in the preceding table.

From the beginning of the Maori Housing Program through the end of March 1984, the Department financed construction of 22,634 new houses and the purchase of 3,866 existing homes, "a major contribution towards Maori home ownership when considered in relation to the 1981 census, which shows that there were only 27,099 Maori

owned dwellings" (Dept. of Maori Affairs, 1984, p. 14). The program of providing *Kaumatua* (senior citizens) housing had completed 91 units through early 1979. "The housing of elderly Maori people in flats close to *marae* has proved most successful. Not only is it providing a much needed housing service but it also allows a *Kaumatua* to be more involved in *marae* activities" (Dept. of Maori Affairs, 1979, p. 11).

The foregoing quotations suggest that unlike the situation of Native Americans in the United States (Bell, 1985, for example, indicates that of the 2,000 houses needed by the Hopi in the last few years, only 230 have been built) the simple *provision* of housing is not the major problem facing the Maori. Hence, this is not the most likely arena of spontaneous action. However, as Davey and Barrington (1979) and Potts (1979) have written, maintenance and, in particular, cultural adaptiveness are issues of great importance. The latter is of significance in both rural and urban areas:

There are some differences in the way in which Maori and Europeans regard their homes. Urban Maoris, on the whole, regard the house as a place to eat and sleep in; as a piece of useful equipment. Europeans associate a great deal of subconscious and architectural appearance, features, and arrangements, these characteristics often having more emotional than practical importance...On the other hand, Maoris tend to prefer houses that do not stand out as different (even as "Maori Houses") and so here the problem compounds itself. Because of the Europeans' desire to have houses built for architectural appearance, this affects the lending institutes and through them the standard of all future houses. Maoris do not generally specify these values and they have to accept them and pay for them, because the market requires these rather costly constraints to be imposed on all houses. For Maori families, their urban house, far from their home community will have to serve increasingly as a "little *marae*," unless there is a *marae* of their own sub-tribe somewhere in the urban area. This need will influence their requirements as far as the plan and size of the house goes (Potts, 1979, p. 21).

WAAHI PA: AN OVERVIEW²

The remainder of this paper is concerned with a case study involving spontaneous community participation in the housing/planning process. It was spontaneous because it was initiated by the community itself rather than by governmental entities or professionals, and because both its content and form were determined by the community. The locale was Waahi Pa (village) near the town of Huntly on the North Island of New Zealand.

Brief History

Waahi Pa (Figs. 2-4) is located between Lake Waahi and the Waikato River on 12.4 hectares of land that, prior to European entry in the early 19th century, was occupied by the *Ngati Mahuta* a sub-tribe of the *Waikato*. Following the Land Wars of the

1860s the area was confiscated by the Government along with over 600,000 hectares of Waikato land. Local Maoris who fled government troops eventually returned to occupy small reserves set aside for them by loyalist Maoris. Waahi became the center of the Maori King Movement when Mahuta became the third Maori King. Maori owners vested Waahi *Marae* to Koroki, the fifth Maori King, who in turn set aside land as a reserve for a village site and meeting place for the Waikato tribes in 1955. In 1966, a succession order to Koroki's title was granted to the present Maori Queen, Te Atairangikaahu (or "Te Ata," for short). Until facilities at Waahi *Pa* could be upgraded, Kingite functions have, since 1940, been held at Turangawaewae, Ngaruawahia; 13 kms distant (King, 1977). However, all matters of importance to the Waikato tribe, the Tainui Confederation, and the Maori people are discussed at the Waahi *Marae*. Waahi also remains the home *marae* of the Maori Queen, whose family still lives there. Waahi *Pa* has a permanent population of around 300, although it is visited by over 2,000 *Ngati Mahuta* people each year.

Huntly Power Project

In 1969 the government decided to locate a 1,000 megawatt coal and gas-fired power station across the Waikato River from Huntly and less than 300 meters north of Waahi *Marae* (Fig. 4).

Initially, the Huntly Borough Council wanted the power station built close-by regardless of its impact, but the Maori community objected because of anticipated adverse consequences. Representations and submissions by the Waahi community to the government between 1972 and 1976, concerning the likely social and economic effects of the power station upon local Maori, revealed a general ignorance of Maori values and attitudes among government planners.

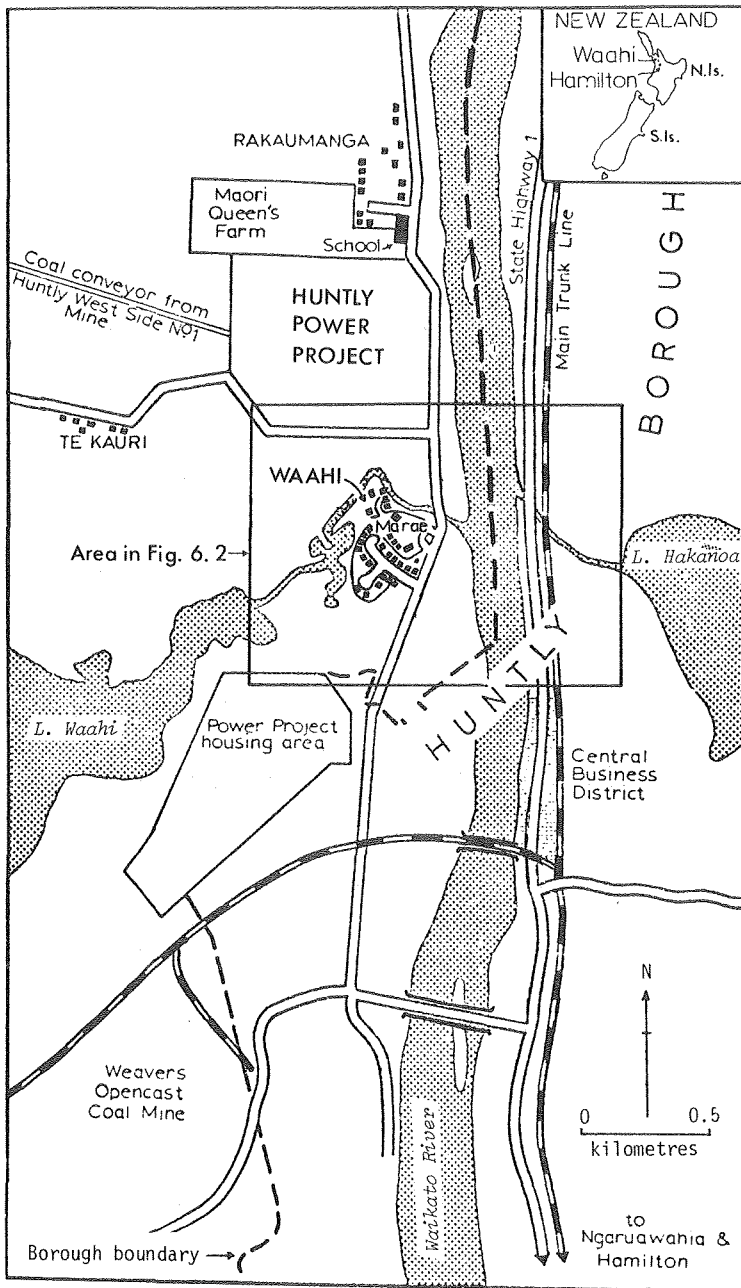
To Europeans, the Waahi *Marae* may appear simply as a meeting house, an old hall, some tumble-down houses and a bit of grass (Fig. 2). But it is very important to the Maori community and the Waikato tribe, in particular, which has strong psychological links with both land and river. As Fookes (1978) notes, the Waikato River is an integral part of the Waahi *Marae* complex and for over 100 years has provided for the extension of hospitality and display of *mana* to important visitors. The river is the physical embodiment of tribal *mana* and spiritual prestige, and is an economic resource as well.

The local Maoris saw the above as being adversely affected by the location of the power station. There was deep seated fear that their heritage, traditions, and way of life would be affected seriously, both in the short and long term. They saw existing and future demands of the station as alienating even further their rights to ancestral lands, already shrunk to less than 100 hectares by earlier confiscations. In addition, there were the effects upon the *Pa* of visual blight to be considered, as well as increased flood hazard engendered by the station's construction, and by its proximity.

After several years of negotiations, the people of Waahi were awarded nearly half a million dollars, in June 1978, as compensation for environmental damage. The money was to be used for housing—particularly senior citizen housing—for improved roadways, dining hall construction, and general *marae* rehabilitation. This was to be facilitated by an appropriate process for eliciting user needs and ensuring community

involvement, described in some detail in the following section as an example of spontaneous planning.

Figure 4: A map of the Huntly area showing the Huntly Power Project in relation to three Maori communities—Waahi, Te Kauri, and Rakaumanga.



PARTICIPATION AND COMMUNICATION: ENVIRONMENTAL MODELLING

Background, and Preparatory Work

Environmental modelling is a participation and communication tool which bridges a significant gap between environmental designers/physical planners and their clients. One traditional technique for obtaining client participation is the survey instrument commonly called a "questionnaire" which often involves the translation of visual images in the client's mind into verbal statements and the re-translation of these verbal statements into (hopefully similar) visual images by the designer/planner. This is a difficult and confusing process, so difficult and confusing in fact that some architects, when presented with the results of verbal surveys, simply dismiss them with the words "we can't relate to that." Our intention was to provide community members with simple, direct, and clear tools of expression, tools which expressed the client's spatial desires in the same graphic terms as the architect's plans. As such, we regard these tools as a form of empowerment in the sense described earlier.

My own field work in New Zealand commenced in early June 1978. Originally, questionnaires were to have been part of the study. It became rapidly obvious, however, that the usual survey approach was an unsuitable way of obtaining information about Maori settlements.³ Instead, participant observation was used during June, July, and the early part of August. I visited many *marae* throughout North Island to familiarize myself with the nature and use of *marae* and *marae* buildings, with a number of Maori, and reviewed my findings as frequently as possible with Robert Mahuta and John Rangihau of the Centre for Maori Studies and Research at the University of Waikato.

During this period, I conducted a brief studio/seminar at the University of Auckland, by invitation of Michael Austin of the School of Architecture, to develop design communication tools. The objective was the generation of several kits of physical elements, with the aid of which the Maori and other Polynesian people in *Aotearoa* might graphically express their environmental preferences (externalize their mental imagery).

Three environmental modelling workshops were conducted during August 1978, on the subject of the Waahi *Marae* plan. The first and second of these were on participatory community planning: the first was held with Waahi community members, the second with Pakeha academics and professional planners at the University of Waikato. The third workshop, held in *Taane*, the Waahi Meeting House, used an environmental modelling procedure to approach issues of house and dining hall design. Waahi people worked in small groups, each producing a single design by consensus, while the Pakeha worked individually.

Participatory Community Planning Workshops

Small plastic shapes representing houses, pensioner flats, and the Waahi dining hall (*Miria Te Kakara*) were fabricated at the University of Waikato and distributed to

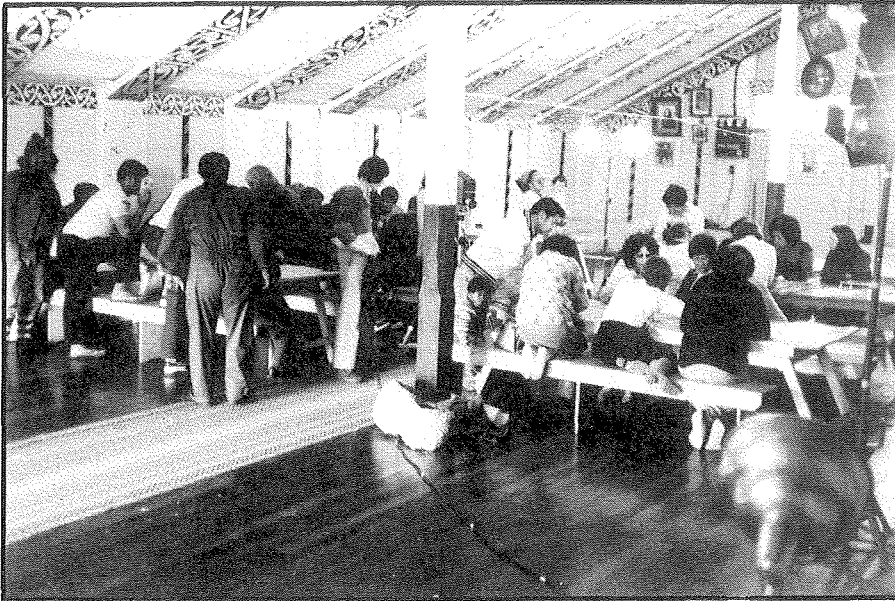
participants in Workshops I and II with accompanying outline maps of the Waahi *Marae* area, and such "tools" as felt-tip markers (to indicate road alignments), reusable adhesive, scissors, pencils, and labels.

Participants were introduced to the problem with the aid of detailed site plans and aerial photographs. In both Workshops I and II, recordings were made with the objective of eventually producing a single tape for the benefit of other *marae* wishing to engage in similar participatory planning efforts. The Waahi participants were encouraged to work in groups of appropriate size and composition.

The approximate sequence of events in planning workshops was as follows:

1. Definition of the problem. In Waahi, this took place shortly after the New Zealand Electricity Department was ordered to pay an indemnity to the Waahi community for the purposes of restoring an environment degraded by the Huntly Power Station, for the improvement of the *Marae*, and for the design and construction of new housing and a new dining hall.
2. Invitation from the community to attempt a solution to the problem, and acceptance by the community of an environmental modelling approach.
3. Identification of the essential elements. In the Waahi environmental modelling workshop, this involved preparation of an outline site map to scale, showing features to be retained; specification of buildings to be added (houses, pensioner flats, and dining hall); and the fabrication of "sets" of maps and models for participating groups.
4. Arrangements for meeting: selection of time and location, identification of participants, and issuance of invitations.
5. The site planning workshop itself included:
 - a. Introduction to the problem and projected project;
 - b. Description of planning implications: legal, social, political, etc.;
 - c. Explanation of the participatory planning exercise as a means of eliciting attitudes, preferences, and community values;
 - d. Distribution of schematic site maps, aerial photos and other materials;
 - e. Explanation of modelling materials: at Waahi, these included five houses, two pensioner flats, and one dining hall (*Miria*);
 - f. Production of plans by consensus;
9. Presentation of each completely modelled site plan, followed by discussion. In this extremely important phase, participants talked about their graphically expressed planning idea, explaining why each group had made certain decisions visually depicted on its model, and what values were represented by those decisions.

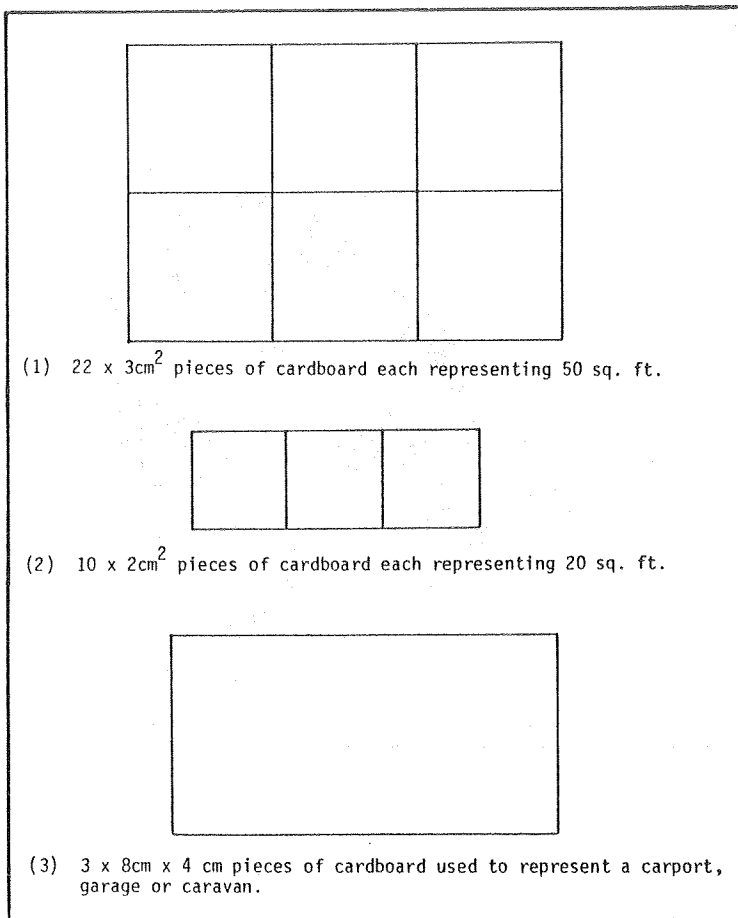
Workshop II, held in *Taane* a week following Workshop I, assembled members of the Waahi community for the purpose of cooperatively designing the new houses and a new *Miria* (dining hall) with emphasis upon floor plans. Earlier, University of Auckland architecture students had developed building kits consisting of wooden blocks, cardboard squares and circles, etc., which people with no training at all in environmental design could manipulate, and with which they could express, graphically, the interior spaces they desired in housing.

Figure 5. Participatory design and planning session inside *Taane*, Waahi Marae.

The meeting was opened in the traditional manner, with prayers and song, followed by a presentation of tentative housing designs prepared by the architectural firm already hired by the Waahi community. Community members in attendance were given the three model kits devised by architecture students at the University of Auckland who explained their use. The community participants discussed how they wished to use the contents of the model kits while examining the proposed designs for houses; they then began to use the models to express their own ideas for arrangements of interior spaces in housing. The fourth group engaged in discussion with the architect concerning his suggested designs and possible alternatives. Participants were free to move from group to group as they wished and were encouraged to express their ideas on design possibilities for both houses and pensioner flats (Fig. 5). Throughout the workshop, the University of Auckland and University of Waikato faculty and students were in attendance, acting as roving facilitators/resource people.

Somewhat later, a fourth modelling kit was introduced. Developed at the University of Waikato, it consisted simply of a set of white cardboard squares which, assembled together, represented a house of 1200 square feet floor area. The squares, which varied in scaled area from 20 to 50 square feet, could be combined with cardboard rectangles representing carports, garages, or caravan pads, and arranged in a variety of ways to indicate a number of different house plans (Fig. 6).

Figure 6: Basic elements of the house design "kit" devised at the University of Waikato.



Various arrangements of rooms could be depicted by groupings of squares. Participants were asked to indicate the direction of the *Marae* relative to the house entrance, and to label combinations of cardboard squares with their functions or conventional room names. The groups then placed sheets of paper over the models and traced the outlines of interior spaces to produce the designs depicted in Figures 7a to 7c.

In the final workshop (Workshop III) only *Pakeha* academics and planners participated. In terms of the problem addressed and the materials/resources available, Workshop III was identical to the all Maori Workshop I: in Workshop III, however, participants worked alone and in a university setting (as appropriate to the society and professional subculture), with two objectives: (1) to see how *Pakeha* would respond to the modelling concept and task; and (2) to compare the *Pakeha* plans for Waahi *Marae*, thus generated, to those of their Maori counterparts, produced a short time earlier. The *Pakeha* had no access to what the Maoris had modelled, and thus produced their ideas quite independently.

Figures 7: Locations of house, pensioner flats, and *Miria* (dining hall) on three models.

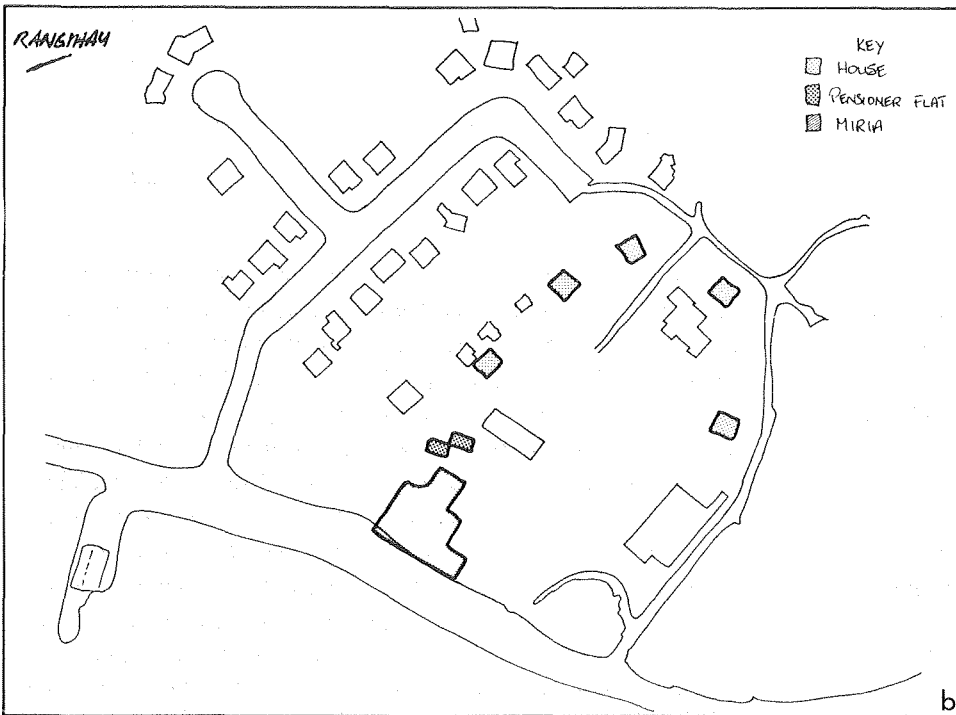
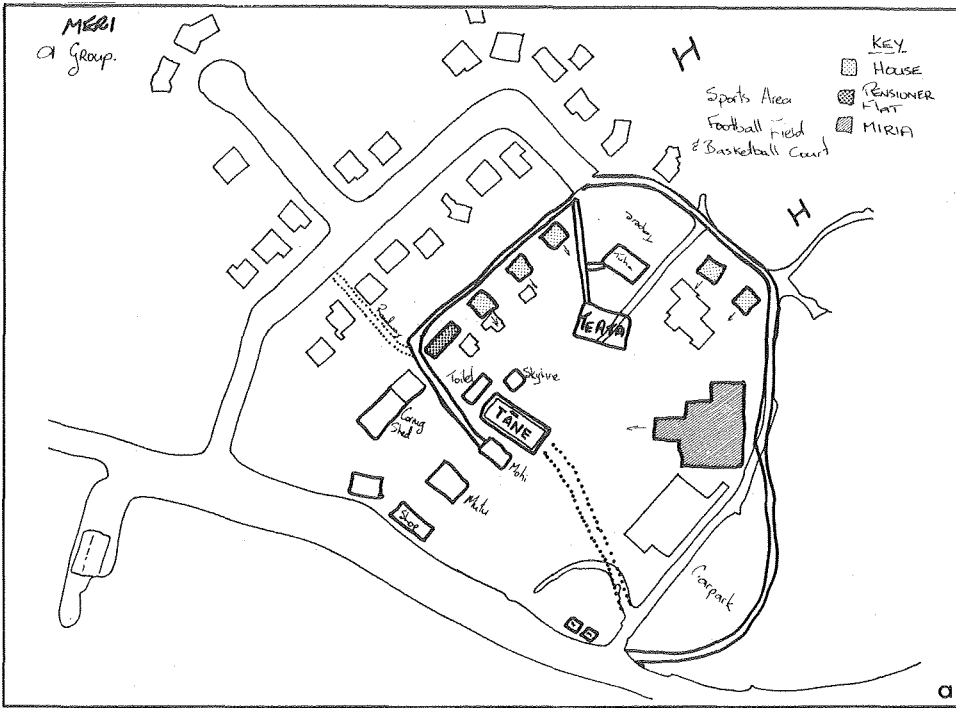
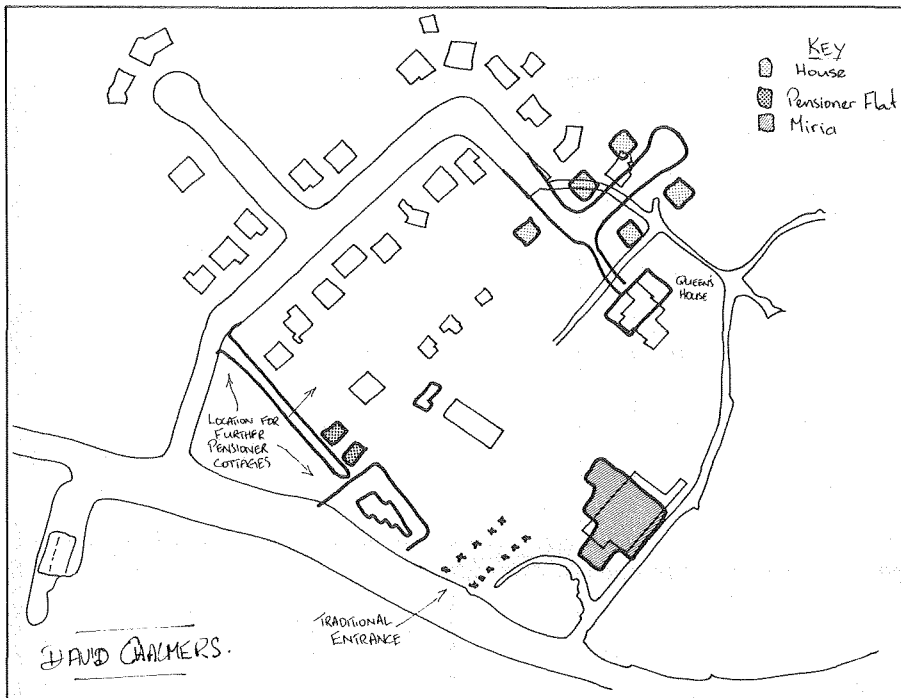


Figure 7c (continued)



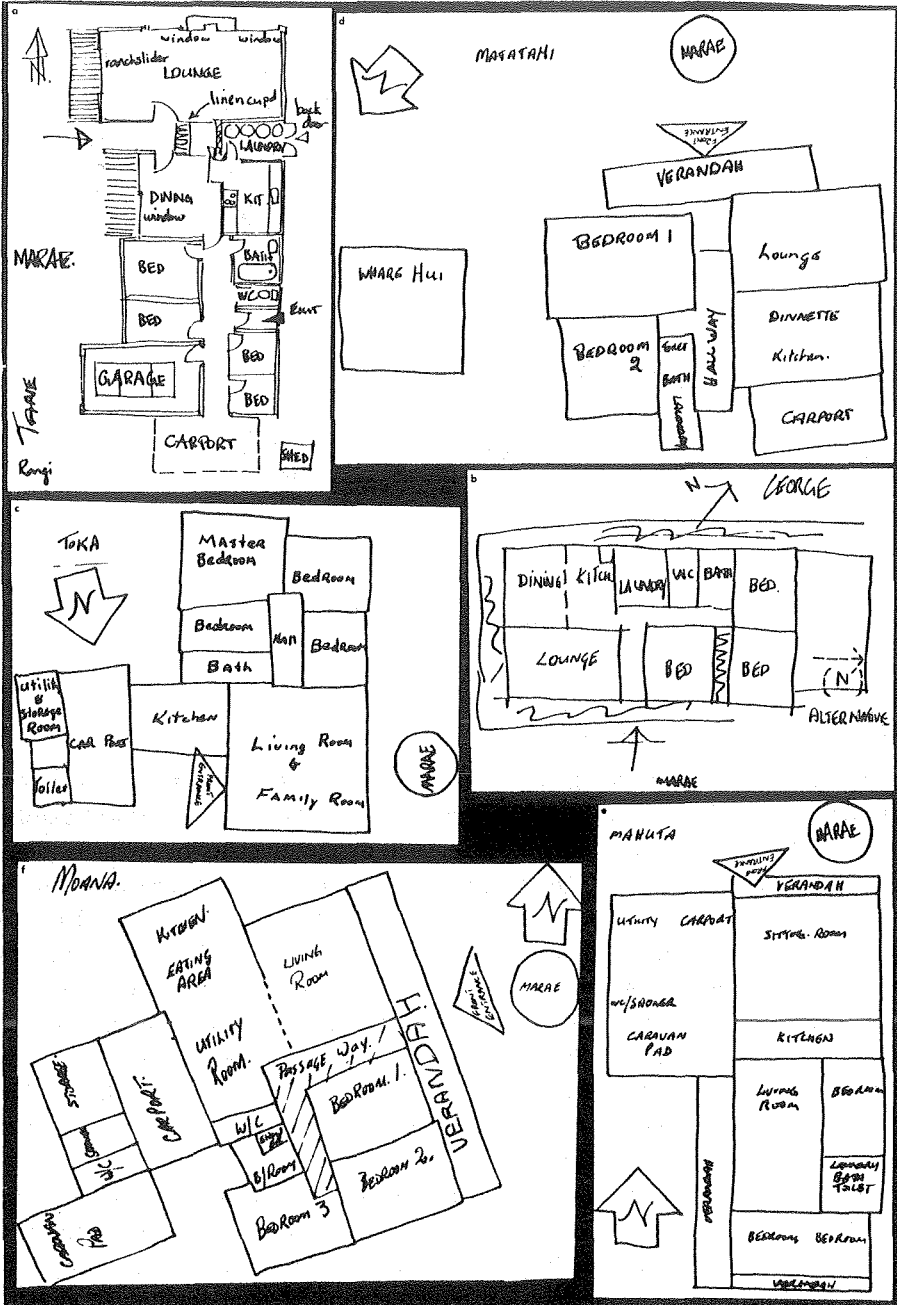
Results of the Workshops

Workshop I. The planning communication groups involved in the first Waahi seminar produced a total of eight suggested plans. That even traditional cultural concepts display great variability was indicated by the diversity of products. Some *Marae* designs were compact, others open: housing was shown as clustered by some, and as open by others. Physical problems were clearly recognized, and reflected in provisions for movement and stasis during inclement weather. Human and cultural issues were reflected in concerns for specific people, particularly Te Ata, the Queen.

In six of the site plans prepared by the Waahi Community participants in Seminar I, all the houses and flats faced the *Marae* area and encircled it, and all were also situated close to the Maori Queen's residence. Participants in the seminar repeatedly indicated that the houses should be part of the *Marae* and not separated from it or each other by either fences or shrubbery.

The pensioner flats in these six site plans were placed in close proximity to *Taane* (meeting house). In social and cultural terms it would appear that this closeness to *Taane* allows the *Kaumatu* (elders) to be near the place of central activity on the *Marae* and also close to the physical representation of their traditional ancestral heritage (Figs. 7).

Figure 8: House designs produced with the aid of cardboard squares and wooden blocks.



Four of the plans showed the proposed siting of the Maori Queen's residence close to that of her daughter's house, probably a spatial expression of the strong kinship ties that characterize the Maori people. Placing of the proposed new houses around the Maori queen may also suggest a desire for close community living, maintaining (and even strengthening) the relationship between Queen Te Atairangikaahu and her people.

The professionals involved in Workshop III diverged from the Waahi community in the plans they produced, reflecting an incomplete understanding of spatial attributes of Maori cultural organization. Waahi people referred to the meeting house as *Taane* and the dining hall as *Miria* (the names of actual ancestors), and even a meter change in location of either of these buildings was a matter for serious and prolonged discussion. The "peopleness" or personification of these ceremonially important buildings was thus recognized in these ways by the Maori, but not by the *Pakeha* planners. Planners tended to place the two pensioner flats close to the store; Maoris placed them close to the meeting house. Pensioners will have a grandchild or two living with them (who can do the shopping), argued the Waahi residents; but they must be near the *Marae* so as "to keep it warm," to more easily attend to their duties as representatives of the *tangata whenua* in preparing for the welcoming, feeding, and housing of guests.

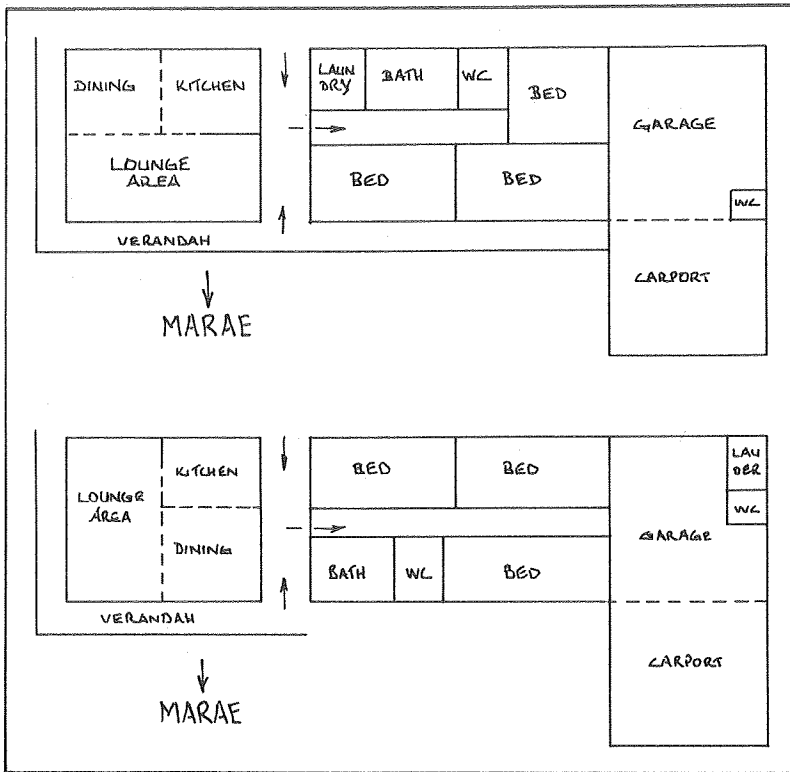
Many Maori participants desired to see Te Ata's house moved to higher ground, to avoid flood hazard, and effected this change in such a way as to shorten the already small separation (by *Pakeha* standards) between the Queen's house and that of her son. Small separations apparently do matter in Waahi, but *Pakeha*, understandably, failed to perceive this (Fig. 9).

Workshop II. In Workshop II, the residents and design professionals participated together. Having assembled their kits of "house parts" in the early afternoon, the Waahi residents proceeded to describe their designs most eloquently, designs which tended not to resemble very closely in their interior arrangements, the housing currently provided by the government or by private contractors. The architects had in fact, been quite sensitive to at least some cultural needs in their housing design, but, as indicated later, were less successful with the dining hall.

While the house models produced by the Maori groups were by no means identical, certain similarities were evident:

1. A large living area is considered very important, for family gatherings and provision of hospitality to visitors;
2. The kitchen is integrated with, rather than isolated from, the living area, so that those working in the kitchen space can still communicate freely with those in adjacent areas of the house;
3. The bedrooms are small and located away from the living area;
4. Extra toilet facilities are situated in the garage for visitors and especially for large *hui* (when rented caravans or trailers may be attached temporarily to the house);
5. An extended veranda area allows some guests to sleep during large gatherings in warm weather;
6. House entrances tend to face the *Marae*. New *Miria* design prompted much discussion, especially about the proposed location of toilet facilities.

Figure 9: Two basic designs produced with the aid of wooden blocks.



A *Pakeha* architect hired to re-design *Miria* explained that the toilets located near the kitchen were separated by three doors from other areas, which is more than required by Health Department Regulations. Community participants, however, found the preparation of food *anywhere* near toilet facilities highly unacceptable, and argued for the actual *removal* of the toilet from the dining hall to a separate building.

In sum, the Maori people of the Waahi Community found the modelling process instructive, useful, and enjoyable. The set of findings just described revealed, as never before, the differences between Maori and *Pakeha* cognitions of the Maori dwelling environment.

Workshop III. In Workshop III, *Pakeha* academics and planners prepared site plan proposals for Waahi *Marae*, using the same environmental modelling toys as did the Waahi community in Workshop I. In three *Pakeha* site plans, the proposed new

houses were positioned in small sub-divisions away from the *Marae* area, reflecting typically *Pakeha* physical planning (Fig. 8). Proposed access roads to the new houses were included in five plans, again showing the *Pakeha* tendency to situate houses along roads or pathways. In contrast, only one Maori participant in Workshop I had been concerned with relating roads to any of the houses on the *Marae*.

SUMMARY AND CONCLUSION

Waahi *Marae* is important to Maoridom. It illustrates the spiritual ties of Maori to land and water, and the very distinctive cultural significance of building style and form. Both these cultural processes have for long been denied, through ignorance and/or arrogance, by planners of European ancestry involved in environmental change. Only through skilled negotiation and recent assertion of power has the Waahi community prevented further erosion of its traditional environment and provided for its renewal.

An important product of the participation/communication process embodied in the Waahi *Marae* "environmental modelling" workshops was greater appreciation of the important role of a truly *interactive* design process in *marae* community planning. The workshops at Waahi were enjoyed by the participants; they were involving; they generated enthusiastic responses. As several participants remarked at the conclusion of the first workshop, "We were never conscious of what our ideas (about *marae* planning) really meant until we had to put them down on paper!"

Maori are capable of describing their needs most eloquently in verbal terms; it is a skill encouraged from childhood and well-practiced in *hūis*, *tangis*, etc. *Pakeha* architects, by contrast, are graphically eloquent. Both groups have English as a *lingua franca*, but environmental images expressed verbally by one and graphically by the other do not mesh. The consciousness of *empowerment* involves the knowledge of communication. There are Maori architects, and there will be more, as educational opportunities improve and *Te Matekite Aotearoa* provides more land and, hence, more opportunities to build. For the present, however, considerable power over environmental form rests in the hands of *Pakeha* professionals. To share in that power, Maori must learn to communicate their needs in graphic terms that cannot be misunderstood. The Waahi project was a significant step in the direction of providing housing that is not just affordable to Maori, but appropriate to the integration of housing into the Maori world view.

But the significance of this process, which involves facilitating spontaneous planning, goes beyond this. Since 1978, the process has been applied to the facilitation of user input into governmental housing schemes among groups as diverse as Australian Aborigines and Native Americans; more recently, it has helped former urban "squatters" in Venezuela to realize their own economic and environmental objectives. It is currently being extended to non-physical planning as well, in an attempt to affect more aspects of the way shelter is provided in developing countries.

"Participation," as applied in the U.S.A. during the 1970s, did not often result in the provision of better shelter. It failed, however, not because participation itself is a wrong *idea* but because the *methods* employed were wrong. They were wrong because they failed to take into account the importance of efficient and effective *communi-*

ation as an integral part of the participation process, and the importance of the community *format* within which participation takes place. They were wrong, as well, because they failed to recognize, explicitly, that participants are rarely from identical socio-economic and cultural groups as professionals and that *these differences need to make a difference in the participation process itself*.

In the Waahi experiment, and in others that have followed in the years between 1978 and the present, we have endeavored to develop and refine the participation process still further. The "environmental modelling" procedure by itself and in combination with such other systems as "pattern language," has helped to repair the damaged link between the planning process and housing design.

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NOTES

1. Some aspects of the *marae* movement involve a cultural renaissance, a re-awakening of old cultural forms in new garb. Other aspects fall under the category of "new traditions." Among these is rugby league football. The centrality of this sport to the lives of many Maori males has made playing fields and clubhouses integral parts of *marae* planning schemes.
2. This section is based almost entirely on information in Mahuta (1976) and Fookes (1978).
3. There were two reasons for this: first, it appeared that preferences concerning designed environment were too important to be left to individual whim, and should be discussed in a *hui*; second, the verbally-expressed imagery obtained in a survey does not always translate readily into design (see Stea, 1984).

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