Reconnecting to my Ancestral akapapa

Hanna-Marie Monga

1431573

An Explanatory Document submitted in partial fulfilment of the requirements for the degree of Master of Architecture (Professional). UNITEC Institute of Technology, New Zealand 2020

Annabel Pretty | Principal Supervisor
John Pusateri | Associate Supervisor

Ethics Approval 2019 - 1033
Reconnecting to my Ancestral akapapa
Reconnecting to my Ancestral akapapa

Figure 1 Muri Beach, (Photo by author)
Abstract

Indigenous cultures around the world are facing a similar issue of identity confrontation. Consequently, creating a disconnect between the preservation of indigenous culture and its people. Intergenerational trauma confronts vulnerable minorities to adversity and misrepresentation. Forced to recognise insufficient knowledge of heritage, disconnected identity, and limited te reo. Individuals who seek to educate themselves in the absent cultural knowledge, strive to reconnect and regain a sense of belonging.

The effects of the Second World War and promising opportunities brought waves of Pacific Island people to drift to Aotearoa. In the 1950’s, Aotearoa had advertised to the Pacific Islands their intriguing experience for a modern lifestyle, employment and wide-ranged opportunities. A captivating offer for Cook Island families to cross the Pacific Ocean and embark on a foreign journey to the “land of the long white cloud”.

A rise in immigrant numbers and increase of overstaying visas in the 1970’s, had put pressure on targeted Pacific Island people. Today, the third-largest minority group in Aotearoa, are Pacific Island people.

This research project explores indigenous methodologies, applied in an architectural papakāinga approach. The design model is informed by values and design principles conceived from engaging with key stakeholders.

Indigenous Architecture is a movement that progresses (or translates) towards educating others about preserving the essence of culture throughout the built environment. The indigenous culture demonstrates the importance of buildings that reflect the essence of its people, land and culture in a dominantly colonial context. In Māori and Pacific Island customs people need to feel the authentic sense of belonging without extensively justifying their connection to it.
Acknowledgements

“Ehara taku toa, he takitahi, he toa takitini”¹
My success should not be bestowed onto me alone, as it was not individual success but success of a collective.

My tertiary education would not have been possible without my parents, Koi Nana Monga and Aukino Kaitapu Monga. I dedicate my Bachelors and Master’s degree to my family. The passion and determination were grounded by the continuous support and aspirations of my family.

To my grandparents, Metuangaro Vaeteru and Tetini Vaeteru, Ri Kiriko Ina Monga and Teinangaroiti Kaitapu Monga. Even in spirit your presence and values will pass on through generations. Thank you to my wider family, the Taulu family in Rarotonga, Florence and Steven Mouatt, and the Vaeteru cousins. A huge thank you to Helena and Marlon Handakas for supporting and going over and beyond for me.

Along my journey I have made strong friendships and fond memories. I could not have made it through the countless exhausting all-nighters or busy hustle without the help of my uni friends. To name a few are; Kelsey Metcalfe, Maia Ratana, Jacqueline Paul, Reuben Smiler, Kapotai Marino, Ernst, Walter Holakeituai, Dexell Aita, Losa Nimo, Keana Sua, John Tagi, Herman Huch, Benjamin Meredith, Jayden Huch, Ina Laufili, Gideon Fakaua and others.

To my supervisors, Annabel Pretty, Carin Wilson and John Pusateri, thank you for hanging in there and providing guidance. To my cultural advisors, Jenny-Lee Morgan, Rau Hoskins, Tuputau Belford-Lelaulu, thank you for supporting me through rough times and realigning my purpose through a cultural lens. Thank you to the Cook Island advisors translating the reo. I appreciate the guidance and contributions.

Thank you to all participants who have contributed to my research through interviews and charrette’s. The knowledge and perspectives gained were valuable pieces that weaved together told a story of its own.

Contents

Abstract ............................................................................................................................................................................................................ 4

Acknowledgements ........................................................................................................................................................................................................ 5

Glossary ......................................................................................................................................................................................................... 10

Cook Island Māori ........................................................................................................................................................................................................ 10

Te Reo Māori ............................................................................................................................................................................................................... 10

English ......................................................................................................................................................................................................................... 11

Introduction.................................................................................................................................................................................................... 12

Background .................................................................................................................................................................................................... 14

Project Outline ............................................................................................................................................................................................................. 15

Aims and Objectives ..................................................................................................................................................................................................... 17

Research Question .......................................................................................................................................................................................... 19

Scope and limitations ........................................................................................................................................................................................................... 21

State of the knowledge in the field ............................................................................................................................................................................... 22

Methods ...................................................................................................................................................................................................................... 23

Research Methods .................................................................................................................................................................................................... 24

Kaupapa Māori ............................................................................................................................................................................................................ 24
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pūrākau</td>
<td>25</td>
</tr>
<tr>
<td>Tivaevae Method</td>
<td>25</td>
</tr>
<tr>
<td>Ethical Considerations</td>
<td>26</td>
</tr>
<tr>
<td><strong>Results of Research</strong></td>
<td>27</td>
</tr>
<tr>
<td><strong>Context Research</strong></td>
<td>27</td>
</tr>
<tr>
<td>Cook Island Migration to New Zealand</td>
<td>30</td>
</tr>
<tr>
<td><strong>Literature Review</strong></td>
<td>33</td>
</tr>
<tr>
<td>History of Cook Island Architecture</td>
<td>33</td>
</tr>
<tr>
<td>Cook Island Land Consent process</td>
<td>40</td>
</tr>
<tr>
<td>Māori Architecture</td>
<td>41</td>
</tr>
<tr>
<td>Samoan Malae Spatial Analysis</td>
<td>45</td>
</tr>
<tr>
<td><strong>Precedents</strong></td>
<td>51</td>
</tr>
<tr>
<td>Te Aro Pā Papakāinga</td>
<td>52</td>
</tr>
<tr>
<td>Mangatawa Papakāinga Village</td>
<td>58</td>
</tr>
<tr>
<td>Whare Uku Earth Dwelling</td>
<td>60</td>
</tr>
<tr>
<td>Earthsong eco housing</td>
<td>61</td>
</tr>
<tr>
<td>Te Aranga Design Principles Analysis</td>
<td>63</td>
</tr>
<tr>
<td><strong>Engagement</strong></td>
<td>69</td>
</tr>
<tr>
<td>Section</td>
<td>Page</td>
</tr>
<tr>
<td>------------------------------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>Pūrākau</td>
<td>69</td>
</tr>
<tr>
<td>Rarotonga Charrette</td>
<td>76</td>
</tr>
<tr>
<td>Aotearoa Charrette</td>
<td>83</td>
</tr>
<tr>
<td><strong>Design Principles</strong></td>
<td>91</td>
</tr>
<tr>
<td>Design Principles Process</td>
<td>91</td>
</tr>
<tr>
<td>Architectural fundamentals</td>
<td>94</td>
</tr>
<tr>
<td>Issues</td>
<td>95</td>
</tr>
<tr>
<td>Lost in Translation</td>
<td>96</td>
</tr>
<tr>
<td>Developed key values</td>
<td>97</td>
</tr>
<tr>
<td><strong>Site Analysis</strong></td>
<td>98</td>
</tr>
<tr>
<td>Current state of site</td>
<td>106</td>
</tr>
<tr>
<td><strong>Design Process</strong></td>
<td>108</td>
</tr>
<tr>
<td>Initial Brief</td>
<td>108</td>
</tr>
<tr>
<td>Design Iteration 1: Design Principles Spatial Arrangements</td>
<td>109</td>
</tr>
<tr>
<td>Design Iteration 2: Conceptual form models</td>
<td>111</td>
</tr>
<tr>
<td>Design Iteration 3: Conceptual housing models</td>
<td>113</td>
</tr>
<tr>
<td>Design Iteration 4: ‘A’ frame model development</td>
<td>115</td>
</tr>
<tr>
<td>Design Iteration 5: Angled roof model development</td>
<td>117</td>
</tr>
<tr>
<td>Design Iteration 6: Housing models</td>
<td>119</td>
</tr>
</tbody>
</table>
Glossary

Cook Island Māori²

<table>
<thead>
<tr>
<th>Ānau or Kāpū tangata</th>
<th>Family. The immediate and extended family connected through bloodline.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arorangi</td>
<td>One of five districts in Rarotonga, located on the west side.</td>
</tr>
<tr>
<td>'Ōire</td>
<td>District (for administrative purposes), town, village.</td>
</tr>
<tr>
<td>'Akapapa'anga</td>
<td>Identity and heritage.</td>
</tr>
<tr>
<td>Papa’ā</td>
<td>European, foreigner or non-Cook Island person.</td>
</tr>
<tr>
<td>Akapapa (Manihiki)</td>
<td>Genealogy.</td>
</tr>
<tr>
<td>Ariki</td>
<td>Chief</td>
</tr>
</tbody>
</table>

Te Reo Māori

<table>
<thead>
<tr>
<th>Papakāinga</th>
<th>Communal living and housing arrangement located on ancestral land.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whānau</td>
<td>Family, not exclusive of extended family or friends.</td>
</tr>
<tr>
<td>Aotearoa</td>
<td>New Zealand.</td>
</tr>
<tr>
<td>Pakeha</td>
<td>English, European, foreigner.</td>
</tr>
</tbody>
</table>

Kōrero

- Oral tradition.

| Mana whenua | Iwi has authority over land or territory. The tribe’s history and legends are based in the land occupied over generations. |
| Tikanga Māori | Māori beliefs and customs. |
| Mātauranga | Māori knowledge. |
| (Marae) Atea | Open space, usually a courtyard in front of wharenui. |
| Whare | House, building or dwelling. |
| Reo | Language, dialect, speech. |

| English |
| Charrette | A formal design workshop devoted to solving a problem through design outcomes in a restrictive timeline. |
Introduction

Understanding my own identity
Ko wai ahau? Who am I?

Kia Ora, Kia Orana...
He Māori au he Kūkī āirani hoki
Ki te taha o toku papa
Ko Tokatoka te maunga
Ko Waiora te awa
Ko Mahuhu-ki-te-Rangi te waka
Ko Ripia te Marae
Ko Te Uri o Hau te hapu
Ko Ngāti Whatua te īwi
Ko Aukino Monga tona ingoa.
Ki te taha o toku mama
No Rarotonga whanui tono
Ko Arorangi te hapu
Ko Nana Vaeteru tona ingoa.
Ko Hanna-Marie Monga ahau
Passing down cultural knowledge was less of a priority adjusting to the modern Aotearoa society compared to the traditional Cook Islands society. It was common, that during this process of establishing a new beginning in Aotearoa, many families adapted to a modern lifestyle that overshadowing their traditional lifestyle. They emersed themselves into modern society and compromised on regular cultural practices.

I am second generation born and raised in Aotearoa. My nationality is of Cook Island and Māori descent, although both cultural knowledge is of basic understanding with limited knowledge of the reo. This is an opportunity to venture on a journey to cultural awareness.

"Ko toku reo te i'o 'o taku peu tupuna. My language is the essence of my culture". - Without my language, my culture will be lost3.

"‘Api 'i i ta tatou korero ki ta tatou au tamariki. Teach our traditions to our children". - Knowledge needs to be passed on4.

Aotearoa and the Cook Islands have a shared past in which both counties are built on injustices and the impacts of colonisation. This has created generational change causing major migration shifts between the Cook Island population living and growing up in Aotearoa. Changing societies, worldviews and values have inherently informed and influenced the architecture in both countries which seek to design and create colonized places and spaces.

The project site, my family land block located in Arorangi, Rarotonga, Cook Islands was passed down for generations in my mother’s family. My family aspire for a papakāinga model with hopes to reconnect to our ancestral heritage.

With the success of this research, there is hope that the papakāinga produced will be a catalyst and/or set a precedent in the Cook Islands where we can share our learnings, tools, methods, and processes with wider communities. By embedding Māori and Cook Island cultural values in architecture, will create a paradigm shift in the natural and built environment, which will reflect the diverse identities of our people.


4 Hollis, Akama’ara i te Kūki ‘Airani ma’tiri, pg 37
**Background**

This thesis by design explores different approaches in how architecture can be utilised as a tool to engage with diverse Pacific peoples to enable opportunities for them to reconnect to their lands. There is potential for a significant increase in indigenous approach design, as accessibility to land includes few measurements and security. The feedback and aspirations of participants are used to inform architectural design. This research project enables communities to contribute to shaping their surrounding built environment. There is no applicable Cook Island cultural process to help inform and influence the design or built projects. Auckland Council continues to implement the Te Aranga Design Principles, a cultural strategy developed by a series of Māori cultural values. The process is to embed an indigenous design approach to enhance mana whenua engagement and presence. The aim is to develop a Cook Island architectural process similar to the Te Aranga Design Principles although founded on engagement feedback. The benefit of a Cook Island design approach recognises the significance of land and identity with opportunity for communities to engage and contribute to their built environment. This research document uses a mixture of three languages; Cook Island Māori, Te Reo Māori and English. This research has chosen to use the terminology of similar cultures as numerous words are not existing or inaccessible to describe the perspectival meanings.

A set of design principles will be developed and integrated into design architecture with purpose with respect to the land, culture and the people. The topics that will be discussed throughout this journey are identity, heritage, cultural values, and architecture. The design principles are to celebrate the identity, language, and culture of the Cook Islands. The intention is to develop architectural design principles based on the feedback from the engagement process. This product will be through a Cook Island cultural lens. The guide can help people design according to their land, culture and heritage. In conjunction with the design principles, it will be tested by designing a Papakāinga approach on my ānau land located in Arorangi, Rarotonga. A Papakāinga is a communal living and housing arrangement customarily located on ancestral land. Historically, the housing arrangement is commonly used and being revitalised in Māori society. As part of this research, interviews, and creative charrettes with mana whenua of the chosen site to identify their perspectives and experiences of living in the Cook Islands. This will engage with a range of age differences to acknowledge the history of land ownership told by elders, to future aspirations of the youth.

---

Project Outline
The purpose of this research is to develop a set of design principles developed from Cook Island core values to be incorporated into designing a Papakāinga located in Rarotonga, Cook Islands. The aim is to integrate a Māori Papakāinga conceptual housing model by adopting its essence and framework to develop a Cook Island interpretation. The Papakāinga is a shared housing arrangement located on ancestral land, in accordance with the client’s/family recommendations. The research is founded on the concept of akapapa which seeks to inform and influence architecture and contribute to intergenerational well-being creation through papakāinga development on ancestral lands, in Rarotonga, Cook Islands. Through this research, the papakāinga concept has been explored from diverse perspectives (Samoan, Māori and Cook Islands) to understand how we could adopt a culturally appropriate and responsive model. The design section of this project has been co-created with the values and principles of papakāinga. The land gives history and stability whilst the built structures and habitants create a whanau, intergenerational home but these aspects are both interconnected.
Figure 2 Tivaevae pattern, (Photo by author)
Aims and Objectives

This project has two primary aims. The first, is to create a Papakāinga in Cook Islands, that would house the collective whānau aspirations and embrace their cultural identity. The project identifies that there is a neglect of the Cook Island culture in their current development and the built environment. Secondly, is to develop a framework or set of design principles to guide and support a plan suitable for a Papakāinga in the Cook Islands. The project understands that the most beneficial model to be implemented is one that is founded on cultural values and is created by the mana whenua.

The three key objectives include:

1. **Design and deliver a masterplan with appropriate and suitable housing typologies**
2. **Innovative design responses to support family financial stability**
3. **Explore design principles or concepts to apply in the Cook Island context**

The masterplan consists of three housing typologies which include a mega whare (hosts up to two to three families), a single dwelling that is suitable to use as an Airbnb which will support family economic growth and a container home. The housing typologies are chosen to demonstrate appropriate built structures in response to the tropical climate and resource materials. The lush Pacific Island environment requires long-lasting, durable material that can withstand the fluctuating climatic conditions. Concrete, brick, timber, glass and steel are the main materials used to design. The plan will also consist of diverse landscape typologies such as maara kai (communal garden), atea (focal open space), parking spaces, pou at entries and shared communal facilities such as laundry, outdoor showers, and outdoor seating area.

There is also an aspiration that this contributes to a wider body of knowledge and encourages the wider Polynesian community who may want to reconnect to their ancestral lands and support their family through architecture.
Figure 3 Tivaevae pattern, (Photo by author)
Research Question

The overarching research question that will guide this project is...

How can Cook Island design principles be embedded into the development of a Papakāinga model that embraces Cook Island culture?
Figure 4 Beach houses, (Photo by author)
Scope and limitations

While the research slowly progressed during the early stages of the proposal, there was realisation that this project’s intentions are too large of scope within the limited timeframe. There are currently no existing Cook Island architectural values formally used to design the built environment. There are limited representations of cultural designs shown through older methods of architecture, arts, and craftsmanship.

The aspiration of this research is about ‘Reconnecting to my ancestral heritage’ through investigating Cook Island and Māori architectural history. Established from my interests in designing appropriate house typologies in the Cook Islands. This research has provided an opportunity to contribute to long term planning for our family with hopes that this will encourage us to return home and build a solid foundation for our family now and into the future.

The theoretical part of this thesis aims to understand how kaupapa Māori research and decolonisation may inform future architectural investigation and practice. There is a lack of knowledge and information about kaupapa Māori in architecture which could be embedded woven to inform each other. Additional research methods include charrettes and interviews with participants. Multiple design techniques that encourage participatory design allows us to reassess current engagement methods within the process-driven architectural practice. The role of an architect is to design high quality, innovative and functional proposals. The project brief will incorporate the family/client’s needs, homes and will consider the impact on the surrounding environment.

This scope of this research has multiple limitations such as time constraints, financial considerations, and limited resources available. The set time for this project is expected to have a duration of one year which will have a significant impact on the desired outcomes and will limit flexibility. The multiple research methods may also face challenges regarding interviews and charrettes in which will need to be considered in the project budget. A site visit to the project location will also be considered regarding travel internationally from New Zealand to the Cook Islands. Additional limitations include a lack of land block details and GIS information for the project site. A significant part of this research has been developed with my family and their aspirations of returning to the Cook Islands back to our ancestral lands. The engagement to gather data and analyse the findings is critical for the purpose and narrative of the research project.
State of the knowledge in the field

Kaupapa Māori theory and practice has generated significant development for Māori research and education in its ability to critique mainstream attitudes and understandings towards issues of relevance for Māori. Due to the direness of information, this research investigates the opportunities to address major gaps within the academic field of architecture:

1. Explore how kaupapa Māori theory can be applied in the practice architecture to inform papakāinga development.
2. Contribute to a new body of knowledge of papakāinga in the Cook Islands
3. Test models and set a precedent for papakāinga in the Cook Islands

‘Papakāinga’ refers to ‘papa’ or Papatūānuku as the ancestral earth mother and ‘kāinga’ as the village communal living environment. Today the term is used to define both an ancestral land base as well as a collection of dwellings occupied Māori connected by common kinship or kaupapa, located in reasonable proximity to each other and normally relating to a marae or other communal area or building. The term ‘papakāinga’ is frequently used in discussion about aspirations for housing on Māori land, and relates to the ancestral aspect of multiply owned Māori land. Papakāinga, a traditional settlement that encourages community identity, participation, and membership, is an attempt to reclaim, repossess, and reoccupy traditional lands. A common descent from an ancestor affirmed individual rights and privileges to occupy and build on common property; these rights also extended to the use of natural resources. Within the context of this research project, the identified term papakāinga and concepts will support the transfer of knowledge to test applications and culturally responsive design models place-based in the Cook Islands.

---

Methods
The research will engage in multiple cultural methodologies and will contribute to the approach and be applied within the research project. A cultural lens will give appropriate perspectives to what indigenous communities hope for their environments. This research will consist of three parts:

Phase One - Scope
This will include a literature review, case studies research, spatial analysis and ethics application for the interview and engagement process. In addition to this, a site visit will also be carried out. To utilise the opportunity to gather more information and analyse the site context.

Phase Two - Engagement and Interviews
Secondly, interviews and creative charrettes with mana whenua of the chosen site to identify their perspectives and experiences of living in the Cook Islands. This will engage with a range of age differences to acknowledge the history of land ownership told by elders, to future aspirations of the youth. The engagement process will help enable communities to contribute to shaping the Cook Island built environment. Their valuable input provides a ānau orientated approach to design according to Tikanga Māori and a decision process based on principles of Kotahitanga.

Phase Three – Design Process
Analysis of the data findings will be synthesised into developing the design principle. The proposed design principle will be applied within the design stage through site analysis, cultural mapping, design considerations and master planning.
Research Methods

Kaupapa Māori

Kaupapa Māori justifies that Māori have the right to access our Māori-based research processes\(^\text{10}\) to reinforce and be rightfully recognised within academia. This indigenous Māori approach is used as a cultural framework to inform design decisions and processes. Within the engagement process will collaborate ideas generated by participant’s, to enable communities to frame their context. The participant’s valuable input provides a whānau orientated approach to design according to Tikanga Māori and a decision process based on the principles of Kotahitanga.

In 1990, distinguished Professor, Graham Hingangaroa Smith first developed six principles or elements in context to educational intervention and research. Between 1997 and 2005, these principles were expanded by Māori theorists Linda Smith, Leonie Pihama and Taina Pohatu.\(^\text{11}\) The development and growth of Kaupapa Māori were further progressed by Russel Bishop, Kuni Jenkins, Cheryl Smith and others. Kaupapa Māori is based on several key principles.

<table>
<thead>
<tr>
<th>Principle</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tino Rangatiratanga - The principle of Self-determination</td>
</tr>
<tr>
<td>Taonga Tuku Iho - The Principle of Cultural Aspiration</td>
</tr>
<tr>
<td>Ako Māori - The Principle of Culturally preferred Pedagogy</td>
</tr>
<tr>
<td>Kia piki ake i nga raruraru o te kainga - The Principle of Socio-Economic Mediation</td>
</tr>
<tr>
<td>Whanau - The Principle of Extended Family Structure</td>
</tr>
<tr>
<td>Kaupapa - The Principle of Collective Philosophy</td>
</tr>
<tr>
<td>Te Tiriti o Waitangi - The Principle of the Treaty of Waitangi</td>
</tr>
<tr>
<td>Ata - The Principle of growing Respectful Relationships</td>
</tr>
</tbody>
</table>

Linda Smith produced a set of principles in addition and correlated to the Kaupapa Māori Principles\(^\text{12}\).

<table>
<thead>
<tr>
<th>Principle</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whakapapa - The Principle of Whakapapa</td>
</tr>
<tr>
<td>Te Reo - The Principle of Te Reo</td>
</tr>
<tr>
<td>Tikanga Māori - The Principle of Tikanga Māori</td>
</tr>
<tr>
<td>Rangatiratanga - The Principle of Rangatiratanga</td>
</tr>
<tr>
<td>Whanau (II) - The Principle of Whanau II</td>
</tr>
</tbody>
</table>

---


The key kaupapa Māori principles used are Whanau, The principle of Extended Family structure, and Tikanga Māori, The principle of Tikanga Māori. These are used through the process of decision making in consideration of cultural family values and applicable guidelines.

Pūrākau

Pūrākau is a fundamental oral form of Māori narrative and storytelling used as an educational pedagogy. The term Pūrākau centrally means legendary or mythical. Pūrākau is not limited to but can range from retelling legends, preservation of mātauranga and sharing intimate realities.

Pūrākau is significant in the discussions and knowledge shared by participants. Retelling stories and passing down knowledge is a practice that aligns aspirations also needed to understand the present to help shape dreams of the future.

Within my engagement research, Pūrākau is used to share experiences and expressively form aspirations through model making.

15 Debi Futter-Puati and Teremoana Maua-Hodges, “Stitching tivaevae: a Cook Islands research method,” The Tivaevae model: Designing and making of Tivaevae as the

Tivaevae Method

The Tivaevae Model was developed by Maua-Hodges, a theoretical model within the Cook Island education system using Cook Island values represented in the process of constructing a tivaevae. The tivaevae is a staple Cook Island piece of quilting artwork and traditional practice. It is a type of blanket in a materialistic form. In practice, it is used to weave tradition and metaphorically describes in detail through patchwork the integration of Cook Island culture or stories. The five values in the tivaevae model are;

- Taokotai - collaboration
- Tu akangateitei - respect
- Uriuri kite - reciprocity
- Tu inangaro – relationships
- Akairi kite - shared vision

The values are drawn from the Cook Islands but symbolise the values of the wider group of Pāsifika peoples. These values signify the elements values by a collective society for creating and sustaining the community. The Tivaevae Model is used in an architectural research practice to weave together collaborative stories and process-driven methods to inform decision making and acknowledge the growth of the journey taken.

Ethical Considerations

Ethical writing is to gather sources of material through documentation and acknowledges the perspectives of others giving strong credibility and persuasiveness of the writer’s argument. Unitec Institute of Technology recognises that research projects may involve human participation and engagement. There is a responsibility of the institute and researcher to ensure “privacy, safety, health, social sensitivities and welfare of such participants are adequately protected.” The process requires approval from UREC (Unitec Research Ethics Committee) before any human engagement proceeds. UREC maintains eight ethical guidelines:

- Informed and voluntary consent.
- Respect for rights and confidentiality and preservation of anonymity.
- Minimisation of harm.
- Cultural and social sensitivity.
- Limitation of deception.
- Respect for intellectual and cultural property ownership.
- Avoidance of conflict of interest.
- Research design adequacy.

Through guidance the engagement process brought better understanding of the overall research project aspirations. The discussions highlighted information that is received through first-hand experience and shared through oral communication. To ensure applications are approved, simple terminology and ideas clearly understandable are required for readers of all backgrounds to comprehend well. From a Māori and Cook Island background, there is difficulty amongst individuals to justify and provide reference from cultural knowledge and understanding into an academic structure. The upbringing of many Pacific Island people and Māori families inherently demonstrate and live by cultural customs and values.

In reflection of participant’s design responses key themes were acknowledged and precedent. The project draws inspiration from Maori Marae and the Samoan Malae. These are spatial layouts for settlement, which although shares similarities are still unique in their own context. This research recognised opportunity to utilize certain features of the Marae and the Malae to improve and establish sustainability through incorporation of multi-purpose spaces and inter-changeable walls.

---

Results of Research

The outcomes of the research have brought awareness to 'The gap' in academic research and methodologies. The engagement pedagogy gave participants a platform to voice their realities.

The Gap

While the research progressed, a missing link within Cook Island literature and pedagogies. Our people are historically known to pass on cultural knowledge through oral discussions. In recent times, there are inefficient teachers to carry on the traditional process of story-telling or not credible resources that can be referenced.

Interviews and Charrettes key themes are passing down knowledge is critical to maintaining cultural identity and a sense of belonging. Lack of accountability and importance has demonstrated a rift in wairua and passes on intergenerational trauma. The emphasis given to kotahitanga is deeply driven into the subconscious and reflects through ambitions in all aspects. The passion and desire for Polynesian culture are expressed through values, kaitiakitanga, decorative art and architecture.

Each methodology is appropriately used to help dignify the importance of community engagement. The data findings are used to develop design principles to apply to the design stages. The collective response gathered results in the design principles. The values and principles are applied in the spatial orientation and arrangements of structures and how they cohesively integrate.

Key design responses:
- Universal design for all ages and abilities
- Structural design against tropical climate and phenomenon
- Flexible spaces
- Environmental systems and Passive design
- Open Plan
- Intergenerational whanau planning
- Functional and Low maintenance
- Cultural orientation
Context Research

The research project consists of a literature review that researches the history of architecture in the Cook Islands, land consent processes and Māori Architecture. This section aims to gain a better understanding of the events that have influenced architecture, the indigenous people of the Cook Islands, and the connections with Aotearoa. This critical to understanding identity, the impact of Pacific migration to Aotearoa and the missing links to reconnecting ancestral knowledge.

This research project as identified previously is in Arorangi, Rarotonga, Cook Islands. The Cook Islands consist of 15 islands and atolls that are spread over 2 million sq. km of the South Pacific Ocean. The total land area of the Cook Islands is 23,261 hectares while its exclusive economic zone covers an area of nearly 2 million sq. km. Rarotonga, with a total land area of 6,719 hectares is the largest and most populous island (over 50% of the population) and the administrative centre. The total population of the Cook Islands, as enumerated on 1st December 2016, was 17,434 people: 8,520 men and 8,914 women.


20 Cook Islands Population Census

21 Cook Islands Population Census
Figure 5 Rarotonga Island Map, (figure by author, Adapted from Rarotonga Backpackers Guide)
Cook Island Migration to New Zealand

The Cook Islands were first settled by the voyaging Polynesians, who sailed throughout the Pacific oceans in search of new land to call their home. Traditional tales told that the first settlers of the Cook Island were from French Polynesia, who arrived in Aitutaki, Tangiia and Rarotonga around 800CE. This was an ongoing process of voyaging in the early migration of the Polynesian peoples. Settling on land and expanding, until pressure built upon resources which saw more ongoing migrations in search of new land. It is a common narrative in the Cook Islands that the great Māori migration to Aotearoa initially started from the Rarotonga, which was believed to have occurred around the fifth century CE.

The first recorded documentation of the Cook Islands began in 1595, the first sighting of pukapuka was by Spaniard Alvaro de Mendana, a Spanish explorer. Soon after another Spanish explorer, Pedro Quiros, landed in Rakahanga in the early 1600’s. The 1700’s was a very populous time of exploration by the French and the British, where both were in search of new land in the Pacific region, to establish a better connection for trade and naval matters. The first name that was given to the collective group of islands was Danger Island, when the British arrived in Pukapuka and had difficulty landing in 1764. The Cook Islands had multiple names before-hand until, in the 1800’s, the Russians decided to change its name to the Cook Islands in honour of the English navigator Captain Cook.

In 1888, the Cook Islands were under the British protectorate, until 1901 when New Zealand under Great Britain colonised the Cook Islands, becoming New Zealand’s first colony in the Pacific. Land authorities were to remain under the protection of the local people, and the Ariki were to be consulted for claims to the land. After 64 years of governing under New Zealand, in 1965 the Cook Islands became independent and self-governed.

New Zealand is the most culturally diverse country in the Pacific, with almost 8% of its population consisting of Pacific descendants. After the second world war, there was a huge crisis developing in the Pacific Islands, people were losing their jobs and looking for work. In search of a brighter future, many of the Pacific Island people migrated to New Zealand to escape the financial pressures of living in the islands. Before the second world war, the New Zealand government was facing a problem. Struggling to supply the labour force with workers, the government encouraged numerous Pacific Island people to move to New Zealand for employment. Around this time there were only a few hundred Pacific Island people living in New Zealand. Pacific island men were brought in to work in labouring jobs in forestry and

---

agricultural cultivation, whilst women were brought in as domestic workers. Auckland is considered the “Polynesian capital of the world”\textsuperscript{25}.

During the 1970’s the government was forced to mitigate and control the rising numbers of overstayers which were mostly from either Samoa or Tonga. The police introduced the Dawn Raids, specifically targeting Pacific Island people. The dawn raids were stopped after a considerable amount of Pacific Island people protesting and outcries regarding discrimination and inequality. This formed and brought about the introduction of the Polynesian Panthers\textsuperscript{26}.

\textsuperscript{25} Jarvy Web, History of the Cook Islands, 2019

The Pacific Panthers were a group of New Zealand born Pacific Island people, which was formed to fight racism in New Zealand. First established in 1971, the Polynesian Panthers served and protected the small Polynesian community\textsuperscript{27}. A stereotype quickly formed over the Polynesian community, as troubled uneducated individuals with low health standards. A racist crisis was evident in New Zealand, as Reverended Wayne Toleafoa who was a member of the Polynesian Panthers explained, “You know it’s wrong that we should be addressed as ‘black bastards’ and that kind of thing, so we started to push back”. Unifying the Polynesian communities, the Polynesian Panthers helped families in need of supplies, food, advocate for tenants, and conducted language classes encouraging the community to embrace their cultural backgrounds.

Since the early years of the Second World War, Cook Island people have been migrating to New Zealand in significant numbers. Most of the Cook Island people migrating were young men and women, in search of work and a new home. During the 1936 general census of New Zealand, the Cook Island people have been categorised under their ethnicity, whereas in the previous general census Cook Island people were categorised under Polynesia. During the general census, it revealed that there were only 103 Cook Island people, either mixed-blood or full-blooded\textsuperscript{28}. Since then, the

\textsuperscript{28} Antony Hooper, "Journal of the Polynesian Society: The Migration Of Cook Islanders In New Zealand, By Antony Hooper, P 11-17," The Journal of the Polynesian Society, accessed April 15, 2020,
Cook Island population within New Zealand has grown exponentially, the census statistics from 2018 show that there were 61,839 Cook Island people living in New Zealand, and that 59.9% of them lived in Auckland. The following strong images show members of the Polynesian Panthers protesting for their rights in New Zealand.

Figure 8 Polynesian Panthers


Literature Review

The literature review is made up of three key parts. This includes a review of both Cook Island and Māori Architecture, a comprehensive spatial analysis marae and malae. This is also followed by a case study review of built examples of papakāinga.

History of Cook Island Architecture

The history of Architecture within the Cook Islands is shown through the Cook Island Arts and Architecture, by Jeremy Treadwell. The Cook Islands arts, crafts and architecture represent the captivating essence of Cook Island culture. This distinguished book shares extensive knowledge about the history of Cook Island arts and architecture and the preservation of its colourful culture. Within chapter 15, The Tradition written by Jeremy Treadwell, reflects on the indigenous built environment over time in response to the effects of colonial modernization and loss of traditional architecture and material skills.

In the early 1900s the traditional Cook Island architecture was documented and categorized in the following main building types; the Marae, Paepae, ‘Are, Fare Manihiki, ‘Are Karioi and ‘Are Atua. These historic building types highlight the traditional architectural craft and materials that were used for different purposes. The different scales of each building would demonstrate

---

31 Rod D. Linda, Cook Islands Art and Architecture (2016), Chapter 15
various purposes such as family domesticity, social occasions, deceased and gods. The Cook Island architectural built environment and other island architectures represent a wider regional, technological district and culturally, oceanic architecture.

Traditional pacific architecture also tends towards the openness of the world. This openness is in the building form and its materials but also in the orientation of the buildings to open space, such as on the Marae or the lagoon” expressed by Mike Austin.32

These architectural building types consist of open transitional spaces and form interior enclosures. The Ara Metua is a cultural landscape feature that is derived from Rarotonga’s original settlement that locates the disposition of various significant buildings.

In the 19th century, the Cook Islands had many examples of architectural evolution and migration of the tradition with influences from the missionaries. The missionaries thought the simple oceanic built environment was not considered architecture at all with no moral decency to single interior space. The western ideals of architectural housing during this period highly expressed individualised private spaces.


The original native hut was merely a respectable shed: the tall posts, the ridge pole and rafters constituted the entire framework. Roof and sides were covered in a thatch made of palmetto leaf/one aperture 4 ft sq. served for the door and window. The earthen floor covered with a thick layer of hay; upon this, mats served the double purpose of seats and beds, described by Buzacott33.

33 Dixon, Crowl, and Crocombe, “Section 5: Architecture, Chapter 15: Cook Island Architecture, The Tradition,” (Buzacott 1866:211), pg 335

Figure 10 ‘Are Atua (God Houses)
The historic cultural architecture was using sustainable and renewable materials to best condition the buildings suitable to withstand the tropical climatic conditions. Post-colonial modernization oceanic architecture has evolved in response to both its local climate and cultural traditions.

Jeremy Treadwell makes a point of how colonial 'modernization' had displaced evidence of Māori (Cook Islands) architecture. The loss of traditional knowledge has made it difficult to understand its history. It is important to understand that traditional practices are centred in nature and its environment. Models and praxis are based around the rhythmic arrangements of nature seasons. Before European contact, the island’s inhabitants lived inland amongst the mountainsides. Here the mountain offered protection from invasion and resources needed for growing food and materials for building. The proximity of these natural resources was important in establishing and maintaining their way of life.
Architecture in the Cook Islands today

Modern indigenous architecture has persevered to explore diverse design methods that correlate with the cultural traditions whilst adopting the western way of building structurally with efficient materials. Still to this day the conceptual design of the ‘Are is still being referenced and incorporated in different ways. The structure of the ‘Are is very similar to those of the wharenui on a Marae in Aotearoa. Similarities such as the outlined ‘A’ frame form with double height interior space and exposed skillfully handmade structural techniques are used.

Indigenous Architecture is a movement towards educating others about preserving the essence of culture throughout the built environment. Māori and Cook Island people have similar perspectives on the history of indigenous architecture and how it changed over time in effects to colonization.

Figure 12 Rarotonga Site visit, (Images by author)
Reconnecting to my Ancestral akapapa
Reconnecting to my Ancestral akapapa
Cook Island Land Consent process


"As Māori we are caretakers, not owners" as title in the article 'Ownership is a term that is not our own'. 'Akara ki te mato i pao 'ia mai e koe. Look toward the solid rock where you come from. Be proud of your heritage. Look to your parents.

As land increases in demand, a strict approach to land ownership occurs to secure ancestral land from large companies or foreigners buying land for purposes not ethical. As described by Participant R1 – “Land is rare”. A part of Rarotonga’s culture is to know your genealogy, which important information is to solidify yourself. Land titles will not exceed 60 years as this is the deadline for an occupant right according to the Cook Islands Act 1915 section 424-429. There is a process in which land parcels can be obtained. Commonly this process can be done with a land agent, lawyers or privately done. The land parcel belongs to the respective families although foreigners can obtain land through a lease or take over an existing lease period. Once the lease is finished then the land must return to the respective families. If current landowners wish to stay occupied, then they must go through the land title ownership process again. There are the necessary legal documents that need to be filled out, completed, stamped, and filed to bind and secure ownership. The key part of this process is to hold family meetings as you need more than 50% of signatures from the other landowners for approval. Once obtained the occupation right the owners need to build and be completed within five to seven years or else the family can take back the land.

The summarized process of land title ownership is:

1. Hold an informal meeting with family members
2. Filing meeting of assembled owners Leases of approval tribunal
3. Confirmation

Occupation right:

1. Family meeting
2. Confirmation from land court

---


Māori Architecture

The indigenous architecture of Aotearoa New Zealand captures the essence of the Māori way of life. Māori, the indigenous people of the land, their lives and stories are captured and woven into the fabric of the architectural designs of buildings and structures seen throughout the whenua (land).

Māori architecture, over the years, has evolved from a typical A-framed marae structure to a wider variety of buildings. Through a cultural lens, it is important to address the concept of using Te Ao Māori methods and processes to achieve a purposeful indigenous design. An example of a cultural process is by engaging with people of the land (mana whenua). Jade Kake, Māori wāhine architectural designer states, “Māori’ architecture, landscape and urban design cannot...exist without mana whenua involvement”36. This method is supported by Māori Architect and Researcher, Rau Hoskins who believes that ‘we are just recolonising the people and the landscape,’ which can be succeeded by indigenous people of the land. The interpretation of re-colonisation is the process and action of colonising something again.

Decolonisation is based on dehumanising indigenous peoples and misappropriating indigenous resources and the transfer of power. It is Linda Smith37 reminds us of the struggle, injustice, and oppression, Māori has experienced over time. Māori students experience the struggle and barriers which they claim can limit their learning and abilities to succeed as Māori.

This literature uncovers the post-colonialism influences on Māori, within their creative industries. This western behaviour of dominant teaching and learning can deny the legitimacy of Māori knowledge, culture, and language.

The article, Relish the Difference38, addresses the importance and responsibility to share cultural knowledge with students. This idea is supporting the notion of reclaiming Māori culture and architecture. Interestingly, Peter Maher expresses you are “given an object stripped of its social, political and cultural content and presented simply as a visual icon...architectural magazines reproduce that whole system of values which subordinate the Māori”39.

Indigenous architects value working with clients and whānau during the design stages which produce architecture that recognizes the traditional beliefs and culture. Today’s architecture, the design methods of Māori architecture reflect the values of Te Ao Māori. Māori architectural practitioner and scholar Rau

38 Architecture NZ, “Relish the difference,” March 1994, 70
39 Architecture NZ, “Relish the difference,” 70.
Hoskin explains the “…matter of valuing Māori people and valuing Māori architecture…”\textsuperscript{40} will produce rewarding results. This is supported by the Te Aranga Design Principles which provide a Māori cultural guide to assist in the design of planning.

One indigenous architectural example is Puukenga. A building at Unitec, Albert Campus, is a result of community engagement and consultation with local iwis. Through community engagement, Puukenga ensures that the narratives and visual representation are aligned with Te Ao Māori perspectives.

It is the Māori practice of passing knowledge down through generations of students. Rewi Thompson is the appointed architect that had an aspiring building that creates a sense of belonging, for in particular Māori students. The building design is derived from Māori worldviews such as the creation of the cosmos, symbolistic features of females and males, sculptural carvings of Māori mythical gods and built using western industrial technology and Māori values. When walking through the atrium and hearing the trickle of the indoor narrow stream, the audience can feel the wairua surging throughout the building and uplifting its inhabitants. In observation of this building, Puukenga has successfully infused the design method of integrating local iwi and architect’s intentions throughout the design process.

\textsuperscript{40} Architecture NZ, “Relish the difference,” 72.
Māori Pa Spatial Analysis

Marae is a traditional Māori village indigenous to Aotearoa. The Marae belongs to a specific iwi (tribe), hapū (sub-tribe) or whānau (family). Marae are commonly held ceremonies, tangihanga (funeral), pōwhiri, educational services, tribal events.

The marae is our focal point, homestead to pull us back to. The Māori culture embeds connectedness to all things living surrounding it. It connects to the physical, cultural, spiritual and social aspects, both past and present. The process of stepping onto a marae is to be firstly greeted and called upon, walking through the atea space. Crossing from entry space to the atea space.

The Marae can consist of:
Wharenui (carved meeting house)
Wharekai (kitchen/dining)
Wharepaku (ablution block)
Marae ātea (open courtyard)
Urupā (cemetery)
Papakāinga (communal living housing typology) within the rohe

Originally the word Marae meant the atea open space in front of the wharenui (meeting house). Modern definition, the Marae means the entire settlement. Including all structures, green spaces, entries/exists, parking spaces, urupa etc.

Orientation

Settlements were located and established along coastline as inland terrain is more difficult living conditions. Chosen site locations also take defensive strategies into consideration. The word Pā refers to any Māori village or defensive settlement and hillforts (fortified settlements and defensive terraces). The hill provides a great advantage of an overview of incoming visitors or enemies. The bush gives an escape route in case of invaders overriding the village. There are three site considerations for the Pa and Kainga to be successfully developed:

Terraced sites.
Ditches and banks.
'Ring ditch'.

Figure 13: Māori Pā arial view, (Adapted sketch from New Zealeand Auckland War Memorial Museum Pā model)
The hierarchical social structures are of prime importance as the community are subservient to a Chief and the placement of houses taper downhill in relation to your status and mana (prestige). The decision making of house placement fell to the respected village elders who retain whakapapa knowledge used to analyse the person’s relative value and worth.

The Marae consists of multiple built structures, important spaces, and thresholds. Structures were aligned with natural landscape. The land is of more importance than the built structures. The wharenui (meeting house) is orientated to face the dominant natural feature, usually nearest to the site. The sun orientation is of key spiritual significance to everyday life and acts as a clock for daily duties. The site layout depends on the climate conditions such as wind direction and the meeting whare facing east to the rising sun. The village is situated near a hill, river and bush. Plantations growing crops provided a food source; kumara, yam, taro and gourds. The river provides adequate fresh water and food resources. People depended on the livestock from the sea and land. Taking care of the land, people and homes. As time goes on and technology evolves, we must incorporate traditional structures and innovative methods.


Figure 14 Meeting house alignment, (Figure by Jacqueline Dyer, from Site planning for marae)
Samoan Malae Spatial Analysis

Sāmoa consists of two main islands, Savai‘i and Upolu which are located in the South West Pacific. Most of the Samoan settlement and development is located along the coastal areas and is also where the majority of the existing malae within village settings are situated. Similar to the site of interest in the Cook Islands, Samoa has a tropical climate and an annual cyclone season. Due to annual rainfall, the flat coastal areas become vulnerable and prone to flooding compared to the elevated inland areas. Designing the climate conditions is a crucial part of providing protection and security against intense tropical cyclones. Before the arrival of Palagi (Europeans) the social structure of governance was collectively known as fa‘amatai (fa‘a means ‘being’, matai means chief). This consisted of the hierarchy from the matai system. Matai’s were responsible for making decisions on behalf of the nu‘u (village) and aiga (family) decisions. There are different types of matai’s, such as the ali‘i (high chiefs) chosen for their decision making and tulafale (chiefs/orators) for their presentation skills. The founding values that Samoans have used in their daily lives and as guiding principles in their architecture, built environment, social structure and cultural expression, is known as vā.

In the “Which way is front?” article, it clearly articulates the spatial layout of a traditional Samoan malae, and thoroughly describes the value of the Samoan concept of vā, in a way that depicts this concept through Samoan architecture. Feapulea‘i dedicates his research to examining the Luma-Tua (Front - Back) orientation and dynamic that is reflected throughout the design of the Samoan fale, household compounds and villages. His investigation of the issue is built on a solid foundation of previous work and research from the likes of Albert Refiti, Ann Allen and F.K. Lehman and David Herdrich. From the very beginning, Feapulea‘i highlights that some published articles have identified Luma-tua orientation and Tai-uta orientation to be of the same, which he identifies to be two different concepts that have areas of similarity but are not of the same domain. Luma-Tua orientation focuses on the layout of front to back, whereas Tai-Uta orientation focuses on the arrangement and direction of orientation. Tai refers to the seaward side and Uta meaning the landward side.

---


The Malae is of high value to the local Samoan people. Samoan legends referred to the malae as a sacred ground where matai (chiefs) and gods had their meetings, “where the first councils were held to create social and cosmological order”\(^{44}\). The malae located in the village of Lepea is a traditional Sāmoan village layout influenced by Palagi (European or non-Samoan), a military planner, General Spafford Richardson. Co-designed with two other Sāmoans, Faumuina Fiame and Taisi Olaf Nelson after Spanish influenza in Sāmoa\(^{45}\).

---

\(^{44}\) Van der Ryn, “Which way is front,” pg


The Malae was designed with the values of vā in mind creating a layout that evenly surrounds the open green space. Malae is the centre for social and political engagement for communities. The malae are the only proper traditional or formal space were villages and family hold ceremonies and meetings. In a village context, it is a part of their identity and is perceived as the face of the village. The malae also hold space as the burial grounds, reassuring the openness and connections between the living and ancestors. Upon settlement of a village, the malae became a sacred central point of the villages. The matai’s who founded the village settled around the malae, building their homes, surrounding the malae and creating the first ring of structures. Each matai would pass down their Fale Tele (Big house) to his descendants, and this would continue as a family ritual. As families grew more buildings were built behind the main ancestral family fale, which is now used for family or village meetings or gatherings. Over time, the village would expand outwards from the central malae, highlighting its significance and therefore called Lumafale, which means the front of the first ring of houses. The fale is one of the oldest traditional building structures that withstands the intense and unpredictable tropical climate conditions, as well as designing according to Sāmoan values. The fale are intricate, detailed, and complex structures that require specialist’s builders.

Fepuleai further explains that the malae are derived from the concept of vā, which is a Samoan indigenous concept that explores the relationship and space between the tangibles, intangibles and the relationship between the two entities. Within the fale, the meeting between hosts and guests sit opposite each other in a circular pattern like the building’s circumference. The open vā space in the focal point is exposed to the inclusion of ancestors who help oversee the matai’s decisions. The Matai will sit with his back to the pou lalo posts at one end, centralizing the vā or space between the sitting arrangements. It’s one of the few indigenous Sāmoan traditional values that has lasted the test of time. In meetings, people will sit in a circle with the open space between them reserved for ancestors who watch over them.

The concept of vā is reflected in the orientation of the first ring of houses, an individual fale would have an adjacent building where the open space
between them becomes their vā. The architectural form of a fale is open and wall-less, which reflects the vā principle, maintaining a connection to the wider environment around the fale and eliminating the disconnection and isolation. In society, identifying the front face or the back face of a fale is determined by the vā or its relationship to the malae. The closest side of the fale to the malae becomes the front of the house (luma fale) while the farthest side of the fale becomes the rear end of the fale (tua fale).

Once again, the concept of vā is also the founding principle with the aiga (family). From each founding chief of the villages, his descent will have one sa'o (head chief of the family) who will have all authority over the family and acts as a representative of the family in front of the village meetings and gatherings. Within each family compound, the sa'o of the family who is nominated by them, his family would reside in the family compound along with extended family. The compound would follow the front to back axis from the village layout, where the more important family buildings such as the fale afolau would be closest to the faletele and other buildings for untitled members would reside behind the sa'o. All other buildings for cooking or toilets would be furthest away from the fale tele. The faletele is a representation of the unity and history of the founding matai’s descents.

Fepulea’i research has given much knowledge and understanding of vā and depicted how important the vā was/is to the indigenous samoan and modern Samoan society, influencing its built structures and architecture, both the malae and fale. The research also discussed the origins of the malae and fale, highlighting areas of similarity within the design and consideration of the Samoan concept of vā.
Lepea Malae
The Village of Lepea is located along the coastal Northern Regions of the Island Upolou. The property of the village malae stretches approximately 200m (along Vaitele Street) to 250m (along Papaseea Road), which covers about 50,000sqm of land. The main coastal road of Vaitele Street crosses through the malae and connects from the Airport to the Capital of Apia.

Vailoa-Tai Malae
The Village of Vailoa-Tai is located on the Western District of the Island of Tutuila/American Samoa. The property of the village malae runs 200m (along the coast road) by 120m (from the coastline), which brings the land area to 24,000sqm. The malae for this village are framed by the coastal roads and the coastline of the island, rather than dividing the malae into two the government road acts as a boundary to the malae.

Fagaitua Malae
The Village of Fagaitua is in the Eastern District of Tutuila/American Samoa. The original malae space is measured to approximately 150m (inland) to 180m (along the coastline), which brings the total area of the malae to about 27,000sqm. What once was a huge malae space in the 1960’s has now shrunk down and become occupied with homes for the villagers.

Figure 17 Lepea Malae, Vailoa-Tai Malae and Fagaitua Malae
Reconnecting to my Ancestral akapapa

Figure 18 Tivaevae, (Photo by author)
Precedents

This following section of the document focuses on exploring domestic communal housing. As papakāinga is the basis of this research, this project investigates the housing characteristics in different settings, the research analyses rural, urban and sub-urban contexts of papakāinga and co-housing in Aotearoa. Amongst all precedents are similarities within design attributes and principles which are also shared with this research, giving insight on the successes and challenges encountered with papakāinga development.

The following researched precedence studies focusses on the spatial arrangements, communal services and cultural aesthetics integrated into the designs. The precedence study is categorised in these following:

Urban Papakāinga: Te Aro Pa Papakāinga
Sub-Urban Papakāinga: Turner Trust Papakāinga
Rural Papakāinga: Mangatawa Papakāinga
Earth Rammed Construction: Whare Uku
Co-housing: Earthsong Co-housing
Te Aro Pā Papakāinga

Te Aro Pā papakāinga is Wellington’s first urban papakāinga built in 2018 located in Greta Point. The chosen site is culturally significant as Ngāti Ruanui and Taranaki Iwi lost the original four-acre Te Aro Pā site in the 1870s. The aim is to create contemporary kāinga and affordable units with key partnership between the local iwi and community housing organisations. The first priority tenants are descendants of original Ngāti Ruanui and Taranaki Iwi people of Te Aro Pā. Te Aro Pā residents will consist of young families, kaumātua and professionals. Also made up of a mixture of tenures with both full market and social housing rentals.

Designed and effectively collaborated by Roger Walker Architects, Te Tumu Paeroa as representative of Te Aro Pā Trust and Dwell Housing Trust. The Te Aro Pā Trust represents the descendants of original occupants and collective owners of land. Te Tumu Paeroa’s role collaborates with property consultants to develop the papakāinga to reflect and achieve the Trust’s vision. Including iwi in the process benefits all parties and helps sustain strong relationships for positive future developments.

46 “Dwell housing partnership Te Aro Pa,” Te Aro Pā papakāinga - Wellington’s first urban papakāinga

Figure 19 Te Aro Pā Papakāinga perspective, (Image by Dwell Housing Trust).
Roger Walker Architects strive to highlight the traditional Māori concept of whanaungatanga (kinship) to create the multi-unit housing type that reflects the iwi’s vision. Roger Walker understood the ‘importance of Māori social interaction with shared spaces’. Dwell Housing Trust specialises in managing and developing affordable social housing in Wellington. Alison Cadman, CE of Dwell explains “we are more than a landlord – we ensure our tenants have access to the support they need to live well, do well and be well”. The organisation works earnestly with parties involved to maintain whanaungatanga links and assist priority applicants with Dwell as acting landlord, supported by Te Aro Pā Trustees.

47 “Dwell housing partnership Te Aro Pa,” Te Aro Pā papakāinga -

48 “Dwell housing partnership, Te Aro Pa,” Te Aro Pā papakāinga”
This contemporary papakāinga consists of 14 homes built with ten, three-bedroom apartments and four single bedroom properties. There are communal areas such as the kids play area, mara kai (communal garden), courtyards and a Pou that reflects its papakāinga nature and historical connections to Taranaki iwi. Roger Walker Architects designed modern living standards with insulation, durability and privacy. The precast concrete panels are an architectural feature that were fabricated in a Levin factory, transported, and assembled onsite. The robust, simple, and efficient vertical forms exhibit cultural patterns that enhance the whenua. The overall aim is to accommodate descendants of Te Aro Pā on their ancestral land. Providing a nurturing environment to return to and preserve whānau connection.

Hone and Miriama Turner Trust Papakāinga

A papakāinga focused on accommodating four generations “under one roof” on their quarter acre family land. The process includes the development of the family principles and values cooperatively refined by their aspirations for the future.

Originally in 1981 Hone and Miriama Turner bought an existing three-bedroom whare and raised their eight children together. By 2014 the structural durability of the whare depreciated. The incentive of developing a papakāinga was to ensure the whānau sense of belonging, secured home ownership and the whānau health and wellbeing. The Turner whare is in close proximity to significant landmarks such as the Turangawaewae Marae, Waikato and Waipa Rivers, also two-minute drive to Ngāruawāhia town centre.

This case study is a papakāinga housing project, which is of one building block that houses five families that consists of 19 individuals. Upon the planning and development of the project, the Turner Whānau highlighted that some of their key priorities was to build a papakāinga, establish a family trust and to create a business that would create financial stability for...
them. The 401 sqm papakāinga was built on a quarter acre, which consists of eight bedrooms, five bedrooms and showers, three living spaces and one shared kitchen.

To accommodate for all ages within the household, the shared spaces need to be flexible and accommodating for both the elders and children during gatherings or meetings. To ensure that communal spaces within the building would be suitable for these situations, there are bi-folding doors that can either open up to create a bigger living space or close to give allocated spaces to both elders and children. Centralising the communal spaces in the floor plan gives priority and encourages more family activities within the household. This creates a strong sense of family and belonging for each individual.

This case study is beneficial to this research as it provides insight on designing and building a papakāinga in a small and restricted space. One of the design moves highlighted by this project is the ability to have flexible spaces or multipurpose spaces that can accommodate a number of activities. Thus, this means that the floor plan would be fairly open, allowing easy access within the building and also transitioning from indoor to outdoor spaces. This project highlights how communal housing and community engagement can be highly beneficial in terms of sharing responsibilities and duties for the family. This research identifies the utilisation of natural elements and resources within the site. Using solar energy, recycling grey water, establishing a source of income and growing food supplies makes this papakāinga an ideal example of sustainable design which this project looks to incorporate into its design solutions.
Figure 22 Spatial analysis, (Figures adapted by Hone and Miriama Turner Trust Papakāinga)
Figure 23 Papakāinga process, (Adapted by Hone and Miriama Turner Trust Papakāinga)
Mangatawa Papakāinga Village

Date: 1987 - 2015

By:Housing New Zealand Location: Tauranga Context: Rural

This papakāinga project in partnership between Managatawa Papamoa Blocks and Housing New Zealand, provided 12 x 4 bedroom for whanau, 12 x 2 bedroom for kaumatua and 4 x 1 bedroom rental whare for kaumatua. Initially building the 10 x 2 bedroom homes on the hill-side of the site, inclining and providing viewshafts to Mauao (Mount Maunganui) and Tahua (Mayor Island) which are both culturally significant to the site.

The papakāinga has strong cultural connections and is situated within a space that is surrounded by cultural landmarks that allows the occupants of the whares and the site to have a deeper connection to whanua.

This Managatawa Papakāinga is still seeing future developments, where the next phase will be to introduce 1 x 4 bedroom whare and 1 x 3 bedroom whare. Further development plans will look into introducing 6 x 2 bedroom units and 1 x 3 bedroom rental housing. It was important that each whare had a strong connection from indoor to outdoor space, therefore all building was orientated to following the axis of the significant cultural landscapes. Utilizing viewshafts to create connections to outdoor spaces, and also providing a physical connection to outdoor spaces, which is why there is an outdoor open green space that is accessible to all candidates.

The Managatawa Papakāinga identifies the values of having connections to the landscape, whether it was through visual connection, cultural connection, or physical connections. This design move informs and creates a sense of place, and also creates value and improves appreciation of the papakāinga.

Figure 24 Spatial Analysis, (Figures adapted from Mangatawa Papakāinga Housing)
Whare Uku Earth Dwelling

Date: November 2016 Location: Ahipara, Northland

Context: Rural

This project is an earth rammed building that was built by a local Māori family, a three-bedroom home. Constructed from the rammed earth, the walls of the building are a mixture of sand, muka (fibre from flax) and concrete, which creates a solid structure suitable for building low cost and long last homes.

Sourcing the resources from within the construction site, this method makes it extremely convenient and sustainable to build houses with rammed earth. As mentioned by the Heeni Hoterene and Rueben Taipari Porter, sourcing materials such as earth, sand and muka from ancestral land also creates a ‘spiritual resonance’. The wall itself is 200mm thick and is seated on a concrete slab, with also a concrete ring wrapped around on the top of the earth rammed walls.

The house is built in a rectangular shape, orientated north, meaning the house allows for natural lighting and heating from the sun for the majority of the day. In combination with access to the sun, thick earth rammed walls under these circumstances becomes a slow natural heat insulator and distributor. Which means, during the day the walls absorb the heat keeping the inside cooler, and later redistributing the heat at night, warming the inside of the building. Other advantages of utilising earthed rammed walls, involves a unique and natural aesthetic, and moreover has a healthier home environment compared to traditional building materials such as timber and brick.

The Whare Uku project is beneficial to this research, as is provides knowledge and support for some of the main design moves;

Construction methods - Community involvement through the construction of the project.
Sourcing materials - Utilizing the full potential of the site, as a resource which also minimizes cost.
Utilizing natural elements - Building orientation and material selection to maximise available resources such as natural heat, lighting and prevailing winds.

---

Earthsong eco housing\textsuperscript{52}

Date: 2016

Location: Ranui, Auckland Context: Urban

The Earthsong is an urban co-housing, that reflects the design drives of social and environmental sustainability. The site is to an extent isolated from its surrounding environment, tucked away and surrounded by the vegetation, there is only one access point into the site from the southern end of the site. This leads to a common parking space situated on the western front of the site. Arranged in a linear pattern, all the buildings are orientated to face north, with a central pathwayinterconnecting all buildings and spaces around the site. Shared between all tendons is a communal green space, which is centralised and is of equal distance from each building. Each home has varying privacy, from the central common house accessible to all, to a semi-public front yard to private homes and backyards.

Targeting environmental sustainability, this co-housing utilises natural light and heating from the sun to reduce energy costs. Other design moves such as material selection are the earth rammed flooring, which is a natural heat retainer that absorbs the heat during the day and slowly redistributes it throughout the day. Other natural elements such as rain are treated as a resource, rather than waste. Six water collecting tanks are positioned around the site to collect the rainwater, as well as storm swales that drain into a pond north of the site which contributes to sustainability of the existing ecosystem within the site.

This project highlights the difficulties of designing for communal co-housing. Allocating public spaces and transitioning to semi-public to private spaces restricts the design flow throughout the site and there is difficulty identifying and differentiating between public and private spaces.

This project also provides insight on the differences between European co-housing and papakāinga. Although the two may share the same design drives and objectives, the outcomes are essentially very different.

Figure 26 Earthsong eco housing spatial analysis, (Figures adapted from Earthsong eco neighbourhood)
Te Aranga Design Principles Analysis
The Te Aranga Design Principles is a design method with a Te Ao Māori approach to architecture. The key objective of this method is to “enhance the protection, reinstatement, development and articulation of mana whenua cultural landscapes enabling all of us to connect to and deepen our ‘sense of place’.” These values and design principles outlined below, have enhanced the development of Māori design through Architecture and Urban Planning.
In March 2005 the official New Zealand Urban Design Protocol (UDP) was published by the Ministry for the Environment. It was brought to light that the Māori protocols and interests were poorly insufficient given through lack of consultations and clear representatives. In June and November 2006, hui (meetings) was held that gathered many influential people and organizations. Māori design professionals, representatives of iwi/hapu’s and resource management sectors from all over Aotearoa gathered to discuss a better strategy. This resulted in the Te Aranga Māori Cultural Landscape Strategy that represents Māori interests and design aspirations in the built environment. The strategy had concerns and difficulties due to the urban design plan not reflecting the Māori worldview. It was recognized as the term ‘Māori cultural landscape’. The strategy is constantly being revisited, developed and improved upon.

“As Māori we have a unique sense of our cultural landscapes. It includes the past, present and future. It includes both physical and spiritual dimensions. It is how we express ourselves in our environments, it connects whanau, whenua, awa and moana through whakapapa, it includes both urban and rural, it is not just where we live it is who we are.”

The strategy was further advanced by a National steering committee with a range of creative and education professionals. The first stages were to engage and record valuable discussions from the Te Aranga hui participants used as a baseline report and then later further developed by Iwi consultation hui participants. The engagement and discussions resulted in the outcome of whitu (seven) core design principles;


The table below outlines the core values the collective group produced.

<table>
<thead>
<tr>
<th>Values</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rangatiratanga</td>
<td>Chieftainship right to exercise authority.</td>
</tr>
<tr>
<td>Kotahitanga</td>
<td>Unity/togetherness.</td>
</tr>
<tr>
<td>Kaitiakitanga</td>
<td>Guardianship and stewardship</td>
</tr>
<tr>
<td>Wairuatanga</td>
<td>Spirituality</td>
</tr>
<tr>
<td>Manaakitanga</td>
<td>Hospitality, kindness</td>
</tr>
<tr>
<td>Whanaungatanga</td>
<td>Relationship/Sense of family connection</td>
</tr>
<tr>
<td>Matauranga</td>
<td>Knowledge/wisdom</td>
</tr>
</tbody>
</table>

*Figure 27 Te Aranga Values, (Adapted table by Jacqueline Paul from Urban Wa kāinga)*
The table below highlights the Te Aranga design principles, the collective group developed based on the values outlined above. The table also describes examples of how the principles can be applied.

<table>
<thead>
<tr>
<th>Design Principles</th>
<th>Definition</th>
<th>Application</th>
</tr>
</thead>
</table>
| Mana              | Recognise and respect the authority or presence.  
Method - Partnership and collaboration.  
Outcome - The status of iwi/hapu as mana whenua is recognised and respected. | A Māori qualitative methodology, culturally sensitive and kaupapa based  
Inclusive collaboration with Mana Whenua throughout the decision-making process and the duration of the project. Build strong ongoing beneficial relationships. |
| Whakapapa         | Preserve and embed culture and identity.  
Outcomes - Aims to encourage Māori names are celebrated.  
Genealogy, kinship, status. Recognising the place and people of the land. Revitalizing the significant landmark and historical names. | Signage and way-finding tools are approaches used to demonstrate Whakapapa  
A genuine, authentic and transparent relationship with Mana Whenua is key to maximising positive design outcomes.  
Whakapapa is an essential tool of initial engagement with whanau, iwi and hapu.  
Whakapapa give purpose to all those involved in the process, forming a relationship that binds all those who are involved with responsibility, obligation and reciprocity.  
Whakapapa extends beyond each individual and operates from a level as a collective. |
<p>| Taiao             | Te Taiao is specifically about the natural environment in which our role is to protect it from degradation. | Re-affirming connections and relationships with the local natural environment |</p>
<table>
<thead>
<tr>
<th>Mauri Tu</th>
<th>The meaning of life and the way you live which is reflected in the health of the environment.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outcome</td>
<td>Environmental health is protected, maintained and/or enhanced.</td>
</tr>
<tr>
<td></td>
<td>Use of environmentally sustainable systems to protect and enhance the environmental health.</td>
</tr>
<tr>
<td>Mahi Toi</td>
<td>Craft or creative expression.</td>
</tr>
<tr>
<td>Outcome</td>
<td>Iwi/hapu narratives are captured and expressed and expressed creatively and appropriately.</td>
</tr>
<tr>
<td></td>
<td>Applied local narratives to be</td>
</tr>
<tr>
<td>Tohu</td>
<td>Tohu is defined as a sign, mark, symbol, emblem, token, qualification, cue, symptom,</td>
</tr>
<tr>
<td></td>
<td>proof, directions, company, landmark, distinguishing feature, signage. Aims to preserve</td>
</tr>
<tr>
<td></td>
<td>and conserve.</td>
</tr>
<tr>
<td>Outcome</td>
<td>Mana whenua significant sites and cultural landmarks are acknowledged.</td>
</tr>
</tbody>
</table>

Encouraging the use of indigenous plant species that are familiar to the environment, to strengthen and build sustainability in/around private spaces. Incorporation of native plant species that entices native wildlife to occupy the land. Providing necessary plant species that local whanau and iwi may use for food supply and medicinal purposes.

Utilisation of natural components of the environment, eg. sunlight; to restoration of waterways through green corridors. Areas of contaminated soil are remediated. Building materials are locally sourced which represent high cultural value to mana whenua.

Conceptualising cultural narratives with mana whenua into built forms that are culturally sensible to the local iwi. Creating a sense of place that is suitable and reflectant of the whanau. Utilizing public art and design to imprint the identity of the iwi/hapu into the environment.

Acknowledgements of local significant cultural landmarks; wāhi tapu, maunga, awa, puna, mahinga kai and ancestral kainga. Establishment of proposed and enhancement of existing viewshafts to significant landmarks. Framing significant heritage trails and incorporation of information boards with markers.
Acknowledge significant landmarks and narratives to inform and reinforce a sense of place and identity.

| Ahi ka | Continuous occupation of land title. Living iwi/hapu presence can include cultural customary protocols and roles to preserve and secure land.  
|        | Outcome - Iwi/hapu have a living and enduring presence and have a secured valued role within their rohe. |

Incorporation of significant cultural landmarks and narrative to inform design developments and general response layout, orientation and arrangement.

All natural resources and facilities are protected and enhanced, consequently enhancing mana whenua’s ahi kā and kaitiakitanga Iwi joint ventures are protected ensuring ahi kā and sense of place relationships are enhanced Enhancing the iwi/hapu’s ability to employ developments and protecting ahi kā

Figure 28 Te Aranga Design Principles Analysis, (Adapted by Jacqueline Paul from Urban Wa Kāinga)

This culturally appropriate design process enables the iwi/hapu to use as a foundation to develop within the local context and personalize according to the ancestral stories. The Te Aranga design method has created opportunities for iwi/hapu, organizations or clients to get on board and build relationships with creative practices and infrastructure contractors. These will produce a solid foundation for future generations to carry on complementing, improving existing urban design in communities or throughout Aotearoa.

"Ma te korero ka mohio  
Ma te mohio ka marama  
Ma te marama ka matau  
Ma te matau ka ora ai tatou.  
Through discussion comes awareness

Through awareness comes understanding  
Through understanding comes wisdom  
Through wisdom comes wellbeing for all”.

My interpretation of this whakatauki means a process that can allow people of all cultures to understand mana whenua within the design outcomes created in the wider environment. This method can be incorporated to create a set of Cook Island design principles to help design the built environment in the Cook Islands.

A series of large-scale urban infrastructures helped test and redefine the Te Aranga design principles and other Māori strategy plans.
Applied Te Aranga Design Principles Case studies

Figure 29 Examples of applied Te Aranga Design Principles

Te Oro Music and Arts Centre

Auckland Art Gallery Toi o Tamaki

Otahuhu Train Station

---

56 "Auckland Art Gallery Toi o Tamaki." Te Kahui Whaihanga New Zealand Institute of Architects. n.d.
Engagement

Pūrākau

Decolonizing research is about recognizing indigenous methodologies of sharing cultural knowledge and preservation of traditions across Australia, Aotearoa and Canada. Many indigenous stories are told from the perspective of researchers not from that culture and can misinterpret creating inaccuracy. This is the job of researchers and interviewers. To follow a culturally appropriate pedagogy and to tell the perspectives and experiences of participants. Pūrākau is a Māori pedagogy that forms Māori narrative and storytelling. Until quite recently, the stories of the oppressed indigenous were told by predominantly colonizers. These were "re-interpreted, re-presented and re-told through their lens." These are pieces and fragments of a traditional way of life misinterpreted. It is an indigenous/Māori researcher or interviewer’s duty to retell the stories from the participant’s perspective and are "accountable to the collective" as Linda Smith mentions. Telling stories is a way to preserve knowledge and hold ground in history. "Indigenous story work seeks to rectify the damage and reclaim our ability to story-talk, story-listen, story-learn and story-teach." The indigenous methodology allows people to tell stories with “respect, reverence, reciprocity and responsibility”.

Engaging with family and hearing their valuable perspectives and aspirations was in a way healing as we can reconnect and share aspirations for our family. Stripping away family conflicts and dynamics emerges a deep intent to move forward as a whole family. The transformative betterment of the future generations through the preservation of cultural knowledge and a sense of belonging was evident. Through open dialogue creates healing, honesty, and empowerment.

The participants were chosen in consideration of their ties to the land and according to their availability. Their valuable input and cultural knowledge of the land and process was essential for the project’s framework. This is not only just for my own family but can benefit surrounding landowners. Helping others is a key value known to Pacific Island and Māori, which is embedded into our value system. We do not just think of ourselves but rather, we think about the betterment of our people and others.

Conducting the interviews and charrettes required face to face engagement both in Rarotonga and New Zealand. The process of conducting and gathering cultural knowledge required a set of cultural guidelines to acknowledge and appreciate this interaction between researcher and

---


59 Archibald, Lee-Morgan, and Santolo, Decolonizing Research.
participants. Therefore, in response, a set of guidelines were developed to assist the general process.

Guidelines;
Rarotonga:
Choose participants with a significant connection to site
Participant permission
Rarotonga timeline
Schedule availability. Island time. Comfortable setting chosen.
Conduct interviews. Conduct Charrette last as per availability.
Koha/Offering – Food.
Closing.

New Zealand:
Choose participants with a significant connection to site
Participant permission
New Zealand Timeline
Schedule availability. Comfortable setting chosen.
Conduct Charrette last as per availability.
Koha/Offering – Food.
Closing.

Rarotonga Interviews
The interviews were conducted in Rarotonga and consisted of four participants that reside in the Cook Islands. The valuable input and feedback have helped create strong foundations to this research project.

The key themes that came out of the interviews and charrettes are;
- Intergenerational orientated homes
- Family first
- Preserve culture and traditions

The key issues that came from the interviews and charrettes are;
- Low rise in minimum wage but high increase in essential expenses.
- Air bnb have become increasingly popular and in high demand for tourists visiting. This creates limitations for residents wanting long term rent as short-term accommodation provides lucrative income for property owners.
- Family land stays within land
Rarotonga Interview Participants:

**Participant A** is male, born and raised in Rarotonga, in his late 20's. He has an admirable and humble personality. He comes from a large family with up to 10 siblings. Sharing and working hard is accustomed and well-practiced.

**Participant B** is female in her late 20's with a small young family. She has been raised in the Cook Islands, specifically in Aitutaki and Rarotonga.

**Participant C** is female in her early 30's with a small family of her own living in Rarotonga. She was born in Aotearoa and moved with her family at a young age to Rarotonga. She is the eldest sibling of a family of six. This participant is of Cook Island and Samoan descent.

**Participant D** is male in his late 20's. His occupation is working in construction as a builder in Rarotonga. He lives and is caretakes of his family's homestead in Arorangi. This participant also works as a professional Cook Island dancer.
Culture and Lifestyle

“Generational anau orientated” – Participant A
“Inclusiveness. Takes a village to raise a child” – Participant B
“People looking after each other. Culture. Language” – Participant C
“Culturally strong. Mana” – Participant D

The response correlates to centralizes relationships with family and friends. Family is one of the top priorities for many Pacific Island families. Many households in the Cook Islands have intergenerational orientated homes creating a well-used populated space with a harmonious atmosphere. During the site analysis stage, one of the many aspects that were noticed was the family support groups who share the responsibilities of household management, financial burdens, and childcare. A common trait in Pacific Island society is the openness to share and take care of others. The community feeling is demonstrated daily and sets a good example for younger generations to pass on. If younger generations visually see and practice manaakitanga as a part of everyday life, then the values can effortlessly be inherited.

“You have to have a blood right to the land”. – Participant B

Land stays within the family. You need to have a blood right to the land you are pursuing. It is important to research the whakapapa of the land and have discussions with land shareholders before pursuing land occupation rights. This links to the Cook Island Land consent process that has been pointed out earlier.

Limitations and Constraints

In an attempt to assess if conceptual design principles would be appropriate or desired, participants were asked “What do you think could be improved with living in the Cook Islands?”. Their responses differentiated but highlighted the current struggles impacting their lifestyle necessities and society.

“Wages are continuously low. Expenses increase rapidly”. – Participant A
“Minimum wage hasn’t increased nearly enough to compensate for the increase.” – Participant D

...
“Analyse legislation flaws” – Participant B

... “Majority of the water flow goes towards resorts and laundry systems. Tanks. Water pressure uphill is insufficient. Water comes from mountains mostly”. – Participant C

... “Value privacy and space. Survival of the fittest. Not a lot of faith in communal sharing. Don’t want to feed the village every day.” – Participant B

As mentioned, wages have not increased and remain low but everyday necessities increase in price and value. Although the quality of living in the Cook Islands create a relaxing tropical atmosphere and content lifestyle, yet the island life still has limitations. For many residents, they face financial struggles and the outdated infrastructure services are outdated. Many locals find creative ways to increase their income by working multiple jobs or having multiple incomes per household. This is to afford necessities and sustain balanced finances.

Design aspiration
The design process needs conceptual work to progress and further develop. This information is valuable and acknowledges what residents are required as acceptable living arrangements and what materials are accessible. Current housing situations are key to analysing what situations are common or available and what needs improving. Two housing options were categorized for participants to choose from; either renting or home-owner. Participants were asked, "What design aspects are important in designing your home?". This question has a direct impact on the design of the building and will create the foundations and design overview. Some of the answers are below.

“Wood 1st option. Concrete 2nd option. Enjoy your own home and design.” – Participant A

“Cross ventilation. Open plan space. Less time in bedrooms.” – Participant B


“Cost and quality. Cyclones. Structural. 60 years-worth durable.” – Participant D

“Family aspect. Privacy. Has ups and downs” – Participant D

---

68 Participant B, Interview, 2019
69 Participant C, Interview, 2019
70 Participant B, Interview, 2019
71 Participant A, Interview, 2019
72 Participant B, Interview, 2019
73 Participant C, Interview, 2019
74 Participant D, Interview, 2019
75 Participant D, Interview, 2019
The basic design aspirations for participants were to have a well-functioning home that can withstand the tropical weather. When building in the Pacific Islands, you must consider the cost and transportation of materials either local or shipped in, functional low maintenance designs that are structurally durable and last through tropical cyclone weathers and raging hot climates. If the built structure cannot meet the purpose of a home in the tropical context then the structure will only create further problems down the track for the homeowners.
Figure 32 Rarotonga Charrette participant, (Photo by author)
Rarotonga Charrette

To make use of the limited time in Rarotonga, a charrette was conducted for one group to help choose a specific site location. This took place last after the interviews were completed due to scheduling acceptable dates. The charrette consisted of five participants ranging in age from six years old to 60 years old. Within the charrette, participants were encouraged to draw, model, make and design their dream home whether on realistic terms or imaginary. This method proved to be very successful. Having young participants and using model materials such as playdough inspired innovative designs and continuously exciting, conversations. Conversations overlapped and responses built upon each other, between the researcher and all participants.

Rarotonga Charrette Participants

Participant R1 is a female of Cook Island descent but was born and raised in Auckland, New Zealand. She is over the age of 50 and has moved her family to Rarotonga to raise her children in the early 2000s.

Participant R2 is a male of Samoan descent living in Rarotonga. This participant is over the age of 50 and he enjoys keeping active in local team sports such as Waka Ama, Badminton and more.

Participant R3 is a female of Cook Island and Samoan descent living in Rarotonga. She is in her early 30s, recently engaged and raising a young girl in a modest one-bedroom home.

Participant R4 is a female minor who enjoys gymnastics and playing with friends. She is of Cook Island and Tahitian descent, who also speaks the Tahitian language.

Participant R5 is a male of Cook Island descent and is over the age of 50. He has spent many years living in Manahiki (outer Cook Island)
Culture and Lifestyle

“Western houses. Elders lived differently” – Participant R1

“Different from NZ. Weather, lifestyle, culture, groups, team sports, meeting other people and whanau. Safe living” – Participant R2

“Family. Family always comes first. Who’s going to look after you when you’re old?” – Participant R

“Family dinners. All the above, weddings, christenings, food. More traditional here (in Raro)” - Participant R

“Family and food brings us all together” – Participant R

“Religion is good. Family together. Good bases, one vision. Totally different.

Concrete world (NZ)” – Participant R

“Simplify life here a lot more” - Participant R

This group highlighted the similarities between Rarotonga lifestyle and Aotearoa and what values are practiced. Generations of people that are whanau orientated inherently understand the cycle of manaakitanga. Its a generational cycle of supporting and taking care of each other. Relationships, recreational sports and family gatherings are a key aspect that brings people together and creates stronger bonds. To younger generations, seeing your family and friends all participating and encouraging each other, learning skills from each other reflects happy relationships.
Reconnecting to my Ancestral akapapa

Figure 33 Rarotonga Charrette participants, (Photo by author)
Limitations and Constraints

“Half of it fixed. Main road needs maintenance. Locals and tourists need experience on scooters on gravel” – Participant R283

Responses highlighted Rarotonga’s road infrastructure is in high demand for improvements. This group also recognised that replicating foreign housing typologies that are not entirely suitable for the tropical environment, is not a suitable design method for the Pacific Islands.

Land process described by Participant R1

Step 1: “Choose land. Talk with locals, kaumatua/parents. Family land meeting...Majority of landowners to sign.”
Step 2: “File application to court. Occupation right”
Step 3: “Surveyor section and given map. Land court and get that sealed. Once it’s sealed then you have occupation right.”

Unethical ways of obtaining land cause family disputes and people become greedy with money like foreigners conducting bribery.

“Plan it. People don’t want to see the land sitting there or being sold. Watch leases and who you lease to”. - Participant R1

“Tradition to keep land within family”. - Participant R5

Papa’a recorded and documented their information and discoveries of indigenous cultures. The traditional method of passing down knowledge is through oral translation. Upon European settlement, discoveries and information were recorded through written documentation, whereas in the Pacific the traditional method of passing down information to younger generations was done orally from elders to youth, through myths, narratives and hymns.

Understanding the Cook Island land process is important to acknowledge. The shift from sharing knowledge through oral translation, to recording land in written form post-settlement by papa’a shows the transitions from indigenous ways of land ownership to current post-colonial processes. Evidence was not required before papa’a settled and established rules of their own.

---

83 Participant R2, Rarotonga Charrette, 2019
84 Participant R1, Rarotonga Charrette, 2019
85 Participant R1, Rarotonga Charrette, 2019
86 Participant R5, Rarotonga Charrette, 2019
Design aspirations

Participants gave humbling and considerate design guidelines acknowledging the intergenerational household members. It is very common to have elders take care of the younger generations. Therefore, architecture should accommodate and be inclusive of people's abilities and disabilities. Passive design efficiently utilises and efficiently using the local climatic conditions in a way that controls the temperature in a space.

Cook Island cultural values are key to framing and further developing the second part of the research project; the Cook Island design principles.

“Housing copying from NZ and AUS. Papa’a way”. – Participant R5

“Disability access. Big deck area. Big open kitchen” – Participant R1

“Open living and kitchen. Separate rooms” - Participant R3

“No one sleeps in rooms. Weather too hot. Screen doors. Need airflow”. – Participant R1

---

87 Participant R5, Rarotonga Charrette, 2019
88 Participant R1, Rarotonga Charrette, 2019
89 Participant R3, Rarotonga Charrette, 2019

90 Participant R1, Rarotonga Charrette, 2019
Figure 34 Rarotonga Charrette participants. (Photo by author)
Reconnecting to my Ancestral akapapa

Figure 35 Rarotonga Charrette participants, (Photo by author)
Aotearoa Charrette
To get a better understanding of the identity crisis in Auckland, New Zealand, a charrette had to be co-ordinated with the most relevant members connected to the site to gather their responses. To hear their struggles of loss of identity and disconnect to their ancestral land, gave awareness of the severe impacts and results of immigration can cause.

Aotearoa Charrette Participants

Participant A1 is female of Cook Island descent based in South Auckland, New Zealand. She is over the age of 50. She is the interested party pursuing the land title of the chosen research thesis site based in Rarotonga, Cook Island. She is the first generation born and raised in New Zealand. Both her parents were raised in the Cook Islands but moved to New Zealand to give better opportunities to their families and communities.

Participant A2 is a male of Cook Island Māori descent. His mother is from the Cook Islands and his father is Māori raised in South Auckland, New Zealand. This participant is over the age of 50.

Participant A3 is a female high school student under the age of 18, with hopes to pursue higher education in scientific architecture abroad. She is of Cook Island Māori descent and is a second-generation New Zealand born.

Participant A4 is male of Cook Island Māori descent and is over the age of 50. He has been brought up in South Auckland although spends time in Rarotonga when he can.

Participant A5 is a female of Māori descent. She is over 50 years old with strong cultural knowledge of her whakapapa.
Culture and Lifestyle

“Go home live in our own home in Raro and retire there”. – Participant A1


…”

“Home there (Raro) where (future generations) our children and their children can go and not pay for accommodation”. – Participant A4

“Papa and mama came over in the 1960s with the big migration, Pacific parents. Firstborn generation brought up in NZ. Better education”. – Participant A1

“Mama buried in Raro and Papa buried in Rakahanga...We don’t have the reo...We’ve only been given info...Land tenure has significantly changed since Mama built her house in Raro”. – Participant A1

…”

“Key is to come home, pull you back in line and learn about the culture...The point is to go back to Raro to our piece of land. To anchor us to that land. Reconnect to all the old people...But we know the history of the land and we need to do something with that information for our children and then pass it on, through generations. There’s always that connection”. – Participant A1

“Connection to land is always via your parents. There is a whakapapa, a genealogy to that land. Not knowing that genealogy will stop the process of you being able to secure a piece of land”. – Participant A1

“Islands to retire. Different atmosphere. Come here (NZ) to work and that’s what we do. Make it comfortable for ourselves. We go back to the islands. Busy lifestyle (NZ). Made money here (NZ) and lives comfortably in the islands” – Participant A2

Moving to the Cook Islands to retire has been a family aspiration for generations. The plan like for many others is to earn income to be able to provide more opportunities for family, retirement and live comfortably with less hardship along the way. Lifestyle in Cook Island, although is a content way of life, has limited education and income opportunities. In the pursuit of a better lifestyle from the hustle and bustle of the city. Securing land and building a homestead is critical in creating foundations and a sense of identity.

---

91 Participant A1, Aotearoa Charrette, 2019
92 Participant A5, Aotearoa Charrette, 2019
93 Participant A4, Aotearoa Charrette, 2019
94 Participant A1, Aotearoa Charrette, 2019
95 Participant A1, Aotearoa Charrette, 2019
96 Participant A1, Aotearoa Charrette, 2019
97 Participant A1, Aotearoa Charrette, 2019
98 Participant A2, Aotearoa Charrette, 2019
“(Aspirations to be) Fluent speakers. First spoken language for our grandchildren and English the second. (Be living in Raro when grandkids happen)” – Participant A1

“Connection to land. Family, genealogy” – Participant A1

Family, history. – Participant A3

Land. – Participant A4

These are common core values a Cook Island family may practice daily. The values described are relevant for many indigenous families who have faced a loss of whakapapa and land rights due to colonisation. The way to reclaim land and cultural knowledge is a difficult healing process for some who face many obstacles along their journey.

“Your whakapapa to that land goes way beyond your identity, it’s a spiritual element to that piece of land. Each of your names has a connection to the piece of land.” – Participant A1

“Quite fortunate. Land here in NZ and the Cook Islands.” – Participant A2

“Sense of belonging. Feel like an outsider”. – Participant A1

“Cook Island first. Bought up Cook Island. Tangata whenua from migrants. First-generation born cook island. Trace genealogy recorded through the papa’a. Without genealogy then the courts won’t recognize it.” – Participant A4

Identity crisis. The push and pull of being more than one nationality. Pressured to compromise where you can educate or feel confident in knowing who you are. The core of people begins on where you and your family originate.

“Homestead on papakāinga. Māori fashion. Housing is behind the main house”. – Participant A2

“I have a different understanding of what a papakāinga is. Immediate family and you kids and your children. Other families to stay”. – Participant A1

“It’s about human relationships, the foundation of why you’re meeting and living there...Changing the landscape, the face of ownership and connection to the land”. – Participant A1

“We’ve always occupied. We’ve never left. I went to Raro, his grandmother, where she’s buried. She had to establish your right to be there. Tupuna on that land that connects you to that land and you don’t need a court to

99 Participant A1, Aotearoa Charrette, 2019
100 Participant A1, Aotearoa Charrette, 2019
101 Participant A3, Aotearoa Charrette, 2019
102 Participant A4, Aotearoa Charrette, 2019
103 Participant A1, Aotearoa Charrette, 2019
104 Participant A2, Aotearoa Charrette, 2019
105 Participant A1, Aotearoa Charrette, 2019
106 Participant A4, Aotearoa Charrette, 2019
107 Participant A2, Aotearoa Charrette, 2019
108 Participant A1, Aotearoa Charrette, 2019
109 Participant A1, Aotearoa Charrette, 2019
establish that. Totally different concept. Stay within blood ties...Direct blood ties. So, nobody can come in and sell it or take it. Three urupa on our land as well. Cements you to that land. Bloodline shows where you are from. Set up in a way that the land cannot be taken as each generation comes. It’s vital as it keeps our land intact”. – Participant A110

“Every piece of land has a name relative to which line you come from”. – Participant A111

“Ours is very tribal, and again dictated by the maunga, by the sea, the rivers. Landmarks. Pepeha”. – Participant A5112

“Marae in the cooks is referring to a burial site”. – Participant A1113

“Communal marae type lifestyle because everyone is engaged and helping each other...You got to go back. Mama buried there and papa buried there. That is the whole point of them being buried there. You got to go back. That person buried there anchors you to that piece of land.” – Participant A1114

In Cook Island marae is a burial site. Although definitions are similar, marae in Aotearoa has a separate urupa (burial site).
Limitations and Constraints

“Papa’a system”. – Participant A1

“Unless you have the documents then they don’t acknowledge your connection.” – Participant A4

“An English system. Land tenure...Important to listen to elders. Knowing where the landmarks and land is.” – Participant A1

“Land is becoming scarce so it’s better to live together than live apart and utilize the other parts to grow crops and have a sense of self-sustaining”. – Participant A2

Due to colonisation times have changed in leadership systems including the land consent process. Before colonisation land was allocated from the chief Ariki. Nowadays it is common to go through a legal process to confidently know the whakapapa of the land and request permission from land stakeholders and government officials to buy/build on family land.

“Your whakapapa to that land goes way beyond your identity, it’s a spiritual element to that piece of land. Each of your names has a connection to the piece of land” - Participant A1

Understanding the Cook Island land process is important to acknowledge. The shift from sharing knowledge through oral translation, then to recording land evidence post-settled by papa’a. This shows the transitions from indigenous ways of land ownership to current processes. Evidence was not required before papa’a settled and established rules of their own.
Design aspirations

“Sourcing of materials at an affordable price... Build sustainably. Create your design and create it with a material. Encourage to build sustainably... Dirt clay homes. Mud homes. Containers. Earth homes... Labor intensive.” – Participant A1

“Repurpose, reuse old materials/resources, recycle”. – Participant A1

...“Kit sets are not cheap”. – Participant A1


“Transforming rooms. Different uses and smaller spaces”. – Participant A3


“Fale palangi” – Participant A4


Communal living with grandkids that come and go”. – Participant A1

“Intergenerational aspects. Accessibility and disability”. – Participant A5

...“Plan for climate”. – Participant A1

"Open, verandah right around. Kitchen bench. People come and go. Future extensions. Beneficial for my own family. It allows you to be debt-free”. – Participant A1

...
“What is your definition of papakāinga? That’s what you have to establish”. – Participant A5

“No one’s done it...Own experience with what a living space is to you today. As a parent, ideal living space is a Papakāinga. Understanding the history of her genealogy, piece of land. Communal living. Wheelchair friendly. No partitioned walls, totally open...Find something that everyone will be accepting of and still retain its value to us, its meaningfulness to us...Keep it functionally, practical, affordable. And we’re on a tight timeline...It’s about money in the end. Money talk. So make it doable.” – Participant A1

“Confident in what you do. Uniquely to your needs and your understanding of what papa’ainga is. Genealogy of NZ Māori and Cook Island Māori. It’s quite rich in history, you have the beginning, how they migrated here. You have that line. Mix the two and get a nice flavor. Put it into the design process while we’re alive”. – Participant A1
Reflection

The idea of designing a papakāinga design approach was inspired by the notion of having a big family home to accommodate family visiting from Aotearoa whilst at the same time creating a homestead based in Rarotonga. A papakāinga in Aotearoa is a traditional homestead on ancestral land and encompasses the essence of whānau. Admittedly, there are less attractive considerations that come with communal living like a lack of privacy, continuously sharing, and limited spaces. Coming from a big family and from speaking with other Māori and Cook Island people living in an intergenerational whānau orientated household was not a far-off concept.

Key aspirations that were outlined will influence the design process and overall design. Below are the key findings summarised by the discussions;

- Low maintenance
- Sustainable materials and systems
- Mult-functional spaces
- Accommodate large families
- Easily accessible for all users
- Practice cultural values


Design Principles

The desired outcomes were developed and built upon in response to each stage along with the exploration. This diagram explains the process to develop Cook Island design principles derived from participants' data received through interviews and charrettes.

Design Principles Process
The proposed Values column shows the values I assumed would be developed into design principles. I chose to attempt to collect values I thought would be best to apply. The experiment reflected similarities with values brought up by the participant’s feedback.

The engagement stage produced the key values such as:
Family
Intergenerational family orientation
Identity
Guardianship over whenua
Self-sustaining

These values affirm the practice of cultural lenses towards relationships with people and the environment.

Figure 39 Design Principles Framework, (Figure by author)
Design Principles Process

This research formulated design principles using the following process to develop a set of guide lines to ensure that the designs produced are aligned with Cook Island values that we identified from the engagement process.

Proposed Values
- Family
- Power
- Hospitality
- Connection
- Environmentally sustainable
- Well-being
- Economic

Engagement Feedback
- Family
- Intergenerational family orientation
- Identity
- Guardianship over whenua (land)
- Self-sustaining

Values
- Intergenerational orientation
- Identity
- Hospitality
- Well-being
- Caretakers

Four key values
- Sense of belonging
- Hospitality
- Well-being
- Caretakers

Design Principles
- Identity
- Hospitality
- Health and Well-being
- Guardianship

*Figure 40 Design Principles Process, (Figure by author)*
Figure 41. Arorangi Cook Island Christian Church, (Photo by author)
Architectural fundamentals
The four following Cook Island cultural values have been further developed to produce four core design principles.

Figure 42 Cook Island Values and Design Principles, (Table by author)

<table>
<thead>
<tr>
<th>Values</th>
<th>Design Principles</th>
<th>Definitions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identity</td>
<td>Language and materials</td>
<td>Preservation of family knowledge and expression of cultural identity through design and art.</td>
</tr>
<tr>
<td>Health and Wellbeing</td>
<td>Spiritual, Physical, Social, Emotional and Mental Wellbeing</td>
<td>Revitalise traditional methods of agriculture and healing to preserve and nourish the landscape and its people.</td>
</tr>
<tr>
<td>Hospitality</td>
<td>Spatial arrangement</td>
<td>Spatial arrangements encompass relationships between spaces, and embrace culture, and connect to people's overall wellness.</td>
</tr>
<tr>
<td>Guardianship</td>
<td>Sustainability</td>
<td>Shared responsibility to preserve and enhance the landscape and occupants.</td>
</tr>
</tbody>
</table>
## Figure 43 Social, Political and Economic impacts, (Table by author)

<table>
<thead>
<tr>
<th></th>
<th>Issues</th>
<th>Solutions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Social</strong> (anau wellbeing; knowledge, reo, cultural practices, connection to whenua, strong whanau relationships)</td>
<td>Overcrowding: Growing intergenerational families in unsuitable homesteads. Common for extensions or renovations. No demolition.</td>
<td>Spatial arrangement and orientation.</td>
</tr>
</tbody>
</table>
Lost in Translation

The chosen design principles translate from English, Māori to Kūki ʻĀirani. The key issue when translating words are the changes in the meanings and loses its understanding. By choosing to use a mixture of Cook Island and Māori terminology will expand my limited reo.

Cook Island languages are traditionally spoken orally. The arrival of Papa’a and their enlightened introduction to Christianity created a shift in the indigenous language. English and written words became the way to communicate. As technology advances over time, the Cook Island language is challenged continuously to find acceptable words to translate terms from English to Cook Island. There are three options to find new terminology.

One, to transliterate the new term.

Two, create new words using the existing Cook Islands Māori vocabulary.

Third, to add a new meaning to an existing Cook Island Māori word.

There are three distinct Polynesian languages spoken in the Cook Islands, although English is the dominant spoken language. Cook Island Māori has several dialects. The Pukapuka language has its mixture of Western Polynesian language and Cook Island Māori terms. Palmerston Island has its unique mixture of Cook Islands Māori and English. There are numerous dialects spoken but Rarotongan is the most commonly used in the Cook Islands and New Zealand. The dialects are; Aitutaki, Ātiu, Ma’uke, Miti’āro, Mangaia, Manihiki, Rakahanga, Rarotonga and Tongareva (Penrhyn).

---

Developed key values

**Figure 44 Au’Akakoro’anga tumu no te Pārani, (Table by author)**

<table>
<thead>
<tr>
<th>Four key values</th>
<th>Definition</th>
<th>Design Principles</th>
<th>Māori translation</th>
<th>Cook Island translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sense of belonging</td>
<td>To confidently know the connection to the land and cultural family history.</td>
<td>Identity</td>
<td>Whanaungatanga – Relationship, kinship, sense of family connection. Shared experiences and working together which provides people with a sense of belonging. Whakapapa – Genealogy, lineage, descent.</td>
<td>Piri’anga kōpū tangata</td>
</tr>
<tr>
<td>Hospitality</td>
<td>Intergenerational whanau orientated. To make guests/family feel welcomed and supported.</td>
<td>Hospitality</td>
<td>Manaakitanga – Hospitality, kindness, generosity, support. The process of showing respect, generosity and care for others.</td>
<td>'Oa'oa</td>
</tr>
<tr>
<td>Wellbeing</td>
<td>Wellbeing to all living things on site, whenua (land) and people. Spiritual and emotional connection to the land.</td>
<td>Health and Wellbeing</td>
<td>Hauora – be fit, well, healthy, in good spirits. Hauora wairua – spiritual health.</td>
<td>Ora’anga e te tupu’anga meitaki</td>
</tr>
<tr>
<td>Caretakers</td>
<td>Responsibility over maintenance of land, buildings or estate.</td>
<td>Guardianship</td>
<td>Kaitiakitanga – Guardianship, stewardship, trusteeship.</td>
<td>Tiaki</td>
</tr>
</tbody>
</table>
Site Analysis

The importance of experiencing and analysing the site is a key part that should be cemented in the way architects work. Site visits present the opportunity to examine and analyse the site, environment and built architecture through an architectural lens. The layout and placement of the infrastructure and the diminishing structures left unattended caught my eye. Acknowledging the existing old roads and passageways, whether it was layered, removed or altered to current standards and measures. The land has matured, and its inhabitants are quickly evolving with the technology and modern necessities. Other opportunities utilised by this research during site visits was the opportunity to engage and gather information from the local community, which in turn shaped and guided the progression of the project. A significant aspect of utilizing a cultural methodology during a site investigation, ensures that findings and information attained is appropriate through a cultural lens.
Reconnecting to my Ancestral akapapa

Figure 45 Rarotonga Island district map, (figure by author, Adapted from Rarotonga Backpackers Guide)
Population is located on coastal areas around the island.

Dense bush inland. Difficult to reside inland.

Figure 46 Rarotonga coastal residents, (figure by author, Adapted from Rarotonga Backpackers Guide)
Figure 47 Cultural landmarks relevant to chosen site, (figure by author, Adapted from Rarotonga Backpackers Guide)
Figure 48 Figure shows line of sight from Shore to Maunga, (Figure by author)

SHORE TO MAUNGA
Reconnecting to my Ancestral akapapa

Figure 49 Site Analysis Scale 1:1000@A3, (Figure adapted by google satellite images)
Reconnecting to my Ancestral akapapa

Figure 50 Connection analysis map scale 1:1000@A3, (Figure adapted by google satellite images)
Reconnecting to my Ancestral akapapa

Figure 51 Site Analysis scale 1:500@A3, (Figure by author)
Current state of site

Figure 52 Site Analysis, (Photos by author)
Reconnecting to my Ancestral akapapa
**Design Process**

The most important element in the papakāinga design and development is for a clear and strongly held desire or vision to exist within one or members of a whanau, group or collective, who have ancestral connection or bond to the whenua.

**Initial Brief**

The following design considerations are in response to the local tropical environment and results from participants. Taken into consideration are design elements according to cultural landmarks, climate conditions and Papa kāinga requirements.

**Design considerations;**

- Environmental and sustainable systems
- Disability access
- Future extensions, “Pods”
- Multi-purposeful spaces
- Interchangeable walls
- Pre-assembled materials
- Orientation to cultural landmarks
- Open plan
- Functional and low maintenance
- Affordability (realistic)

**Cyclone proof**

- Marae and Malae spatial layout
- Building orientation to wind flow and natural sunlight

**Papa kāinga requirements;**

- Maara kai
- Atea
- Water tank
- Permeable parking spaces
- Solar panels
- Outdoor showers
- Entry pou
- Grey water system
- Boundary hedges

**Three housing typologies;**

- Mega whare
- Short term rental
- Tiny whare

---

Design Iteration 1: Design Principles Spatial Arrangements

[Diagram showing relationships between Connectivity, Mana, Koru Tangata, Health & Wellbeing, Hospitality, Future, Economic, Sustainability, Mana, Manaakiraiga, and Hauora through concentric circles and arrows.]

Reconnecting to my Ancestral akapapa
1 - ANAU
2 - MANA VALUE
3 - MANAKITANGA VALUE
4 - ANAU VALUE/ASPECT OF EVERYDAY LIFE
5 - CONNECTION
6 - DESIGN P.
7 - WELL BEING
8 - DESIGN P.
Design Iteration 2: Conceptual form models
This process explored the typical A frame structure, and slowly progressed into reshaping and manipulating the A frame to form a distorted shape and hexagon shaped frame. By reshaping the frame of the structure and abandoning the typical A frame, this created opportunity to rethink the ridge lines and further explore the possibility of incorporating an extended shelter. This process of concept development revealed that by looking beyond the restrictions of an A frame, allows for more utilization of natural lighting and ventilation. The distorted A frame shape visually flows more naturally and more over reflect more aspiration of indigenous culture rather than colonial restriction and domination.

1. Typical A frame slightly altered
2. Opening A frame to allow for sheltered space
3. Distorted frames and utilized ridge line
4. Natural framing structure
5. Roof structure
6. Building facade
Design Iteration 3: Conceptual housing models
This concept development looked at exploring the functionality of a double height structure. The focus of this process was to investigate how might a double heighted structure employ all the available natural elements made available to it. Air ventilation, natural lighting, double facade, and mezzanine are all elements that contribute to building sustainability in the Cook Island Architecture. The built models shown all demonstrate how natural lighting and air ventilations operate within double height structures and provides evidence on how mezzanine could further utilize space.

1. Exterior perspective - natural lighting and air ventilation
2. Interior perspective – natural lighting and air ventilation
3. Interior perspective – Mezzanine with natural lighting and air ventilation
Design Iteration 4: ‘A’ frame model development
This project looked at further exploring the finer details of A framing, attempting to incorporate the creative crafting and art skills of the Cook Islands. This concept investigated the possibility to incorporating the weaving practice of the Cook Island into the built structure. This process found that there is potential for incorporating weaving into the roof structure of the building, which eliminates the typical ridge line structure of a A framed building.

1. Concept One
2. Concept Two
3. Concept Three
4. Concept Four
5. Concept Five
Design Iteration 5: Angled roof model development
This stage of the development looked at eliminating the typical ridged line roofing structure that dominates the Cook Islands. Derived from the site's relations to its surrounding significant sites, the roof structure challenges the triangular shape to form a roof structure that would not only reflect cultural significance but would also have the resilience to withstand violent winds during tropical cyclones.
Design Iteration 6: Housing models
These models are early developments that explored various elements but were not successfully aligned with the Te Aranga Design Principles.

These models further explored concepts for co-housing, and design for larger families. Although these concepts did not fully align with some of the Te Aranga Design Principles, they did allow for exploration of spatial layout and floor plans that would be culturally acceptable.
Site Plan Development

(Further development for final design critique)
Form Development Series
(Further development for final design critique)
Masterplan Development
(Further development for final critique)
Design Reflection

The initial start of this research sought out to design a papakāinga that reflects Cook Island culture. The first instance of concept development explored designs using A-framing, which are the most common designs currently in the Cook Islands. This is evidence of a colonial influence and reflects how the Cook Island architecture has reshaped the Cook Island culture and everyday life. This research understood the modern architecture in the Cook Islands lacked consideration and incorporation of their cultural values. This also opened the avenue of utilizing other opportunities such as designing for functionality and materiality, both examples of sustainable design. This idea of using A-framing was explored during concept development but was abandoned due to the dominating form restricting further development and would not in line with the design principles. Other issues encountered since the early stages of development, involved scaling with the context of the site. The research explored different papakāinga, co-housing and other settlements within the pacific, which informed some of the key design moves and eliminated some of the other options that the research identified as not suitable or necessary for pursuing the overall objective.

Upon further exploration into the materiality, there was a key finding that in line with the design principles, which helped further drive the project. Earth rammed materials are a building method that utilizes onsite materials, such as sand, and soil, which are mixed with concrete to build. This brought clarity and confirmation, on the detailing of the built structure and would also create an aesthetic effect that would reflect more cultural design and methods.

Earth rammed materials highlighted values within a design for sustainability. This also identified that there was to be more priority given to creating a deeper sense of place over the aesthetics of the buildings.

Establishing a set scale was a challenge that also provided the opportunity, to further incorporate Cook Island Culture into the design. Experimentation with a wider scale of the site found that there was an opportunity to establish a deeper connection to the surrounding significant cultural sites. This would ensure that the design was not disconnected or isolated from its surrounding, but rather become a part of a larger landscape. This was done by identifying the significant site, which then showed connections. This finding then informed new design moves that would reflect this cultural connection and character within the building.
Conclusion

The cultural language should not be the only indication of Cook Island Māori representation. Although this helps, other indications are shown through cultural dance, artistic practices, and knowledge of traditional customs. The measure of one’s cultural proficiency should not be contradicted or discriminated due to their ability to portray their culture.

Through this thesis by design the proposed principles are based on participants’ feedback. The conversations overlap one another and create narratives of their own. The discussion outline the key values describe by the lifestyles and experiences of living and being a part of Cook Island. The design principle is reflected through the process methodology, built housing typologies and the purpose of the research project. Each section interlocks and builds upon one another to produce this foundation of work for future Cook Island people developing similar intentions. The engagement responses inform the design principle that is applied to the papakāinga. The stories woven together throughout the research evidently shows in all elements.

This project’s overall intention is to create a baseline or foundation of Cook Island architectural exploration for future like-minded developers to extend and further venture into what futuristic Cook Island architecture would look like. Clearly identifying what is authentic Cook Island architecture from foreign perceptions of Cook Island architecture representation.
Figure 53 Rarotonga lifestyle, (Photo by author)
Reconnecting to my Ancestral akapapa
Masterplan
The purpose of the Papakāinga is to accommodate multiple whanau members in an intergenerational environment that is functional and has flexible multipurpose spaces. The site is made up of four structures as outlined. Each building structure has thoughtfully been orientated in consideration to tikanga values and climatic conditions.

‘Are Metua
This is the main ‘are for the immediate whanau members who reside in Rarotonga. The level two mezzanine is a multiuse open space. Has three bedrooms and two bathrooms on ground level. Accommodates 6 to 18 persons using the mezzanine space for marae styles sleeping arrangement.

‘Are
This ‘are is built for short term accommodation for either renting or hosting whānau or guests. Accommodates 4 to 6 persons with two bathrooms and one bathroom.

Atea
Open green space centrally located between building structures. The atea provides transition spaces between communal to private areas.

Waharoa
Two pou located at the main entrance of the atea space separating the carpark to building structures. This gives an opportunity for the whanau to carve generational stories or cultural patterns that enhance Cook Island culture.

Communal spaces;

Communal facility
Communal laundry
Maara kai
Carpark
Clothesline
Entry
Exit
Reconnecting to my Ancestral akapapa

Maara kai

'Are interior communal space

Communal laundry and clothesline

'Are Metua outdoor level two balcony space

'Are Metua interior mezzanine perspective

Perspective views
Bibliography

A


Auckland Art Gallery Toi o Tamaki." Te Kahui Whaihanga New Zealand Institute of Architects. n.d. 


Architecture NZ, "Relish the difference," March 1994, 70


C


D


Reconnecting to my Ancestral akapapa

R

Rod D. Linda, Cook Islands Art and Architecture (2016), Chapter 15


S

T


W


Z
List of Figures

Figure 1 Muri Beach, (Photo by author) ................................................................. 3
Figure 2 Tivaevae pattern, (Photo by author) .................................................... 16
Figure 3 Tivaevae pattern, (Photo by author) .................................................... 18
Figure 4 Beach houses, (Photo by author) ....................................................... 20
Figure 5 Rarotonga Island Map, (figure by author, Adapted from Rarotonga Backpackers Guide) ................................................................................................. 29
Figure 6 Polynesian Panthers .............................................................................
Figure 7 Polynesian Panthers ............................................................................
Figure 8 'Are Karioi ............................................................................................
Figure 9 'Are Atua ..............................................................................................
Figure 10 Fare Manihiki .....................................................................................
Figure 11 Rarotonga Site visit, (Images by author) ......................................... 36
Figure 12 Puukenga Building at Unitec Institute of Technology ....................
Figure 13 Puukenga Building at Unitec Institute of Technology ....................
Figure 14 Meeting house alignment, (Figure by Jacqueline Dyer, from Site planning for marae) ......................................................................................... 44
Figure 15 Malae luma fale, (Figure by Micah Van der Ryn from Which way is front?) .............................................................................................................. 46
Figure 16 Malae (Figure by Micah Van der Ryn from Which way is front?) .......................................................... 48
Figure 17 Lepea Malae, Vailoa-Tai Malae and Fagaitua Malae ....................... 50
Figure 18 Tivaevae, (Photo by author) .............................................................. 50
Figure 19 Te Aro Pā Papakāinga perspective, (Image by Dwell Housing Trust) ......................................................................................................................... 52
Figure 20 Te Aro Pā Papakāinga façade, (Image by Dwell Housing Trust). 53
Figure 21 Te Aro Pā Papakāinga façade design, (Image by Dwell Housing Trust) ......................................................................................................................... 53
Figure 22 Spatial analysis, (Figures adapted by Hone and Miriama Turner Trust Papakāinga) ........................................................................................................... 56
Figure 23 Papakāinga process, (Adapted by Hone and Miriama Turner Trust Papakāinga) ........................................................................................................... 57
Figure 24 Spatial Analysis, (Figures adapted from Mangatawa Papakāinga Housing) ...................................................................................................................... 59
Figure 25 Whare Uku construction, (Image by Whare Uku) ............................ 60
Figure 26 Earthsong eco housing spatial analysis, (Figures adapted from Earthsong eco neighbourhood) .................................................................................. 62
Figure 27 Te Aranga Values, (Adapted table by Jacqueline Paul from Urban Wa kāinga) .............................................................................................................. 64
Figure 28 Te Aranga Design Principles Analysis, (Adapted by Jacqueline Paul from Urban Wa Kāinga) ............................................................................... 67
Figure 29 Examples of applied Te Aranga Design Principles .......................... 68
List of Figures Bibliography


Figure 8: 'Are Kariol. Dixon, Crowl, and Crocombe, “Section 5: Architecture, Chapter 15: Cook Island Architecture, The Tradition,”

Figure 9: 'Are Atua. Dixon, Crowl, and Crocombe, “Section 5: Architecture, Chapter 15: Cook Island Architecture, The Tradition,”

Figure 10: Fare Manihiki. Dixon, Crowl, and Crocombe, “Section 5: Architecture, Chapter 15: Cook Island Architecture, The Tradition,”


Figure 14: Meeting house alignment, Jacqueline Dyer, "Site planning for marae," (PhD diss., Lincoln College, University of Canterbury, 1982).

Figure 15: Malae luma fale, Micah Van der Ryn, "Which way is front? Spatial orientation complications in contemporary Samoan villages," Structure and Dynamics 9, no. 1 (2016): xx, https://escholarship.org/uc/item/2jq0r9cb.

Figure 17: Malae examples

Figure 19, 20 and 21: Papakāinga design. Dwell housing partnership Te Aro Pa," Te Aro Pā papakāinga - Wellington's first urban papakāinga opened (n.d.), file:///C:/Users/mongah03/Downloads/Dwell%20housing%20partnership%20Te%20Aro%20Pā%20-final.pdf.


https://www.earthsong.org.nz/about/community.

Appendix

Ethics forms
Unitec Human Ethics Application – Form A

FOR APPROVAL OF PROPOSED RESEARCH INVOLVING HUMAN PARTICIPANTS

For all research that involves or may involve potential for contentious or sensitive issues.

(All applications are to be typed and presented using language that is free from jargon and comprehensible to lay people)

Section A: General Information

1. Project title: Reconnecting to my Ancestral Heritage
2. Projected start date: 22 July 2019
3. Projected end date: 26 June 2020

Academic Staff Application (excludes staff applying for ethics as students)

Full name of staff applicant/s:
Title/Network/Practice Pathway:
Campus (mark one only):    ☐Albany  ☐Mt Albert  ☐Waitakere
Telephone:
Email Address:

Student Applications

Full Name: Hanna-Marie Monga
Telephone: 022*******
Email Address: ha************.co.nz
Postal Address: ******** Auckland
Employer (if applicable):
Full Name of Principal Supervisor(s): Annabel Pretty
Network/Practice Pathway/Institute: Architecture
Degree Title: Masters of Architecture (Professional)
Campus (mark one only):  ☐Albany  ☑Mt Albert  ☐Waitakere
Telephone: 021*****
Email Address: ********@unitec.ac.nz

Other Applicants – Co-researchers/co-supervisors/organisations

Full Name:
Name of organisation (if applicable):
Role in project (co-researcher, supervisor, sponsor, etc):
Telephone:
Email Address:
Postal Address:
Network/Practice Pathway/Institute:
4. **Summary of Project**
*Please outline in no more than 200 words in plain, non-technical language why you have chosen this project, what you intend to do and the methods you will use.*

This research is about ‘Reconnecting to my ancestral heritage’ through investigating Cook Island and Māori architectural history. Established from my personal interests in designing appropriate house typologies in the Cook Islands. Ultimately it will lead to a real life brief for my ānau to build in Rarotonga.

I intend on developing a set of design principles based on Cook Island values. This will help guide people to design according to their culture, land and people. In conjunction with these design principles, I will test these by designing a Papakāinga on my ānau land located in Arorangi, Rarotonga. A papakāinga is a communal living and housing arrangement located on Māori land.

I will hold interviews and creative charrettes with mana whenua of the chosen site to identify their perspectives and experiences of living in the Cook Islands. This will engage with a range of age differences to acknowledge the history of land ownership told by elders, to future aspirations of the youth.

The key approach is Kaupapa Māori Methodology, which used as a cultural framework to inform design decisions and processes. The engagement process will help enable communities to contribute to shaping the places we live in. Their valuable input provides a ānau orientated approach to design according to Tikanga Māori and a decision process based on principles of Kotahitanga.

**Glossary**

Charrette: A formal design workshop devoted to solve a problem through design outcomes in a restrictive timeline.

Papakāinga: A papakāinga is a communal living and housing arrangement located on Māori land.

Whānau: Māori word for family.

Ānau: Kūki Ārani word for family.

Mana whenua: Iwi has authority over land or territory. The tribe’s history and legends are based in the land occupied over generations.

Kaupapa Māori Methodology: Cultural framework to inform design decisions and processes.

Tikanga Māori: Māori beliefs and customs.

Tivaevae model: A theoretical model of the Cook Islands values represented in the process of constructing a tivaevae (handmade bedspread).

Talanoa model: It is referred to as a conversation or an exchange of stories, knowledge and experiences, usually carried out face-to-face.

Te Aranga Design Principles: A cultural strategy to inform design and decision making which embodies a series of design principles founded from Māori cultural values. These principles are Mana, Whakapapa, Taiao, Mauri Tu, Mahi toi, Tohu and Ahi Kā. The focus of this cultural strategy is to enhance mana whenua engagement and ongoing presence.

5. **List the Attachments to your Application**

Consent forms – participant and organisation ✓

Information sheets ✓

Interview questions ✓

Focus group schedules □
Applications that are incomplete, lacking the appropriate signatures or submitted after the specified application deadline date will not be processed. This will mean delays for the project.

Applications must be submitted in the following formats:

One signed hard copy to be sent or hand delivered to the Ethics Secretary at:
- Research and Enterprise
  Penman House
  Building 55, Level 1
  Unitec Mt Albert Campus
  Gate 4, 139 Carrington Rd
  Mt Albert, Auckland

One electronic copy complete with supporting documents to be emailed to the Ethics Secretary at:
- ethics@unitec.ac.nz

**Note:** If no hard copy, complete signed e-copies of applications will be accepted.
E-copies to be sent to: ethics@unitec.ac.nz

**Note:** Email trails are unable to be accepted in lieu of signature/s.

---

**Section B: Project Information**

6. Does this project have any links to previously submitted ethics application(s)?

☐ Yes / ✅ No

If yes, list the UREC or HDEC application number/s (if assigned) and relationship/s.

7. Is approval from other Ethics Committees being sought for the project?

☐ Yes / ✅ No

If yes, list the other Ethics Committees.
Section B.1: Project Details

8. Provide a brief rationale for the research, including justification and benefit of the project.

This research project seeks to inform indigenous Cook Islanders there could be another approach to designing that expresses their heritage. There is potential for significant increase in indigenous building as land is in high demand. Through this ethics proposal I aim to incorporate their aspirations and values of those who wish to reside and currently live in the Cook Islands. This research project enables communities to contribute to shaping the built environment we live in.

There is no applicable Cook Island cultural process to help inform and influence design or built projects. Auckland Council has the Te Aranga Design Principles, a cultural strategy developed by a series of Māori cultural values. The process is to embed an indigenous design approach to enhance mana whenua engagement and presence. I aim to develop a Cook Island architectural process similar to the Te Aranga Design Principles. The benefit of a Cook Island design approach is recognising the significance of land and identity with opportunity for communities to engage and contribute to their built environment.

9. State concisely the aims, question and/or hypothesis of the project.

How can Cook Island design principles reflect a Papakāinga approach located in Rarotonga?

The purpose is to develop a set of design principles using Cook Island core values to incorporate and design a papakāinga located in Rarotonga, Cook Islands. I aim to integrate a Māori Papakāinga conceptual housing model by adopting its essence and framework to develop a Cook Island interpretation. A papakāinga is a communal living and housing arrangement located on ancestral land. I am focussing on using Pacific Island methodologies and resources to combine and infuse an architectural design process for Cook Island culture. The design principles will be integrated to design architecture with purpose with respect to the land, culture and the people. The participants experience and valuable input will be used to inform my decision making to develop Cook Island design principles that influences a Papakāinga housing typology.

10. What methodology best describes your research approach?

(e.g. Randomised controlled trial, experiment, survey, action research, phenomenology, ethnography, grounded theory, case study or other: please specify)

These chosen cultural methodologies will contribute to my approach to this research project. A cultural lens will give appropriate perspectives to what indigenous communities hope for their environments.

Tivaevae Model developed by Maua-Hodges (2000), a theoretical model of the Cook Islands values represented in the process of constructing a tivaevae (handmade bedspread). Five values signify the collective society for creating and sustaining community. These five values are taokotai (collaboration), tu akangateitei (respect), uriuri kite (reciprocity), tu inangaro (relationships), and akairi kite (shared vision). The Tivaevae Model will assist in weaving stories, history and knowledge through built forms and environment.

Kaupapa Māori methodology seeks to create positive outcomes for Māori communities or whānau that aligns with a number of key principles of Kaupapa Māori research. This approach will assist to conceptualise and develop the research project from a Kaupapa Māori perspective.

Talanoa is a Pacific methodology based upon oral tradition. It is referred to as a conversation or an exchange of stories, knowledge and experiences, usually carried out face-to-face. I will incorporate this method to assist with my interviews and charrettes/workshops.

Te Aranga Design Principles is a part of the Auckland Design Manual, by Auckland Council in response to Auckland’s growing population. The Te Aranga Design Principles are a set of seven principles developed
by seven Māori cultural values to provide guidance for enhancing the surrounding environment. Inclusion of mana whenua is one key approach to better inform cultural knowledge and sustain ongoing strong relationships between professionals and mana whenua. This framework will help develop and expand a Cook Island interpretation.

11. What methods are you using to address the aims, questions and/or hypothesis identified in question 9?
(Mark the appropriate boxes)

Questionnaire □
Focus Group □
Interview ✓
Experimental, Observational or Intervventional Study □
Other (please specify): Charrettes ✓

Will electronic media (e.g. email or the internet) be used for the collection of data from participants? ✓ Yes / □ No

Photographs will only be taken for Charrettes. Photographs and Audio recorder. I am interested in photographing the design outcomes during the charrette.

If photographs of cultural sensitive information are required, then I will address cultural protocols. Dependent on the situation a clear communication, permission and cultural understanding will assist with any potential conflict. Should any potential for conflict arise, I will communicate continuously with my supervisor. If further action is required, then this will be resolved in a formal protocol family meeting. Where this involves aspects of the ethics considerations, I will contact the Chairperson of UREC for further consideration.

12. Where will the project be conducted? Include information about the physical location(s) /setting(s).

Interviews and charrettes will take place in the comfort of their own private home or family household.

13. If the project is based overseas:

i) Specify which countries are involved:
Cook Islands, Rarotonga

ii) Outline how overseas country requirements (if any) have been complied with:
My Rarotongan ānau support me in this research project.

iii) If the research is to be conducted overseas, describe the arrangements you will make for local participants to express concerns regarding the research.
The project relies heavily on ānau/hapū input.

14. Describe the experience of the researcher and/or supervisor to undertake this type of project?

I am a student studying Masters of Architecture (Professional). During my studies, I have gathered some experience working on different types of cultural housing typologies. Such as Te Hononga projects under Rau Hoskins and Carin Wilson, Ihumātao Kāinga Whenua and City Rail Link Internship. Each project has enabled me to engage with mana whenua to co-operatively design appropriate housing solutions.
Section B.2: Participants

15. Describe the intended participants.

The intended participants in Rarotonga are majority extended or closely related family members due to the Islands population. The potential participants are selected by a few factors such as their connection and proximity to the chosen site. Also availability and a realistic sense of living in the Cook Islands.

16. How many participants will be involved?

Interview will have a minimum of 16 participants.
Charrette are for family groups with a minimum of 4 participants.
English will be spoken as it is the common language in the Cook Islands. The potential family groups have more relevance to this research. Their input is valuable.

17. What is the reason for selecting this number?

(Where relevant, attach a copy of the Statistical Justification to the application form)
Based on connection to chosen site, availability and realistic experience of living in the Cook Islands.

18. Describe how potential participants will be identified and recruited?

The potential participants are selected based on their experience of living in the Cook Islands and how affected they are with this project. Their interest is seeing the development of an appropriate typology for the subtropical climate of the Pacific.

19. Does the project involve recruitment through advertising?

☐ Yes / ☑ No

(If yes, please attach an example of the advertisement)

20. Who will make the initial approach to potential participants?

I, the researcher will contact potential participants via email or phone for interests in being involved in an interview or charrette. If participants are interested, then follows an organised scheduled session suitable for both researcher and participant.

21. Describe criteria (if used) to select participants from the pool of potential participants.

Potential participants will be selected in accordance to meet factors such as family connection to chosen site, availability and realistic experience of living in the Cook Islands.

22. How much time will participants have to give to the project?

Interviews will take between 30mins – 1 hour,
Charrette’s will take between 1 hour to 2 hours.

23. Describe any professional or other relationship between the researcher and the participants?

(e.g. employer, employee, work colleague, lecturer/student, practitioner/patient, researcher/family member).
Indicate how any resulting conflict of role will be addressed.

Majority of the participants are related to me as I feel like their experience is valuable input.
If in the rare occasion this research results in potential conflict, then I will address this with a cultural lens and open mind. Dependent on the situation and issue, I the researcher will clearly explain my interests and research project. Information sheet and contact details can be provided.

Should any potential for conflict and distress among my participants arise, I will communicate contiguously with my supervisor, and with the formal Cook Island Māori Family meeting protocol, as led by the family elder. Where this involves aspects of the ethics considerations, I will contact the Chairperson of UREC for further consideration.

24. Will any payments, koha or other compensation be given to participants?

☐ Yes / ☐ No

If yes, describe what, how and why.

(Note that compensation (if provided) should be given to all participants and not constitute an inducement. Details of any compensation provided must be included in the Information Sheet.)

Yes, koha will be made in a form of kai to thank participants for their time. Sharing of outputs of the research and gifts to elders will also be given.

Section B.3: Data Collection

25. Does the project include the use of participant questionnaire/s?

☐ Yes / ☑ No

(If yes, attach a copy of the Questionnaire/s to this form and include this in your list of attachments (Q)

If yes:

i) Indicate if the participants will be anonymous (i.e. their identity be unknown to the researcher and no information collected on the participant’s identity?

ii) Describe how the questionnaire will be distributed and collected.

26. Does the project involve observation of participants?

☐ Yes / ☑ No

If yes, please describe.

I am interested in the conceptual design outcomes participants produce.

27. Does the project include the use of focus group/s?

☐ Yes / ☑ No

If yes, describe the location of the focus group and time length, including whether it will be in work time. If yes, ensure the researcher asks permission for this from the employer.

Project does include the use of Charrette ☑

This will be taken place in Auckland, New Zealand and Rarotonga, Cook Islands. However, the interviews and charrette’s will be taken at an appropriate and convenient time for both interviewer and participants.
The two potential groups I am interested in are people who live in New Zealand who hope to reside in the Cook Islands and the other group are people who currently live in the Cook Islands. One potential ānau charrette are based in Auckland and the other potential ānau charrette based in Rarotonga. Both charrettes will be held in their own private family home at a convenient time for both researcher and participants. The charrette will approximately take between 1 – 2 hours for each session.

28. Does the project include the use of participant interview/s?

☑ Yes /

If yes, attach a copy of the Interview Questions/Schedule to this application form.

If yes, describe the location of the interview and estimated time length, including whether it will be in work time.

If yes, ensure the researcher asks permission for this from the employer.

The interviews are individual sessions that will be conducted in the participant’s private home or of any private setting participants prefer. The interview session will take between 30 mins – 1 hr. This will be discussed and scheduled convenient for both the interviewer and participant.

29. Does the project involve sound recording or image recording e.g. photo/video?

☑ Yes /

If yes, please describe.

(If agreement for recording is optional for participation, ensure there is explicit consent on the Consent Form)

Information sheets and consent forms will be given and signed off before interview or charrette begins. I will not be taking photographs of ancestors unless appropriate or relevant. I am interested in photographing the charrette process and their design model outcomes. Photographs will be taken of these conceptual design outcomes.

If participants to do not wish to have their photographs taken I can arrange their identity to be blurred out or not have any photos with them in it. If photographs of cultural sensitive information are required, then I will address cultural protocols. Dependant on the situation a clear communication, permission and cultural understanding will assist with any potential conflict.

30. If recording is used, will the record be transcribed?

☑ Yes /

If yes, state who will do the transcribing.

If not the researcher, a Transcriber’s Confidentiality Agreement is required – attach a copy to this application form. Normally, transcripts of interviews should be provided to participants for review, however, if the researcher considers that the right of the participant to review is inappropriate, a justification should be provided below.

There will be no need for translator as English will be the common language spoken during interviews and charrettes. English spoken to English written.

31. Does the project involve other methods of data collection not covered in Qs 25-31?

☑ Yes /

If yes, describe the method used.
32. Does the project require permission to access databases?

☐ Yes / ☑ No

If yes, attach a copy of the draft request letter/s to this form. Include this in your list of attachments (Q).

33. Who will carry out the data collection?

If this is to be carried out by anyone other than the named investigators on this application, please provide their details and ensure a confidentiality agreement is in place.

The researcher will collect the data.

34. Will any information be obtained from any source other than the participant?

☐ Yes / ☑ No

If yes, describe how and from whom.

35. Will any information that identifies participants be given to any person outside the research team?

☐ Yes / ☑ No

If yes, indicate why and how – ensure this is explained on the information sheets.

36. Will the participants be anonymous (i.e. their identities are unknown to the researcher and no information collected on the participant's identity?)

☐ Yes / ☑ No

If no, explain how confidentiality of the participants' identities will be maintained in the treatment and use of the data.

No, participants will not be anonymous. As the researcher I will know who they are. Consent forms will be provided. No further identification or information is required other than his or her names and age range.

37. Will an institution (e.g. school) to which participants belong be named or be able to be identified?

☐ Yes / ☑ No

If yes, explain how you will make the institution aware of this and how organisational consent will be obtained from the institution - attach organisational consent forms/templates to this application.

38. Outline how and where:
i) The data will be stored; 
(Pay particular attention to identifiable data, e.g. recordings, videos and images) 
The data will be stored on two external hard drives.

ii) Consent Forms will be stored; 
(Note that Consent Forms should be stored separately from data. UREC expects Consent Forms to be stored on site at Unitec) 
Consent forms will be stored on site at Unitec in a secured area.

iii) Who will have access to the data/Consent Forms? 
Myself, Carin Wilson and Annabel Pretty.

iv) How will the data/Consent Forms be protected from unauthorised access?

The consent forms are held in a secured office at Unitec with only the researcher and supervisors able to access the information.

The digital hard drives are owned by myself, the researcher. Principal supervisor, Annabel Pretty will keep the data collected in a locked cabinet in a secured office at Unitec Institute of Technology. Annabel will have primary keys to the secured office. Myself and Annabel will be the only people allowed access to data.

39. How long will the data from the project be kept, who will be responsible for its safe keeping and eventual disposal? (Note that health information relating to an identifiable individual must be retained for at least 10 years, or in the case of a child, 10 years from the age of 16).

Data will be kept for at least 7 years. My supervisor, Annabel Pretty will be safeguarding the data in a secured storage cabinet in a locked office located at Unitec.

40. What are the criteria for participants who wish to opt out of research/right to withdraw from research?

Participants can opt-out before April 30 2020.

41. Do you anticipate that the results of your research may be subject to an embargo? If yes, outline the possible reasons your research may be embargoed. (It is expected that research is made available for public access through publication or other means, unless there is compelling reason for restricting access to it).

No.

Section C: Benefits/Risk of Harm

42. What are the possible benefits (if any) of the project to individual participants, groups, communities and institutions?

This research aims to assist Cook Island locals to be able to design according to their culture, land and people.

43. What discomfort (physical, psychological, social), incapacity or other risk of harm are individual participants likely to experience or at any risk of as a result of participation?
I, the researcher does not anticipate the participants to feel any discomfort of any kind during this research period.

44. Describe the strategies you will use to deal with any of the situations identified in Q42.

Release of findings at conclusion of the project.
Should this conceptual indigenous process manifest in a Cook Island “Papakāinga”, there is potential for it to be actually built on the land.

45. Is there any risk of harm of the project to the researcher?

No.

46. Describe the strategies you will use to deal with any of the situations identified in Q44.

Findings will be discussed with participants before release.

47. What discomfort (physical, psychological, social) incapacity or other risk of harm are groups/communities and institutions likely to experience as a result of this research?

None.

48. Describe the strategies you will use to deal with any of the situations identified in Q46.

N/A

49. Is ethnicity data being collected as part of the project?

☐ Yes / ☑ No

If yes, please describe how the data will be used.
(Note that harm can be done through an analysis based on insufficient sample or sub-set numbers).

The nature of this research is to interview Cook Island descendants, specifically my family relatives as their experience and knowledge are relatively important. Some statistics may be used to compare migration from the Pacific Islands to New Zealand and viscera.

50. If participants are children/students in a pre-school/school/tertiary setting, describe the arrangements you will make for children/students who are present but not taking part in the research.

(Note that no child/student should be disadvantaged through the research)

Participants will be notified before the interview process about the nature of this research. Consent forms will be given to parental guardians and the younger audience for permission.

51. Is deception involved at any stage of the project?

☐ Yes / ☑ No

If yes, justify its use and describe the debriefing procedures.

Section D: Informed and Voluntary Consent

52. By whom and how, will information about the research be given to potential participants?
Participants will receive an information sheet prior to the interview outlining the nature of this research and interview. Participants can receive their own data input sent by myself via email or hard copy can be sent to an address. All participants are welcome to receive the final document after its published.

53. Will consent to participate be given in writing?

☑ Yes / ☐ No

(Attach copies of Consent Form/s to the application form)
If no, justify the use of oral consent.

54. Will participants include persons under the age of 16?

☑ Yes / ☐ No
If yes, indicate:

i) The age group and competency for giving consent.
   13 – 18 yrs old.

ii) If the researcher will be obtaining the consent of parent(s)/caregiver(s).

☑ Yes / ☐ No

(Note that parental/caregiver consent for school-based research may be required by the school even when children are competent. Ensure Information Sheets and Consent Forms are in a style and language appropriate for the age group.)

55. Will participants include persons whose capacity to give informed consent may be compromised (this includes children)?

☐ Yes / ☑ No
If yes, describe the consent process you will use.

Consent forms, questions and information sheets will be given beforehand so all participants are well aware of what will be asked of. If any potential conflict was to occur, then this can be resolved through family meetings if further action needs to be taken.

56. Will the participants be proficient in the language the research is being conducted in? (e.g. English. It is important the participants are able to understand the consent forms)

☑ Yes / ☐ No
If no, all documentation for participants (Information Sheets/Consent Forms/Questionnaire etc.) must be translated into the participants’ first-language.
(Attach copies of the translated Information Sheet/Consent Form etc. to the application form, as well as verification that the translations are correct and have been professionally checked.)

---

Section E: Conflict of Interest

57. Please provide details of any potential conflicts of interest throughout the course of research.
No conflict.
If in the rare occasion this research results in potential conflict, then I will address this with a cultural lens and open mind. Dependent on the situation and issue, I the researcher will clearly explain my interests and research project. Information sheet and contact details can be provided. Should any potential for conflict and distress among my participants arise, I will communicate contiguously with my supervisor, and with the formal Cook Island Māori Family meeting protocol, as led by the family elder. Where this involves aspects of the ethics considerations, I will contact the Chairperson of UREC for further consideration.

58. Is the project to be funded or supported in any way, e.g. supply of products for testing?
   □ Yes / ☑ No
   If yes:
   i) State the source of funding or support:
      Unitec Academic or Faculty Unit
      Unitec Strategic Research Fund
      External Organisation (provide name and detail of funding/support)
   ii) Does the source of the funding present any conflict of interest with regard to the research topic?
      □ Yes / ☑ No
      If yes, identify any potential conflict of interest due to the source of funding and explain how this will be managed.

59. Does the researcher/s have a financial interest in the outcome of the project?
   □ Yes / ☑ No
   If yes, explain how the conflict of interest situation will be dealt with.

Section F: Māori Social and Cultural Responsiveness

Important note: Applicants should read Guidelines for Researchers Regarding Māori Social and Cultural Responsiveness to answer the questions in this section adequately.

60. Is it apparent that Māori will be directly involved in or impacted by the project?
☑ Yes / □ No

If no, answer the following three points below. If yes, answer Q60–61.

i) What Māori involvement there may be, and

ii) How this will be managed, and

iii) What impact on Māori this project may have

61. (To be answered when “yes” is indicated in Question 59). Identify the person/s and/or group/s with whom consultation/advice has taken place or is planned and describe the consultation process. Include information on the processes in place for the ongoing provision of cultural advice and support, and the ongoing involvement of the group/s consulted.

(Attach any evidence of consultation/planned consultation to the application form, e.g. a letter from an iwi authority.)

Not Applicable.

If in the rare occasion this research results in potential conflict, then I will address this with a cultural lens and open mind. Dependent on the situation and issue, I the researcher will clearly explain my interests and research project. Information sheet and contact details can be provided. Should any potential for conflict and distress among my participants arise, I will communicate contiguously with my supervisor, and with the formal Cook Island Māori Family meeting protocol, as led by the family elder. Where this involves aspects of the ethics considerations, I will contact the Chairperson of UREC for further consideration.

62. (To be answered when “yes” is indicated in Question 60). Describe how information resulting from the project will be shared with the group/s consulted?

Some participants are of Māori descent but no iwi facilitations are being used. Participants can request to receive only their data input from myself via email or hard copy mail. If participants wish to alter or withdraw then this can be done before the withdrawal date April 30, 2020. Final document can be sent after publication.

Section G: Cultural Issues

63. What ethnic or social group/s (other than Māori) does the project involve?

Cook Island Māori or descendants of mixed race through marriages.

64. Are there any aspects of the project that might raise specific cultural issues?

☑ Yes / □ No

If yes, explain and complete questions 63–66. Otherwise, proceed to Section H.

If in the rare occasion this research results in potential cultural conflict, then I will address this with a cultural lens and an open mind. Dependent on the situation and issue, I the researcher will clearly explain my interests and research project. Information sheet and contact details can be provided. Should any potential for conflict and distress among my participants arise, I will communicate contiguously with my supervisor, and with the formal Cook Island Māori Family meeting protocol, as led by the family elder. Where this involves aspects of the ethics considerations, I will contact the Chairperson of UREC for further consideration.
65. Does the researcher speak the language of the target population?

☐ Yes/ ☐ No

If no, specify how communication with participants will be managed.

66. Identify the group/s with whom consultation has taken place or is planned.

(Where consultation has already taken place, attach a copy of the supporting documentation to this form.) Immediate hapu relations.

67. Describe any ongoing involvement of the group/s consulted in the project.

The project may result in a decision to design and build a Papakāinga in Rarotonga.

68. Describe how information resulting from the project will be shared with the group/s consulted.

All findings will be available to participants.

Section H: Sharing Research Findings

69. Describe how information resulting from the project will be shared with participants and disseminated in other forums, e.g. peer review, publications, conferences.

(Note that receipt of a summary is one of the participant rights.)

The data will be collected and a final research document will be submitted to meet the criteria to graduate with a Master of Architecture (Professional). Participants will be able to read their contribution before the withdrawal date if they wish to alter or withdraw their contribution. The withdrawal date is April 30, 2020. The final documentation will be available if requested once final examination results have returned.

Section I: Invasive Procedures/Physiological Tests

70. Does the project involve the collection of tissues, blood, other body fluids or physiological tests?

☐ Yes/ ☐ No

If yes, complete Section I, otherwise proceed to Section J.

If yes, are the procedures to be used governed by Standard Operating Procedure(s)? If so, please name the SOP(s). If not, identify the procedure(s) and describe how you will minimise the risks associated with the procedure(s)?

71. Describe the material to be taken and the method used to obtain it. Include information about the training of those taking the samples and the safety of all persons involved. If blood is taken, specify the volume and number of collections.

72. Will the material be stored?
73. Describe how the material will be disposed of (either after the research is completed or at the end of the storage period).
(Note that the wishes of relevant cultural groups must be taken into account.)

74. Will material collected for another purpose (e.g. diagnostic use) be used?
☐ Yes/☐ No
If yes, did the donors give permission for use of their samples in this project? (Attach evidence of this to the application form.

If no, describe how consent will be obtained. Where the samples have been anonymised and consent cannot be obtained, provide justification for the use of these samples.

75. Will any samples be imported into New Zealand?
☐ Yes/☐ No
If yes, provide evidence of permission of the donors for their material to be used in this research.

76. Will any samples go out of New Zealand?
☐ Yes/☐ No
If yes, state where. (Note this information must be included in the Information Sheet)

77. Describe any physiological tests/procedures that will be used.

78. Will participants be given a health-screening test prior to participation?
☐ Yes/☐ No
(If yes, attach a copy of the health checklist)
Section J: DECLARATION (Complete appropriate box)

ACADEMIC STAFF RESEARCH

Academic Staff Applicant

I have read Unitec’s Research Ethics Policy and Research Ethics Guidelines. I understand my obligations and the rights of the participants. I agree to undertake the research as set out in Unitec’s Research Ethics Policy and Research Ethics Guidelines. My Head of Practice Pathway knows that I am undertaking this research. The information contained in this application is to the very best of my knowledge accurate and not misleading. It has been peer reviewed before submission.

Staff Applicant’s Signature

Print Name

STUDENT RESEARCH

Student Applicant

I have read Unitec’s Research Ethics Policy and Research Ethics Guidelines and discussed the ethical analysis with my Supervisor. I understand my obligations and the rights of the participants. I agree to undertake the research as set out in Unitec’s Research Ethics Policy and Research Ethics Guidelines. The information contained in this application is to the very best of my knowledge accurate and not misleading.

Student Applicant’s Signature			Date: 1/10/2019

Print Name

2017

SUPERVISOR

I have assisted the student in the ethical analysis of this project. As supervisor of this research I will ensure that the research is carried out according to Unitec’s Research Ethics Policy and Research Ethics Guidelines.

Supervisor’s Signature

Print Name

2017

HEAD OF PRACTICE PATHWAY

I declare that to the best of my knowledge, this application complies with Unitec’s Research Ethics Policy and Research Ethics Guidelines and that I have approved its content and agreed that it can be submitted.

Head of Practice Pathway Signature

Print Name

2017
Participant Information Sheet

Date Information Sheet Produced: 27 September 2019

Project Title: Reconnecting to my Ancestral Roots
Researcher: Hanna-Marie Monga
Supervisors: Carin Wilson and Annabel Pretty

Kia Orana, my name is Hanna-Marie Monga, and I am working with supervisors from Unitec Institute of Technology, on my final year of Masters of Architecture (Professional) research project. The Research project looks at cultural housing typologies such as Papakāinga, based in Rarotonga, Cook Islands. A papakāinga is a communal living and housing arrangement located on indigenous Māori land. I will incorporate the essence and framework of this Māori housing type to design a Cook Island interpretation. I will be conducting interviews and charrettes with a number of people that have a cultural sense of living in the Cook Islands.

What is the purpose of this research?

The purpose is to establish a set of design principles based from Cook Island cultural values. This will help communities build and design in accordance to their land, heritage and people. It is to provide guidance accessible to all who want to shape their communities with purpose and intentions through built housing typologies.

How was I identified and why am I being invited to participate in this research?

I am specifically looking for participants that have experience with living in Rarotonga, Cook Islands and whom hope to reside there. The potential participants are selected by a few factors such as their connection and proximity to the chosen site. Those who are willing to participate in the study and share their views and experiences would be beneficial to the project.

How do I agree to participate in this research?

If you are interested in being part of this study, you are required to sign and return the attached Consent Form.

Your participation in this research is voluntary (it is your choice) and whether or not you choose to participate is completely up to you. You are able to withdraw or alter contribution from the study before April 30, 2020. If you choose to withdraw from the study, then you will be offered the choice between having any data that is identifiable as belonging to you removed or allowing it to continue to be used. However, once the findings have been produced, removal of your data may not be possible.

What will happen in this research?

The options are an individual interview or family group charrette. The one on one interview will take 30mins – 1hr. The charrette is for family groups that will take approximately 1-2 hours. This will take place in the comfort of your own private home or family household. It is also important that it is in an environment where you feel comfortable discussing your experiences openly and discretely. Nothing we discuss will be used in the research without your consent.
What are the discomforts and risks?
I do not envisage any discomforts or risks. No personal information beyond contact details is collected, and you may leave the project before April 30, 2020 and have any information that you have contributed to the project removed. I hope that participants find this to be a positive experience.

What are the benefits?
The benefit of you contributing to this research project is that you will be helping influence shape the surrounding built environment and help inform better knowledge about cultural housing typologies. This research is to hopefully influence and may benefit the future generations hoping to live in Rarotonga, Cook Islands.

How will my privacy be protected?
No information that you share will be used in the research without your consent. In other words, you control how much privacy and confidentiality you will receive as part of this study. Furthermore, your personal details will not be used in the research or shared with anyone other than myself and supervisor.

If you change your mind about having your input and comments recorded during the research, you can withdraw before April 30, 2020.

What are the costs of participating in this research?
The only cost to you for participation is your time. This would be no more than one interview at a time and place that suits you.

Will I receive feedback on the results of this research?
Any information used in the research project will be available to you. While you will have access to the information, all people involved in the study will be confidential and therefore any information or quotes will also be kept confidential.

What do I do if I have concerns about this research?
If you have any concerns or questions, please do not hesitate to contact me. See below for contact details. You can also email the Unitec Ethics Secretary at ethics@unitec.ac.nz

Whom do I contact for further information about this research?
Please keep this Information Sheet and a copy of the Consent Form for your future reference. You are also able to contact the researcher at:

Researcher Contact Details:
Hanna-Marie Monga
Principal Supervisor

Annabel Pretty
Associate Supervisor

Carin Wilson

UREC REGISTRATION NUMBER:
This study has been approved by the UNITEC Research Ethics Committee. If you have any complaints or reservations about the ethical conduct of this research, you may contact the Committee through the UREC Secretary. Any issues you raise will be treated in confidence and investigated fully, and you will be informed of the outcome.
Participant Interview Consent Form

**Research Project Title:** Connecting to my Ancestral Roots  
**Principal Supervisor:** Annabel Pretty  
**Associate Supervisor:** Carin Wilson  
**Researcher:** Hanna-Marie Monga

- I have read and understand the information provided about this research project in the Information Sheet.
- I have had an opportunity to ask questions and to have them answered.
- I understand that notes will be taken during the interview.
- I understand that the interview will be audio-taped.
- I understand that taking part in this study is voluntary and that I may withdraw before April 30, 2020.
- I understand that everything I say is confidential between the researcher and supervisor.
- I acknowledge that I will receive a copy of my contribution to the research before April 30, 2020.
- I have had time to consider everything and I give my consent to be a part of this project.

*Participant Name:* ……………………………………….*Signature:* ……………………………………….*Date:* ………………………

*Project Researcher:* ………………………………….. *Signature:* ……………………………………….*Date:* ………………………

**Researcher Contact Details:** Hanna-Marie Monga  
**UREC**

**REGISTRATION NUMBER:**  
This study has been approved by the UNITEC Research Ethics Committee. If you have any complaints or reservations about the ethical conduct of this research, you may contact the Committee through the UREC Secretary. Any issues you raise will be treated in confidence and investigated fully, and you will be informed of the outcome.
Participant Charrette Consent Form

Research Project Title: Connecting to my Ancestral Roots  
Principal Supervisor: Annabel Pretty  
Associate Supervisor: Carin Wilson  
Researcher: Hanna-Marie Monga  

- I have read and understand the information provided about this research project in the Information Sheet.  
- I have had an opportunity to ask questions and to have them answered.  
- I understand that notes will be taken during the charrette and audio-taped.  
- I understand that taking part in this study is voluntary and that I may withdraw before April 30, 2020.  
- I understand that everything I say is confidential between the researcher and supervisor.  
- I acknowledge that I will receive a copy of my contribution to the research before April 30, 2020.  
- I have had time to consider everything and I give my consent to be a part of this project.  

Participant Name: ........................Signature: .................................. Date: ......................

Project Researcher: ........................ Signature: .............................. Date: ......................

Researcher Contact Details: Hanna-Marie Monga  
UREC  
REGISTRATION NUMBER:  
This study has been approved by the UNITEC Research Ethics Committee. If you have any complaints or reservations about the ethical conduct of this research, you may contact the Committee through the UREC Secretary. Any issues you raise will be treated in confidence and investigated fully, and you will be informed of the outcome.
Underage (16yrs and under) Participant Consent Form

Research Project Title: Connecting to my Ancestral Roots  
Principal Supervisor: Annabel Pretty  
Associate Supervisor: Carin Wilson  
Researcher: Hanna-Marie Monga

I am doing a Research project about cultural housing types built in Rarotonga based from Cook Island cultural values. A research study is a way to learn more about people and our experiences in the surrounding built environment. If you decide that you want to be part of this study, you will be asked to participate in a charrette that may take 1 -2 hours. We are doing this study because we think you may benefit from it. We think these benefits might influence the types of houses you may hope to live in.

There are some things about this study you should know.

- The charrettes will be audio-taped and notes will be taken.
- Photos of the design outcomes will be taken. You do not have to be in the photos.
- The information gathered is confidential.
- When we are finished with this study, we will write a report about what was learned.
- You do not have to be in this study if you do not want to be. You are allowed to withdraw before April 30, 2020.

Please circle if you would like to take part in this study

Yes

Please circle if you do not want to do this

No
This is my photo:

I hope we can do this together. It will be great to meet you. You will know who I am because of my photograph.

Thank you for completing this form – will you ask you parent/caregiver to sign below to show they feel that you understand what the research project is about.

Parent/Caregiver Name: ........................................ Parent/Caregiver Signature:...........................................

Date: ............................. Parents/Caregiver Contact Details (if appropriate): ..............................

Participant Name: ........................................... Participant Signature: ............................................

Date: .............................

Project Researcher: ........................................ Signature: ........................................ Date: .............................

Researcher Contact Details:
Hanna-Marie Monga

UREC REGISTRATION NUMBER:

This study has been approved by the UNITEC Research Ethics Committee. If you have any complaints or reservations about the ethical conduct of this research, you may contact the Committee through the UREC Secretary. Any issues you raise will be treated in confidence and investigated fully, and you will be informed of the outcome.
Charrette Framework

Project Title: Reconnecting to my Ancestral Heritage

Researcher: Hanna-Marie Monga

The purpose of this charrette is to discuss and produce creative modelling outcomes with Cook Island participants about the following topics. To show their perspective and cultural knowledge of living in the Cook Islands, and how they want to shape their built environment. This charrette will indicate whether or not a Papakainga will be beneficial and successful being built in the Cook Islands. The definition of a Papakāinga is a communal living and housing arrangement located on indigenous land. The charrette will be note taken and audio-tapped.

- What are your experiences of housing in the modern day setting?

- What do you think could be improved with living in the Cook Islands?

- What design aspects are important in designing your home?

- How did you find your current housing situation? Why did you choose this housing situation?
  Rent  Privately owned  Self-built

- What do you think the Cook Island cultural values are? And how could we portray these through designing the built environment?

- Would you be interested in being involved throughout the designing and building process if you were to build your own home? Who else should be involved?

Researcher Contact Details:
Hanna-Marie Monga

UREC REGISTRATION NUMBER:
This study has been approved by the UNITEC Research Ethics Committee. If you have any complaints or reservations about the ethical conduct of this research, you may contact the Committee through the UREC Secretary. Any issues you raise will be treated in confidence and investigated fully, and you will be informed of the outcome.
Interview Questions

Project Title: Reconnecting to my Ancestral Heritage

Researcher: Hanna-Marie Monga

Participant: ______________________________________________

The purpose of this interview is to discuss with indigenous Cook Island participants their perspective and cultural knowledge of living in the Cook Islands, and how they want to shape their built environment. These interviews will indicate whether or not a Papakainga will be beneficial and successful being built in the Cook Islands. The definition of a Papakāinga is a communal living and housing arrangement located on indigenous land. The interviews will be note taken and audio-taped.

- How old are you? *(Choose from age range).*
  13 – 18 yrs old  19 – 35 yrs old  36 – 55 yrs old  56 + yrs old

- What are your experiences of housing in the modern day setting?

- What do you think the Cook Island values are?

- Do you think these values are reflected in your communities and housing?

- What do you think could be improved with living in the Cook Islands?

- How did you find your current housing situation? Why did you choose this housing situation?  Rent  Privately owned  Self-built

- What design aspects are important in designing your home?

- How would you portray Cook Island culture through modern day housing?

- Would you be interested in living in a Papakainga?

Researcher Contact Details:
Hanna-Marie Monga

UREC REGISTRATION NUMBER:
This study has been approved by the UNITEC Research Ethics Committee. If you have any complaints or reservations about the ethical conduct of this research, you may contact the Committee through the UREC Secretary. Any issues you raise will be treated in confidence and investigated fully, and you will be informed of the outcome.