

Final Report

An audit and review of Australian Indigenous housing research

authored by

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LIST OF ABBREVIATIONS AND ACRONYMS

ABS	Australian Bureau of Statistics
AERC	Aboriginal Environments Research Centre
AHURI	Australian Housing and Urban Research Institute
AIAS	Australian Institute of Aboriginal Studies
AIATSIS	Australian Institute of Aboriginal & Torres Strait Islander Studies
AIHW	Australian institute of Health and Welfare
ANU	The Australian National University
ARIA	Accessibility/Remoteness Index of Australia
ARHP	Australia, Aboriginal Rental Housing Programs
ATSIC	Australia, Aboriginal & Torres Strait Islander Commission
BBF	Building a Better Future
CAT	Centre for Appropriate Technology
CAEPR	Centre for Aboriginal Economic Policy Research
CHINS	Community Housing and Infrastructure Needs Survey
CHIP	Community Housing Organisation Program
CSHA	Commonwealth State Housing Agreement
DAA	Australia, Department of Aboriginal Affairs
FaCS	Australia, Department of Family & Community Services
FaCSIA	Australian Government Department of Families, Community Services and Indigenous Affairs
HMAC	Hazardous Materials Advisory Committee
HOAL	Homes on Aboriginal Land
ICHO	Australia, Indigenous Community Housing Organisation
IHANT	Indigenous Housing Authority of the Northern Territory
IHO	Indigenous Housing Organisation
ISBN	International Standard Book Number
ISSN	International Standard Serial Number
NAHS	Australia, National Aboriginal Health Strategy
NCP	Australia, Liberal-National Country Party
NTCDSACA	Northern Territory Department of Community Development, Sport and Cultural Affairs
POE	Post-occupancy evaluation
RAIA	Royal Australian Institute of Architects
UQ	University of Queensland
SCRGSP	Steering Committee for the Review of Government Service Provision

SCATSIA	Australian House of Representatives Standing Committee on Aboriginal and Torres Strait Islander Affairs
SCRGSP	Steering Committee for the Review of Government Service Provision, Canberra
SOMIH	State Owned and Managed Indigenous Housing
THS	Territory Health Services

EXECUTIVE SUMMARY

This report presents the outcomes of a research project conducted by the Australian Housing and Urban Research Institute (AHURI) Queensland Research Centre (UQ) on the characteristics and themes of the Australian Indigenous housing literature. The report examines the Indigenous housing literature from the 1970s through to the 2000s.

The aim of this project was to critically review the literature on Indigenous Housing in Australia with a view to conceptualising the body of knowledge on the subject in theoretically and practically useful ways, and identifying gaps and unresolved research issues that have a bearing on the creation and maintenance of a reasonable quality of residential lifestyle for Indigenous people. The research investigated the characteristics of this field of research and its key themes. The project considers the relationship of the existing body of Indigenous housing research to the 'Building a Better Future' (BBF) vision and its projected Indigenous housing outcomes as established by the Housing Ministers' Advisory Council of Australia in 2001.

This report provides a substantial resource and reference for ongoing housing research. The report is structured so that specific Indigenous housing research themes or issues can be easily accessed and read independently or as a whole.

A working definition of Indigenous housing

The authors adopted a broad definition of Indigenous housing in order to encompass the breadth and depth of the literature. Such a definition also accommodates the complex interrelationships that exist between various research themes.

Indigenous housing encompasses all aspects of the production, management, maintenance and occupation of Indigenous living environments. This includes social, behavioural and physical properties of living environments. It includes camps and 'houses'. It includes traditional or self-built architecture and it includes buildings and living environments designed and built by others. It includes internal and external living environments. It includes houses owned by Indigenous people and those rented from either the private market, Indigenous community housing organizations, state owned and managed Indigenous housing, and public housing. Indigenous housing exists within a complex set of broader environmental relationships.

Methodology

This project involved a major review and audit of the Australian Indigenous housing literature with some comparison made to international housing literature drawn from Canada, the United States and New Zealand. Two periods of Australian literature were examined: (1) a meta-analysis was made of the Australian literature published between 1970 and 1999; and (2) the Australian literature published after 2000 was gathered and the characteristics and key themes of the publications analysed. A sample of the recent international Indigenous housing literature was analysed for themes comparable to the post 2000 Australian Indigenous housing literature.

The main part of the analysis deals with the 2000-2006 literature which was profiled in terms of the following research characteristics and research themes:

<i>Research characteristics</i>	<i>Research themes</i>
1. disciplinary background of the author,	1. occupation and use,
2. methods used in the literature,	2. domiciliary composition, household size and composition,
3. place(s) or settlements in the literature,	3. user groups,
4. regional representation in the research	4. mobility,
5. language group(s) in the literature	5. design,
6. State/Territory representation in the literature,	6. technology,
7. settlement type(s) in the literature,	7. ownership,
8. remoteness classification of the research.	8. home, place and space,
	9. funding and costs,
	10. sustainability and efficiency,
	11. management,
	12. policy,
	13. planning, coordination and decision making about housing,
	14. mainstream versus dedicated programs,
	15. decentralisation versus centralisation,
	16. performance,
	17. affordability,
	18. accessibility,
	19. appropriateness,
	20. location and geography of housing provision and services,
	21. housing needs,
	22. linking of housing and other (non-housing/shelter) services and outcomes,
	23. historical, institutional and political aspects of housing,
	24. housing preferences, desires, future visions,
	25. housing pathways,
	26. impacts of cross and inter-generational issues on housing.

Summary of key findings

The characteristics of the Indigenous housing research field

The field of Indigenous housing research is multi-disciplinary with authors employing a range of qualitative and quantitative methods and theories. This multi-disciplinary nature is a strength of the research and reflects the diversity and interrelated nature of the themes in the literature. However a significant gap is the relatively low number of Indigenous authors and researchers that were readily identified as contributors to published research. This represents a significant failure in outcome 4 of the BBF – ‘improved partnerships’.

Since the 1970s the Australian Indigenous housing research has focussed on remote and very remote Australia. Within remote Australia the literature has focussed on Central Australia, Arnhem Land and the Western Desert. A key characteristic of this field of research is that it is dominated by Aboriginal housing, whereas Torres Strait Islander housing is a neglected area of research. The representation of jurisdictions in the literature is not proportionate to the size of the Indigenous population of the jurisdictions. The Northern Territory has the fourth highest Indigenous population yet it

has the highest representation in the literature. This field of research is also characterised by a focus on discrete settlements and a failure to adequately engage with other settlement types such as major cities that have substantial Indigenous populations. In contrast the international literature contains examples of substantial research projects that examine Indigenous housing issues in urban contexts. The Australian literature also fails to adequately engage with self-built camps. These characteristics have implications for BBF outcome 1 – ‘better housing’, outcome 2 – ‘better housing services’, and outcome 4 – ‘improved partnerships’.

The themes of the Australian Indigenous housing literature

Two categories of research were identified amongst the research themes (1) research of micro-issues of Indigenous housing, and (2) research of macro-issues of Indigenous housing. The scale of the issues addressed in the research distinguishes these categories. Micro-issues are research themes associated with actual living environments, i.e. at the scale of house and household. Macro-issues are research themes that extend outside of the realm of living environments but nonetheless impact on them. They are usually preoccupied with the scales of regions, states or the whole country. Micro-issues were prominent in literature published between 1970 and 1999; this was particularly so in the earlier part of this period. The post 2000 literature examines both categories of research and has research strengths in both.

Micro-issue research themes were:

1. occupation and use,
2. domiciliary composition, household size and composition,
3. user groups,
4. mobility,
5. design,
6. technology,
7. home, place and space.

Indigenous housing design and occupation and use of Indigenous housing are research strengths within this research category and in the literature overall. The overarching aim of this category of research is to inform the competent provision of appropriate Indigenous housing and thus this category of research has implications for BBF outcome 1 – ‘better housing’.

Macro-issue themes in the literature were:

1. ownership,
2. funding and costs,
3. sustainability, efficiency,
4. management,
5. policy,
6. planning, coordination and decision-making about housing,
7. mainstream versus dedicated programs,
8. decentralisation versus centralisation,
9. performance,
10. affordability,

11. accessibility,
12. appropriateness,
13. location and geography of housing provision and services,
14. housing needs,
15. linking of housing and other (non-housing/shelter) services and outcomes,
16. historical, institutional and political aspects of housing.

Housing management is a strong research theme within this category and within the body of literature overall. This management research strength has implications for achieving BBF outcome 2 – ‘better housing services’, outcome 4 – ‘improved partnerships’, outcome 5 – ‘improved performance linked to accountability’, and outcome 7 – ‘coordination of services’. Indigenous ‘home ownership’ is an emerging research theme yet little research has examined it in any detail. ‘Performance’ and ‘needs assessments’ have good coverage in the literature but these themes both fail to fully engage with the ‘appropriateness’ of housing. Other research themes that require research development include ‘sustainability’ of Indigenous housing, ‘decentralisation versus centralisation’, and ‘mainstream versus Indigenous housing’.

Towards a theoretical basis or framework for Indigenous housing research

The authors maintain that a theoretical basis to Indigenous housing research is required which emphasises an understanding of micro-issues as a primary concern. Such an understanding is necessary to inform the role of macro-issue research, the aim of which is to establish how to achieve more successful micro-issue outcomes; in other words how to achieve BBF outcome 1 – ‘better housing’. A theoretical basis to micro-issues research that emerges in the literature lies in the field of people-environment studies and in the use of methodological approaches such as action-research, phenomenology and ethnography. The theoretical basis of the macro-issues research is likely to remain diverse reflecting the multiple and diverse macro research themes. As long as macro-issues research is built upon the findings of the micro-issues research, and has as its primary aim the achievement of BBF outcome 1 – ‘better housing’, then it seems appropriate for the diversity in the theoretical base of macro-issue research to remain.

1 INTRODUCTION

1.1 Background

This report presents the outcomes of a research project conducted by the Australian Housing and Urban Research Institute (AHURI) Queensland Research Centre (UQ) on the characteristics and themes of the Australian Indigenous housing literature. The report examines the Indigenous housing literature from the 1970s through to the 2000s.

The Commonwealth Government's direct participation in Indigenous housing policy began with the 1963, 1965 and 1967 Aboriginal Welfare Conferences, marking the beginning of regular meetings of high-ranking State and Commonwealth Government welfare officers who charted direction for proposed welfare measures, including social housing. However in the seminal 1979 publication *A Black Reality* the Director of the Aboriginal Housing Panel, Michael Heppell, identified a scarcity of Aboriginal housing research that could inform housing policy and programs. He noted that in 1974-1976 the Department of Aboriginal Affairs (DAA) funded forty-three research projects yet not one of these was concerned with Aboriginal housing. He also noted that the Australian Institute of Aboriginal Studies AIAS¹ had negligible participation in housing research in the 1970s. Heppell argued that Aboriginal housing should be informed by studies of how Aboriginal people housed themselves in camps. Heppell and a small group of researchers were concerned by the failure of government supplied housing to respond to the domiciliary behaviour and architectural traditions of Indigenous users and by the negative social impacts that such housing may cause. His position was in contrast to the prevailing assumption of Aboriginal Affairs at the time that "Aborigines must enter into the mainstream of Australian life." (Heppell 1979:1-62; Memmott 2003.)

What has happened since Heppell identified the need for Indigenous housing research? How has Indigenous housing research developed over the last thirty years? What are the characteristics of this body of research and what are its key themes? Has Heppell's aspiration for housing provision that is informed by a program of research concerned with Indigenous domiciliary traditions been fulfilled? What knowledge has influenced policy makers since the 1970s?

1.2 Research Aims

This project has aimed to critically review the literature on Indigenous Housing in Australia with a view to (a) conceptualising the body of knowledge on the subject in theoretically and practically useful ways, and (b) identifying gaps and unresolved research issues that have a bearing on the creation and maintenance of a reasonable quality of residential lifestyle for Indigenous people.

1.3 Research Questions

To address the aim the following questions guided the research:

1. How can Indigenous housing research be characterized as a field of research?
2. What is the range of research themes in the Indigenous housing literature?
3. How do these themes compare to the international Indigenous housing literature?

¹ Now known as the Australian Institute of Aboriginal and Torres Strait Islander Studies (AIATSIS). In 2006 when the term "Aboriginal Housing" is used to search the AIATSIS on line Mura Catalogue it brings up 1137 entries.

4. What are the strengths of research in Indigenous housing to date?
5. What are the gaps in research in Indigenous housing to date?
6. What does the existing literature tell us in terms of the 10 year, Building a Better Future Statement?
7. Which research gaps are critical to fill, in order to achieve such a Plan?
8. Can a theoretical basis or framework be identified for this research?

The extent to which these research questions are covered in the report varies. Questions one, two, four and five are considered at length, whereas questions three, six, seven and eight receive less coverage. Nonetheless key findings emanating from these last four research questions are also made.

1.4 A working definition of housing

In this research the authors employ a broad definition of Indigenous² housing and consider it to encompass all aspects of the production, management, maintenance and occupation of Indigenous living environments. This includes social, behavioural and physical properties of living environments. It includes camps and 'houses'. It includes traditional or self-built architecture and it includes buildings and living environments designed and built by others. It includes internal and external living environments. It includes houses owned by Indigenous people and those rented from either the private market, Indigenous community housing organizations, State Owned and Managed Indigenous housing, or public housing. Housing is thus defined as both a process and a product. (See Ross 2000:3; Barker 2003: 105; Dillon and Savage 2003:41; Fantin 2003:26a; Hall & Berry 2004a:5; Lee & Morris 2005a:1.)

This definition and the issues covered in this report do not seek to cover broader, but nonetheless related, ground regarding definitions of and literature on 'Indigenous homelessness'.

1.5 Outline of report structure and contents

The report is structured so that specific Indigenous housing research themes or issues can be easily accessed and read independently or as a whole. Chapter 2 describes the methods used in the project. The available literature was divided into the two periods of pre-year 2000 and post-year 2000. The characteristics and themes of the pre-year 2000 literature were largely examined by analysing existing and significant literature reviews that cover the decades of the 1970s, 1980s and 1990s. For the post 2000 period we gathered as much published literature as possible and analysed the characteristics and themes of each publication.

Chapter 3 describes the findings of our analyses of the literature from the 1960s through to the year 1999. This chapter relies on and analyses existing literature reviews of the Australian Indigenous housing literature including Heppell (1979b), Heppell & Wigley (1981), Memmott (1988, 1989, 1991, 1993), Ross (1987, 2000) and Sanders (1993).

Chapter 4 presents the characteristics of the post-2000 Australian Indigenous housing literature. Characteristics considered include the researcher's disciplinary background,

² For the benefit of international readers, in the Australian context the term Indigenous refers to those who identify as Aboriginal or Torres Strait Islander people, such people may be of mixed- descent. An Indigenous household, whether a family or non-family household, is one that has at least one resident who identifies as Indigenous (the remaining members of the household may be non-Indigenous) (ABS 2001:127).

methods used in the research, places in the literature, language groups in the literature, regions in the literature, settlement types and the remoteness categories contained in the literature. Characteristics that feature in the literature and those that seem to be omitted or neglected by the literature are also identified.

Chapter 5 evaluates the key themes of the post-2000 Australian Indigenous housing literature that form a category of research that examines the micro-issues of Indigenous housing. Seven themes form this category of research these being the occupation and use of housing, household size and composition, user groups, mobility, design, technology, and home and place. Within each theme area there are sub-themes that are identified and discussed.

Chapter 6 evaluates the key themes of the post-2000 Australian Indigenous housing literature that form a category of research consisting of macro-issues. Sixteen themes form this category of research including ownership, funding and costs, management, policy, performance and needs. Within each theme area there are sub-themes that are identified and discussed.

Chapter 7, the conclusion of the report, presents findings on the strengths and weaknesses of the Australian Indigenous housing literature and evaluates the theoretical characteristics of this field of research. The chapter isolates gaps in knowledge and significant research themes and in so doing it highlights future directions for Australian Indigenous housing research.

The bibliography contains both literature referred to directly in this report and literature that was entered in a central database maintained by the AERC, which formed part of the analysis.

2 METHODOLOGY

2.1 Introduction

This research has involved a major audit and a review of the Australian Indigenous housing literature. Whereas a number of pertinent literature reviews have been carried out that bear on the topic of Indigenous housing, none centrally address it. For example Memmott and Moran (2001) have reviewed the literature on Indigenous settlements and Memmott's (1998) review of the literature on Indigenous people-environment research includes a brief overview of Aboriginal housing. Historical overviews of Aboriginal housing are to be found in Memmott (1993) and Ross (2000), whilst a more abstract overview of the subject is to be found in Sanders (2000) shaped around themes of politics, power, economics, cultural change and culture difference.

This review examines two periods of Australian Indigenous housing literature. The first of these is the Australian Indigenous housing literature published up until the year 1999 (Chapter 2). The second is the Australian literature published after the year 2000 (Chapters 4, 5, and 6). The year 2000 was used to distinguish these two periods of research because it marks the introduction of Indigenous housing as a research theme of the AHURI research agenda and significant overviews of the Indigenous housing literature by Ross (2000) and Sanders (2000) were published at this time. By way of comparison the review briefly analyses recent International Indigenous housing literature particularly from North America and New Zealand. We have restricted this analysis to housing per se. Research publications whose analyses are at the scale of settlement are generally not included, nor are studies of the various Indigenous settlement types, their individual histories and the applied research on town planning. This chapter describes the approach taken in the review process.

2.2 Review of the Australian Indigenous housing literature 1970s-1999

The first part of this review (Chapter 3) focuses on the 1970s-1999 Australian Indigenous housing literature. The characteristics and themes of this pre-year 2000 literature were examined by analysing existing and significant literature reviews that cover three time slices these being 1970s, 1980s, and 1990s (a meta-review technique). The aim was to examine the emergence, continuity and discontinuity of research themes and issues across this time period that represent the active period of Aboriginal housing research following the 1967 referendum and the 1972 Royal Australian Institute of Architects Housing Conference. It identifies the ongoing research themes at the turn of the millennium in preparation for the analysis in Chapters 4, 5 and 6.

The first time slice pre-1980 analyses the work of the anthropologist Michael Heppell (1979) in the seminal publication *A Black Reality: Aboriginal Camps and Housing in Remote Australia*. In addition to Heppell's observations of Aboriginal housing research the book contains a multi-disciplinary collection of significant papers that report on ethnographic studies of Aboriginal living environments. The authors included an environmental psychologist, anthropologists, a schoolteacher, and community workers/administrators.

The second time slice, 1980-1989, draws on Ross (1987) and Sanders (1993) and a series of publications by the architect and anthropologist Memmott that are relevant to this period. These being *Aboriginal Housing: The State of the Art (or the Non-state of the Art)* (1988), *The Development of Aboriginal Housing Standards in Central*

Australia: The Case Study of Tangentyere Council (1989), *Humpy, House and Tin Shed* (1991), and *A Short History of Australian Aboriginal Housing* (1993). Memmott has conducted Indigenous housing research since the 1970s which has culminated in his 2003 edited book *Take 2: Housing Design in Indigenous Australia*³. In what may appear to be a methodological contradiction some reference is made to literature published in the 1990s where it provides a significant overview of the 1980s period (e.g. Sanders 1993 and Memmott 1993). Elsewhere though we have confined our analysis of a particular period to the literature published in that period.

The third time slice 1990-1999 draws on chapters by the environmental psychologist Helen Ross (2000) and the social scientist Will Sanders (2000) that form part of *Settlement: A History of Australian Indigenous Housing* a book edited by the historian Peter Read. Ross's major studies of Indigenous housing are *Just for Living* (1987) and *Housing Design Assessment for Bush Communities* (1993) co-authored with the anthropologist Petronella Morel. Sander's has published a number of papers and reports concerned with Aboriginal housing (e.g. 1989, 1990, 1993, 2000). As with *A Black Reality*, the book *Settlement* has a multi-disciplinary character with contributors from geography, architecture, anthropology, history, education, environmental psychology, housing administration, and social science. Reference is also made to Kelleher's (2001) annotated bibliography on Indigenous housing issues for AHURI, which compiles the literature for the period 1996 to mid 2001 under the categories of history, policy, finance, design, public housing, homelessness, poverty, health, and discrimination.

2.3 Australian Indigenous housing literature 2000-2006

Whereas analysis of the first period of literature (Chapter 3) relies on existing literature reviews in our analysis of the second period of literature, 2000-2006, (Chapters 4, 5 & 6) we gathered as much of the Indigenous housing literature as possible and analysed the characteristics and themes of each publication. We sought any literature broadly concerned with Indigenous housing including both published and unpublished reports, journal articles, theses, and books. It became apparent that whereas a significant number of reports are readily accessible, and there are some key books on the topic, there was a limited number of academic journal articles concerned with Indigenous housing. Early in the project we noted a close relationship between the Indigenous housing and homelessness literature. However the significant and emerging body of homelessness research can be considered a body of literature in its own right and was not directly targeted in this survey.

We had to rely on readily available research material but efforts were made to include as much of the post-2000 research as we could. Our focus was on published works yet we are conscious of a large body of unpublished materials that are often held within government departments. This literature search had its challenges as Memmott has previously observed:

Most of the research in the Aboriginal housing area is applied research and much is embedded in unpublished reports commissioned by Aboriginal agencies and Government departments and of varying methodological quality. It is difficult to become aware of these individual items and they are often difficult to obtain. (Memmott 2000:100.)

³ Memmott is currently preparing a book concerned with the architectural traditions of Aboriginal Australia.

We endeavoured to contact each jurisdiction for advice on recent Indigenous housing research. A letter was sent via email to members of the Standing Committee on Indigenous Housing requesting information regarding Indigenous housing research conducted by their organizations in the period 2000-2006. A checklist of housing themes was attached to the letter asking if the organization had conducted research relevant to any of these themes (see below for details of the themes).

The literature search commenced with the Aboriginal Environments Research Centre's (AERC) Indigenous Housing and Architecture bibliography which contains 700 entries, mainly pertaining to housing and organized under the following subject categories: domiciliary use & local needs studies; design principles, strategies, theories; case studies on individual houses or housing projects, design & construction properties; materials & construction technology; housing management; housing macro-factors -planning & policy, macro needs assessment; housing societies & co-operatives.

The internet was used to search for recent literature on the websites of the following organizations (some of which possess online databases): Australian Housing and Urban Research Institute (AHURI), Australian Institute of Health and Welfare (AIHW), State and Territory housing departments, Commonwealth Department of Families, Community Services and Indigenous Affairs (FaCSIA), Centre for Appropriate Technology (CAT), Centre for Aboriginal Economic Policy Research (CAEPR), Australian Government Productivity Commission, Australian Bureau of Statistics (ABS), the Australia Institute of Aboriginal and Torres Strait Islander Studies' (AIATSIS) Mura Catalogue.

The post-2000 literature was collected and then reviewed in terms of (1) its characteristics, and (2) the key themes or key words in the literature. To assist with this analysis an electronic database was developed. The following eight categories were used in the database to determine the characteristics of the literature:

Characteristic 1: Disciplinary background of the author – Are there any disciplines that feature in the literature?

Characteristic 2: Methods used in the literature- What methods feature in the literature?

Characteristic 3: Place(s) or settlements in the literature – Are there any places or settlements that feature in the literature? Is the research place specific?

Characteristic 4: Regional representation in the research- is the literature regionally specific? Are there any regions that feature in the literature? The regional classification of Australia used in the archive of the Aboriginal Environments Research Centre, University of Queensland, was used in this project. There are other useful regional classifications such as those used in the Encyclopaedia of Aboriginal Australia (Horton 1994), however the AERC classification was selected as the database will be housed in the AERC and therefore it had to cross reference with the existing archive. (See Figure 1 in the appendices.)

Table 1: The AERC's Regional Classification of Australia (see Figure 1)

Code	Region	Code	Region
AUS	Australia	M	Fitzroy & (Lower) Dawson River Basins
A	Arnhem Land Region	N	Cape York Peninsula
B	Burnett & Mary River Basin	Q	South-east Queensland/ Moreton Bay Region
C	Central Australia and South-west Gulf	R	Northern Rivers District
D	Darling River Basin	S	South-west Queensland
E	Lake Area of South Australia	T	South-east Coastal Region (NSW & Victoria)
F	Simpson Desert	V	Western Desert Region (includes Great Victoria, Gibson, Big Sandy, Little Sandy Deserts)
G	Spencer and St Vincent Gulf	W	Pilbara Region
H	Central Highlands Sandstone Belt	X	Western Australia
J	Coorong/Portland Region	Y	Burdekin & Belyandu River Basins
K	Kimberleys	Z	Tasmania
L	North-west Queensland and Wellesley Islands		

Characteristic 5: Language group(s) in the literature- Is the literature culturally specific? Are there any language groups that feature in the literature?

Characteristic 6: State/Territory- Do any jurisdictions feature in the literature? State and Territory were used as a basic but nonetheless useful unit of analysis for two reasons. Firstly, they are geographical units of analysis that encompass different areas and regions of Australia. Some regions and language groups straddle State/Territory borders. Secondly, and perhaps more importantly, the State's and Territories have different Indigenous housing regimes and policies, they have different types of Indigenous settlements and differences in the size of their Indigenous populations, they have different histories of housing provision and policy and thus they have different housing circumstances.

Characteristic 7: Settlement type(s) in the literature- Indigenous Australians occupy houses within at least six different settlement types. How are these settlement types represented in the body of literature? Are there any settlement types that feature in the literature? Are there any settlement types that are not adequately covered in the literature? Memmott & Moran's (2001) categorisation of five Indigenous settlement types in Australia is used as a basis to the analysis as follows:

1. Discrete Settlements that are generally separate or bounded from other centres and are often referred to as 'communities'.
2. Discrete Urban Settlements that usually comprise an enclave or precinct within a rural town or regional city (they usually have origins as a 'fringe settlement', town camp, ration depot or mission on the periphery of a town).
3. Outlying Discrete Settlements that consist of outstations or homelands which are small family-based settlements often located on traditional Indigenous countries,

'estates' or 'homelands' (and usually associated with a return to country from a larger settlement).

4. Dispersed Settlement in Urban Centres, a high proportion of the Indigenous population live in housing dispersed throughout urban centres.
5. Dispersed Residence in Rural Centres, a high proportion of Indigenous people live in housing dispersed throughout smaller rural towns.

A sixth settlement type, overlooked by Memmott & Moran in their 2001 work is 'camps'. Memmott and Moran's (2001) analysis focussed on what may be described as 'official' settlements. Camps might be described as 'un-official', and often un-serviced, settlements yet this does not mean that they lack 'formal' qualities. Some camps are temporary, such as 'dinner camps', and there are perennial camps. There are camps associated with customary practices such as ceremony and mourning (sorry camps). There are camps that are associated with the five settlement types described above, for example some camps are located adjacent to settlements and in some instances camps are located within settlements. According to Memmott & Moran's settlement typology such camps precede 'discrete urban settlements'. Their typology suggests a subtle shift from transitory settlement towards long-term settlement and from 'un-offical' to 'official' settlement. There are also camps that are located in 'bush locations' away from the five settlement types described above. Whereas the fabric of some camps is transitory there are also more permanent camps. A feature of camps is that they often involve the use of self-constructed housing or the use of traditional Indigenous architecture types. It is in camps that Indigenous people experience the freedom to define socio-spatial relationships, and the freedom to self-construct living environments that support preferred patterns of domiciliary behaviour. It is for this reason that Heppell (1979:3) and others (see for example Memmott 2003:27) have argued for the study of camps as a fundamental component of Indigenous housing research.⁴

Characteristic 8: Remoteness classification of the research- Do any remoteness categories feature in the research? The ABS remoteness classification was employed in this research; Memmott et al (2006:11) make the following observation of it:

The Australian Bureau of Statistics employs a Remoteness Classification that comprises five categories of remoteness (see Table 1 and map in Figure 1). The level of remoteness of a place is determined by the Accessibility/Remoteness Index of Australia (ARIA) that measures remoteness based on the physical road distance from a place to services. (This index involves measuring the distance of a place to five different categories of service centres ranging from urban centres with a population greater than 250,000 and a full range of goods and services to an urban centre of population between 1,000 and 4,999 with limited goods and services.). This remoteness classification is solely based on the physical road distance to service centres and it does not take into account other factors that may influence access to those centres and services such as access to public or private transport, travel times, road conditions, seasonal conditions, social and economic status of the population or the mobility of a population. (Memmott, Long & Thomson 2006:11.)

⁴ The authors recognise that use of the term 'camp' is not without its problems as it has variable meanings and is used by Aboriginal people to refer to a range of residential circumstances. For example, in Central Australia the Warlpiri use the term camp equally to humpies and western housing types (Musharbash 2003:41). Nonetheless it is used to fill a gap in Memmott & Moran's settlement typology.

Research that was nationally significant was considered to be relevant to each of the remoteness categories. Memmott et al (2006:12) make the following observations on the ARIA remoteness classifications:

The most interesting and relevant element of the ARIA classification is that it is a classification based on the relative distance a population must travel/move to access services. The ABS (ABS 2001c:17) notes that 'remoteness' is a subjective concept that can have different meanings to different people.⁵ From an Indigenous perspective remoteness might also be defined as relative distance from one's homeland or the ability or ease with which people can access their homeland. In many instances this would produce an inversion of the ARIA classification, that is parts of Australia that are very remote in terms of service delivery are highly accessible in terms of home country. For an Aboriginal Elder in his outstation in Arnhem Land, Melbourne may be perceived as a remote place. (Memmott, Long & Thomson 2005:12.)

Table 2: The ABS Remote Classification for Australia (ABS 2001c)

<i>Classification</i>	<i>Other Classification</i>	<i>Level of restriction to access to services</i>	<i>Examples</i>	<i>ARIA index</i>
Major Cities of Australia	Highly Accessible	Minimal restriction	Brisbane (including Gold Coast)	Less than 0.2
Inner Regional Australia	Accessible	Some restriction	Rockhampton, Bundaberg, Gladstone	0.2 to < 2.4
Outer Regional Australia	Moderately Accessible	Moderate restriction	Darwin, Roma, Cairns	2.4 to < 5.92
Remote Australia	Remote	High restriction	Cooktown, Alice Springs and Katherine	5.92 < 10.53
Very Remote Australia	Very Remote	Highest restriction	The far west parts of Qld, most of the NT, WA & SA.	Greater than 10.53

A list of potential themes was generated at the start of the project in order to analyse the research themes and key words contained in the literature. This list was based on the knowledge the authors had of Indigenous housing literature and non-Indigenous housing literature. The list of themes was slightly modified as the literature survey was conducted. As many housing issues are interlinked or intertwined many of the post 2000 publications covered multiple themes. Therefore in order to undertake an analysis it was necessary to limit the number of themes assigned to a publication. An attempt was made to limit each publication to the three most relevant themes and this relied on the judgement of the researchers. Thus the coverage under each theme area is unlikely to be exhaustive and while every attempt was made to get across as much of the literature as possible we recognise that the reader may be aware of additional references that fall within the themes listed. Our intention was skewed more towards identifying the main theme areas, and the sub-themes within them, rather

⁵ The anthropologist Peterson gives an alternate definition of remote and settled Australia: "By settled Australia I refer to the area east of a line from Cairns to Port Augusta and the southwestern portion of Western Australia, west of a line from Carnarvon to Esperance. The remaining part of Australia is the area referred to as remote." (Peterson 2004:236.)

than attempting to exhaust all references that may be relevant to a particular theme. To further complicate matters the issues that were covered within a major theme area also varied. An effort was made to note the differences, or sub-themes, within a theme area.

Table 3: Themes of the 2000-2006 Indigenous Housing Research

6. occupation and use,	20. decentralisation versus centralisation,
7. domiciliary composition, household size and composition,	21. performance,
8. user groups,	22. affordability,
9. mobility,	23. accessibility,
10. design,	24. appropriateness,
11. technology,	25. location and geography of housing provision and services,
12. ownership,	26. housing needs,
13. home, place and space,	27. linking of housing and other (non-housing/shelter) services and outcomes,
14. funding and costs,	28. historical, institutional and political aspects of housing,
15. sustainability and efficiency,	29. housing preferences, desires, future visions,
16. management,	30. housing pathways,
17. policy,	31. impacts of cross and inter-generational issues (e.g. demography) on housing.
18. planning, coordination and decision making about housing,	
19. mainstream versus dedicated programs,	

It was found that themes 1-7 (above) formed a broad category of research that examines micro-issues in Indigenous housing and themes 8-23 (above) formed a broad category of research concerned with macro-issues in Indigenous housing. The micro-issues category of research directly examines Indigenous living environments. This category contains research that deals with the scale of house and settlement, both in terms of use by residents in their day-to-day behavioural patterns and in relation to design and physical attributes. The macro-issues category of research examines issues that extend outside of the realm of actual living environments. This category contains research that deals with “policy, decision-making and empowerment processes” that occur at various administrative levels (regional, State, Federal) as well as types of analyses that abstract local funding to the broader scales of region, state and nation. In 2000 Memmott (2000:108) noted that comparatively very little research had considered macro-issues and furthermore very little research had considered such issues across jurisdictions. There are obvious connections and overlaps between themes in both categories for example home ownership is a theme that can be analysed as a micro-issue yet it is closely linked to macro-issues such as funding and costs, affordability, housing needs, and housing preferences. These micro and macro categories and relevant themes are discussed in Chapters 5 & 6 respectively. (Memmott 2000:106-108.)

Around one hundred and fifty post-year 2000 publications were sourced during this project and entered into the database. An additional four hundred entries have been entered into the database from the AERC’s existing Indigenous housing and settlement bibliographies however these are yet to be coded to the same level of detail as the post-2000 literature. As the post-2000 material was analysed and assigned to a theme area any sub-themes that were identified were also assigned to that publication and added to the list of searchable themes. A summary of the research that considered the content and/or argument of the publication was entered into the database (in some cases the publications abstract was simply used). The

literature was also analysed for definitions or disciplinary assumptions of housing and these were also entered under the summary field.

The database is searchable by each of the eight characteristics and by each of the twenty-six key themes and additional sub-themes. It is also searchable by year of publication, publisher, title, ISBN_ISSN, and particular words can be searched for in the summary field. In the first instance the database was used in a relatively simple way to analyse the numbers of publications in each characteristic or theme area, for example to establish which publications in the post 2000 period were concerned with home ownership. Once the publications in a theme area were established the summaries and other themes assigned to the publication were analysed for sub-themes. In some instances this also meant returning to the publication itself to check arguments etc. The database can be searched using any combination of the themes and characteristics; this permits more complex interrogation of the data. For example the post 2000 literature can be searched for any publications with the theme 'ownership' that are concerned with the Northern Territory.

2.4 Comparable International Indigenous housing literature

The review sampled comparable themes in the international Indigenous housing literature. The international literature was sourced by initially accessing the Aboriginal Environments Research Centre's (AERC) bibliographies on other Indigenous groups and their architecture. This included the bibliographies of reports by Moran (1997) and Fantin (1999) who are ex post-graduate students from the AERC who travelled to North America to make brief comparative studies of Indigenous housing and settlement issues. Initially we aimed to undertake a detailed study of the International literature and we had hoped to rely on existing meta-reviews.⁶ However as we were not able to locate such reviews and as we spent greater than anticipated time on the post-2000 Australian literature it was necessary to reduce the scope of the review of the International housing literature. We searched for recent comparisons to the themes represented in the national literature and we limited our search to literature from New Zealand⁷ and North America. (See Jardine-Orr 2005:43).

We made searches of the internet sites of key Indigenous housing agencies and organizations in New Zealand (Housing New Zealand Corporation, Centre for Housing Research Aotearoa New Zealand), the United States of America (National American Indian Housing Council, US Department of Housing and Urban Development (HUD)), and Canada (Canada Mortgage and Housing Corporation, Indian and National Affairs Canada, National Aboriginal Housing Association).

2.5 Summary

This chapter has outlined the approach taken in this review of the national Indigenous housing literature. The literature was examined in three parts. (1) A meta-analysis was made of the Australian Indigenous housing literature published between 1970 and 1999. (2) The Australian Indigenous housing literature published after 2000 was gathered and the characteristics and key themes of the publications analysed. (3) A sample of the recent international Indigenous housing literature was analysed for

⁶ A potentially useful future resource is a Canadian compilation of housing research themes that is in development and has the working title of 'Canadian Housing Research Cluster concept paper literature review'.

⁷ As the authors were finalising the current report a relevant New Zealand report, 'Maori Housing Experiences,' by Waldegrave et al (2006) was published (October 2006) and we have since incorporated its findings.

comparable themes. The following chapter examines part one of the review, the Australian Indigenous housing literature 1970-1999.

3 AUSTRALIAN INDIGENOUS HOUSING LITERATURE, 1970S TO 1990S

3.1 Introduction

The aim of this chapter is to examine the emergence, continuity and discontinuity of research themes and issues across the 1970s-1990s which represents the active period of Aboriginal housing research following the 1967 Referendum on Aboriginal Affairs after which responsibility for such was assumed by the Commonwealth, and the landmark 1972 housing conference of the Royal Australian Institute of Architects (RAIA 1972). It identifies the ongoing research themes at the turn of the millennium in preparation for the lengthier post 2000 analysis in Chapters 4, 5 and 6. The chapter includes a review of the early indigenous constructs of 'housing' or 'home' that have some cross-cultural research basis during the late 20th century research period.

3.2 Australian Indigenous housing research in the early 1970s

The Royal Australian Institute of Architects' 1972 Aboriginal housing conference produced the first set of bound papers on Aboriginal housing practice (RAIA 1972). Much of the content deals with the respective approaches of State and Territory Governments in attempting to use staged housing solutions as a tool to 'assimilate' remote Aboriginal people. However a clearly emergent theme that was obstructing the success of this policy approach was the breadth and depth of cultural issues impacting on Aboriginal housing provision such as abandonment of houses upon an occupant's death, lack of a strong value system for object possession (emphasis on exchange and sharing), culturally distinct household structures with high visitation, and culturally distinct beliefs about health and sickness which were not aligned with Western domiciliary health norms. Cross-cultural issues were to continue as a research theme of Aboriginal housing until the present day.

Prior to the RAIA Conference, published research on Indigenous housing is extremely sparse, one exception being Saini (1967) who provided one of the first critiques of the assimilation policy⁸ as it was being applied to housing. He identified the issue of fluctuating household size due to visitation of extended family, and formulated the need for experimental low-cost basic shelters for mobile traditionally orientated groups.

Following the 1972 Conference, the RAIA established and administered the Aboriginal Housing Panel that provided housing design, delivery and research with an exploratory and innovative vision. The Federal Government reconstituted the Panel during 1975-76, placing it under the directorship of anthropologist Dr Michael Heppell, who generated much valuable research documentation before the Panel was finally terminated.

3.3 Australian Indigenous housing research in the 1970s

3.3.1 *The politics of research and the definition of the research problem*

Heppell introduced his 1979 review of Aboriginal housing issues and research with the following political observation:

The importance of housing was first articulated under State and Commonwealth Governments' post Second World War assimilation policies.

⁸ But also see Tatz (1965) upon whom Saini draws.

By the mid-1950s, its importance was being given prominence in government department annual reports...

Recently, under the Australian Labor Party administration of 1972-75, it appeared to become the central issue, being greatly influenced by the oft repeated assertion that without adequate housing, programs in the health, education and social development fields are doomed to failure. (Heppell 1979:1.)

Heppell went on to point out that "...Underlying the official importance given to housing is the notion that an 'Aboriginal housing problem' exists" (1979:1). The political and social science definitions of the Aboriginal housing problem are worthy of attention as they tended to focus research in particular ways. Heppell provides what was a common definition of the Aboriginal housing problem as it was perceived in the 1970s, one of being a critical component of the Aboriginal poverty cycle:

...without housing, other conventional support systems such as education, health, and employment could have little impact. With a house would come the privacy and necessary environment for children to pursue their educational studies at home; improved health with the provision of food storage, ablution and evacuation facilities and with the learning of domestic skills; and better employment through encouraging the breadwinner to go out and work in order to retain use of the dwellings. (1979:2.)

Heppell noted that despite the substantial amount of the Department of Aboriginal Affairs (DAA) funds being specifically directed to Aboriginal housing, that "of the 43 research projects funded by the DAA in the years 1974-76 at the height of government expenditure on housing, not one was concerned with any aspect of the 'Aboriginal housing problem'. In contrast, 15 research projects into Aboriginal health...and 9 into Aboriginal education...were funded. Nor, from the paucity of materials available, does it appear that much research [had] been undertaken by other organizations into Aboriginal housing" (1979:2).⁹ This lack of research is reflected in the limited number of quality research reports in this decade.

Heppell (1979:3) then criticized the Senate Select Committee on Aborigines and Torres Strait Islanders for its "ethnocentric and short sighted approach" which emphasized the need to provide "decent houses"¹⁰ for Indigenous people as being a higher priority than carrying out research on their housing needs. Heppell wrote that the Senate Select Committee Report:

...seems to suggest that research should not be conducted into Aboriginal housing until after all Aborigines have been housed, by which time, of course, the horse would have bolted and it would be too late to influence the kinds of housing provided. (Heppell 1979:3.)

Heppell (1979:3) asked:

If Aboriginal housing needs are not especially complicated, why are so many houses rejected by Aborigines? What evidence is there to support the

⁹ The exception was a post-doctoral fellowship funded by the Australian Institute of Aboriginal Studies for the study of remote Aboriginal housing issues and awarded to Dr Joseph Reser which resulted in a chapter in Heppell's book (1979:Ch 2) as well as other papers (e.g. Reser 1977). Reser's work from this period is highly important as it identifies links between housing circumstances and mental health. It is noteworthy that although Heppell draws a link between housing and health, none of the 15 health projects he mentions seem to have a connection to housing.

¹⁰ Decent houses were those that conform to European standards and models of housing. Aboriginal camps, humpies, shacks and tents did not conform to such a model, they were seen to be inappropriate.

assertion that the most immediate need is to provide 'decent housing' for different Aboriginal groups in Australia? Why are so many remote Aborigines leaving government and mission settlements to set up small homeland centres away from European influence? One of the most unfortunate aspects of Aboriginal housing policy in Australia is that there is very little information either to support or to refute statements of the kind made by the Senate Select Committee.

Heppell gave an estimate (1979:28) of the total number of Aboriginal families in Australia, those adequately housed and the backlog of housing to accommodate those living in unconventional housing.

3.3.2 Aboriginal housing policy research

National policy on Aboriginal housing had shifted from assimilation in the 1950s and 1960s to self-determination in the 1970s, the latter bringing with it a right to live a culturally distinct lifestyle. Architects no longer had a political role to encourage Aboriginal families to adapt their lifestyles to worker cottages but could design to create a fit between housing and culture. This political change was reflected, to varying degrees, in both practice and research. Yet despite the work of some practitioners and researchers self-determination did not have quite the same impact in housing as it did in other areas of Indigenous affairs, for example the ongoing construction of housing types based on western housing standards saw an ongoing lack of fit between housing and culture.

Heppell wrote the first comprehensive critique of the government policies on Aboriginal housing provision in the 1960s and 1970s making strong criticism of their application in practice: (i) the Assimilation policy and the transitional approach to housing of the 1960s; (ii) Liberal-National Country Party's Integration policy (late 1960s/early 1970s); (iii) Labour's self-determination and its Housing Association Scheme (early to mid 1970s); (iv) Liberal NCP's self-management and self-sufficiency (late 1970s). The policies of State housing authorities also receive some critical (albeit brief) attention for the 1970s especially W.A. and Qld. (Heppell 1979:38-42,48.)

Heppell develops his own policy recommendations (1979:56-62) from his critique some of which he tried to implement as Director of the Aboriginal Housing Panel during 1975-76.

3.3.3 Case studies of housing design types from the 1970s

Heppell was profuse in the production of housing evaluation studies during this decade when a range of experimental housing types was tested throughout remote communities. He critiqued house types and transportable shelter designs erected in Central Australia under an earlier phase of the Aboriginal Housing Panel (Heppell 1977), Western Australian Housing Commission designs at Looma (Heppell 1976b), desert outstation facilities (Heppell & Wigley 1977), as well as writing an in-depth case study of the design and provision of housing at the Mount Nancy Town Camp in Alice Springs (Heppell & Wigley 1981). This last work included a chapter on domiciliary behaviour and the artifactual environment of the Mt Nancy Town Camp and how these topics informed the architect's consultation process to produce one of the first generative plan types for a group of clients with varying needs.

3.3.4 Research on traditional Aboriginal domiciliary behaviours and related housing needs

Heppell outlined a research agenda of five topics that in many ways reflected the collection of writings in his 1979 book.

1. How Aborigines perceive and order their environment;
2. How they organise their camps and the spatial areas within a camp;
3. How a camp supports those social institutions which operate within it;
4. The ways in which a group changes its social institutions to adapt to the changed circumstances of a housing scheme; and
5. The stresses experienced by individuals and families during the transition period of adaptation to a house. (1979:3.)

The eight chapters of his book that deal with these topics in remote Australia are mainly written by anthropologists albeit with some contributions by missionary researchers and one by an environmental psychologist.

An important predecessor to these researchers was architect-anthropologist Peter Hamilton who was the first researcher to study the spatial and sensory domiciliary environment of Aboriginal camps in 1970-71 (case study on a Yankuntjatjara group), with a view to applied housing outcomes. Hamilton's early research has been one of the most influential and enduring contributions (Hamilton 1972,1973).

Further empirical ethnographic studies of traditional shelter construction and use were then generated (e.g. Biernoff 1974 for the Nunggubuyu, Memmott 1979 for the Lardil) as well as a continental overview of the literature on Aboriginal ethno-architecture (Koettig 1976).

Later, in 1988, Memmott wrote of this period:

In the mid and late 1970s the first relevant body of meaningful research became available. It was largely based on the premise that adequate design could not occur until Aboriginal domiciliary lifestyle was scientifically studied, recorded and used to generate design criteria. The best laboratory for such research was in traditional camps and also the sedentarized fringe settlements of humpies¹¹ near towns, missions, and cattle stations. These were settlements that had been designed and built by the residents themselves with their shelters arranged spatially to suit their own needs. Here was the best chance to understand what distinct cultural factors underlay Aboriginal domiciliary lifestyle. (Memmott 1988:38.)

3.3.5 *First research on house-related stress*

A medical doctor, Kamien (1976,1978) was the first to publish findings, albeit in brief detail, on the stress caused by crowded Aboriginal households of up to 30 people, writing on rental housing in Bourke. An in-depth study of enduring impact was then published by environmental psychologist Reser (1979) who worked in several settlements in Arnhem Land examining the potential of house designs to either facilitate user adaption and control or alternatively to generate psychological stress due to their lack of culturally appropriate design and other factors.

3.3.6 *Research on professional consultation methodology*

Heppell also challenged the capacity of architects and other technical consultants to adequately communicate with remote Aboriginal groups demonstrating with a

¹¹ Humpies are self-constructed Aboriginal shelters made of bush materials and, or, manufactured materials, the most ubiquitous being corrugated sheet metal and tarpaulins. Whilst the term sedentarized is used here to demarcate a difference between traditional camps and these new camps in terms of permanency, these new camps were nonetheless dynamic with ongoing changes to the fabric of the built environment and the composition of the resident population.

disastrous consultation case study¹² to support his argument. He also criticised the capacity of the Commonwealth Department of Construction which had taken on a role to act as consultant for these Aboriginal housing associations which were without their own private consultants (1979:42-45). He expanded his findings on professional consultation methodology in a monograph titled 'The Architect and the Aboriginal Community' (Heppell 1976a).

3.4 Australian Indigenous housing research in the 1980s

3.4.1 Ongoing housing policy research

During the 1980s there was a general ongoing lack of research on individual State Aboriginal housing policies¹³, although critical comment continued on Commonwealth policy in the Northern Territory. Memmott reviewed the earlier policy outcomes of the 1960s transitional housing in Central Australia, the Commonwealth's Aboriginal Housing Panel and its experimental design approaches citing case study material on Mt Nancy Town Camp and Tangentyere Council (Memmott 1988:34-37,40-42). In western NSW he analysed government policy in relation to the politics of settlement space at Wilcannia as well as the time frame of housing provision in relation to cycles of political time and associated policy changes (Memmott 1991:271-283).

Sanders (1993) and Memmott (1993) provided short histories of Australian Aboriginal housing, summarizing the housing policies for Aboriginal people since the turn of the century, but with a focus on the period 1970 to 1990. Sanders emphasized the historical separateness and differences of Aboriginal housing policy to mainstream housing policy. His 1993 paper is one of a valuable series of ongoing policy research contributions he makes that profile the complexity of housing provision from a national perspective.¹⁴ He characterizes Aboriginal Australians as a small and socioeconomically atypical minority indicating this partly through an analysis of housing tenure and residential locations from census data (Sanders 1993:213,214). Sanders (1993:218-226) analyses the national housing expenditure (1969-1991) in terms of four main programs (state grants public rental, community-based Aboriginal housing organizations, Aboriginal hostels and personal housing loans), characterizing them to a certain extent as "rival programs...pursuing significantly different values". Memmott's analysis examined the political differences between the Commonwealth's and the States' housing policies and how these differences had contributed to a dialectical process of reform in Aboriginal housing during the 1970s and 1980s.

Sanders (1993:221) argued that the backlog of unmet housing need had stabilized in the sense that a significant demand gap was keeping constantly ahead of supply. Here he drew on the work of demographers, several of whom (John Taylor (ANU) and Martin Bell (UQ)) were becoming increasingly specialized in their focus on Indigenous demographics and who would make a significant contribution to research in the 1990s and post 2000 periods.

3.4.2 Re-definition of the research problem

In the introduction to her book *Just for Living: Aboriginal Perceptions of Housing in North-west Australia*, Helen Ross (1987:1-3) outlines numerous dimensions and elements of the 'Aboriginal housing problem' including the political and economic enormity of any programme that would seek to adequately house all Aboriginal

¹² The Laverton House in Western Australia.

¹³ There were however some examples of such in the 1970s such as Glanville (1969) for NSW, as well as contributions by State Governments to RAIA 1972.

¹⁴ For example see Sanders 1989, 1990, 1994.

people, the limited availability of housing types being offered (of which most in any case were unable to adequately satisfy needs), the barriers to public or private rental access and the stress endured when such access was gained, the lack of land tenure at campsites which prevented government expenditure on permanent services or structures, as well as the diversity of Aboriginal aspiration for housing.

Memmott calls for the placement of 'the Aboriginal housing problem' within a framework of cultural change in the people-environment relations of post-contact Aboriginal groups, but laments the lack of useful case studies of this type (1988:34). In a short review of methods of Aboriginal housing needs assessment (1989:115-116), both quantitative and qualitative, Memmott notes the need to relate individual studies to regional models of cultural change in order to understand the mix of Indigenous and western traits and if and how the balance of such is transforming. Such an approach is applied in the Wilcannia case study that documents cultural change and settlement history and housing (Memmott 1991:60-96,135-147) including NSW government and local authority policies in western NSW.

Memmott (1988:34) also provided a stress-related definition of the Aboriginal housing problem.

Many groups of Aborigines suffer high levels of physical and mental stress which appear to be causally linked (either directly or indirectly) to their domiciliary environments. Stress-related factors include lack of protection from the weather, living in squalor, crowding, alcoholism, domestic violence, widespread ill-health, insecurity arising from the temporariness of living circumstances – the threat of forced eviction or migration by authorities. Occupants may find it very difficult to escape from such circumstances even if motivated to do so, due to lack of finance and [perceived social] credibility which in turn arises from a lack of employment and education (the so-called 'poverty cycle'). (Memmott 1988:34.)

In an extension of environmental psychology theory, Ross analysed the match between housing design and Aboriginal lifestyle (Ross 1987:3-6). She made an in-depth study of household structures and behaviours and related cultural factors (Ross 1987:48-99). Ross applied Personal Construct Theory¹⁵ with survey techniques to elicit cross-cultural perceptions, constructs and values about the quality of, and preferences for housing (Ross 1987:7-9,101-135).

Ross's theoretical framework was extended in 1993 (Morel & Ross 1993:10-19) by outlining a cross-cultural theory of housing encompassing the house-settlement systems, meanings, behaviour and activities, the 'fit' between housing and culture and adaptation of people to houses. Specific aspects of Aboriginal relationships to housing including socio-spatial behaviours, avoidance relationships, response to death, household composition, crowding and privacy, communication.

In his "Humpy House and Tin Shed", Memmott developed the analysis of socio-spatial behaviour and settlement layout, by combining physical mapping with the anthropological techniques of social organization and genealogical documentation (Memmott 1991:41-44,172-180,262-269,274-279,312-344).

¹⁵ This theory originated in clinical psychology to explore an individual's thoughts and has been refined to analyze bi-polar constructs which people use to interpret their surroundings (Ross 1987:7; also see Kelly 1955, Ross 1983.)

3.4.3 Evaluations of Indigenous housing designs

At the end of the 1980s, a useful review (Memmott 1989:116-119) of Post Occupancy Evaluation (POE) as an architectural/social science method of establishing housing needs was prepared, together with an overview of the few POEs to date in the Aboriginal housing sector (Heppell 1977, Ross 1987). A significant set of in-depth case studies on individual housing types were in fact carried out in remote Australia during the 1980s.

Ross carried out a settlement case study at Halls Creek including post-contact history (Ross 1987:9-19) and cultural-change and housing provision; and within this framework executed post Occupancy Evaluations (POEs) of three housing types (1987:20-31).

Memmott (1989) carried out a POE of Tangentyere's housing stock in Alice Springs examining many specific design types constructed between 1976 and 1988, analysing the evolving design knowledge based on successes and failures and finally an evaluation of the complete portfolio of designs. Case studies included the use of generic house plans (both 'extendable houses' and 'generative planning systems' (1989:119).

In the late 1980s Memmott also documented and evaluated five housing designs built in Wilcannia (western NSW) (1991:155-229), including interaction of the architect and community with government officers and policies, and consultation problems (also see George and Clark 1980).

At the end of the 1980s, Ross teamed up with an anthropologist, Morel, to document and evaluate Aboriginal housing designed by both government agencies, Tangentyere Council and other architects in seven¹⁶ central Australian communities, including in relation to maintenance and other housing management issues (Morel and Ross 1993).¹⁷

3.4.4 Research on Aboriginal domiciliary behaviour and related housing needs in the 1980s

In this period we see the use of social science methods to study a range of aspects of domiciliary behaviours: household composition; household types and their classification; artifactual environments; patterns of domiciliary behaviours; concepts of crowding and privacy; socio-spatial structures of settlements; and residential dynamics (including death impacts). Increased documentation occurs on the dynamics of household size and structure due to residential mobility and high visitation frequency. (For example see Memmott 1991:97-100,166-169,180 on Wilcannia; also see Morel & Ross 1993, Sanders 1993:219-223.)

Two planners, Lea and Sinbandhit (1981), carried out a study of households in Cowra, NSW, comprising a set of reserve houses on the outskirts of town, plus government rental housing in the town proper, exploring the role of housing in the socio-economic development of the Aboriginal community. Loveday and Lea in their "Aboriginal Housing Needs in Katherine" (1985) provided a survey of Aboriginal households in Katherine which included household size and profile, visitors profile, reasons for household mobility, services, artefacts (possessions), rental data, likes and dislikes

¹⁶ Mutitjulu, Ti-Tree Atitjera (Harts Range), Nyirripi, Willowra, Titjakala (Maryvale), Akaya (Mulga Bore Outstation), Nturreye (Ti Tree Station).

¹⁷ This report also includes town planning considerations – social and cultural factors, cultural landscape, sociospatial aspects, housing density and climatic factors (Morel & Ross 1993:143-149).

about dwellings, waiting lists and overall housing needs appraisal. It is also supplemented by a land needs study for new housing.

Memmott made a short review of the ethnographic research on ethno-architecture (1988:38), both of traditional shelters and camps and self-constructed fringe camps, as well as the domiciliary and socio-spatial behaviour in such camps. Ethno-architecture of the Darling basin was documented (Memmott 1991:45-59,104-134) and design criteria extrapolated.

It is to be noted that no government department produced any overt detailed policy on culturally appropriate housing design during this period (a partial exception being the NSW 'Homes on Aboriginal Land' (HOAL) Program during 1987-88 (see James 1990).

3.4.5 Indigenous housing and health research

Memmott's definition of the 'Aboriginal housing problem' (above) is linked to a newly emerging research topic, that of Aboriginal health and housing (Dowling & Ward 1976, Reser 1977, Ross 1986, Nganampa et al 1987, Memmott 1988:34,1991:151-154,308-309). The first documented analysis of housing-related illness and associated remedial design strategies occurred in 1974-75 for Wilcannia (Memmott 1991:151). However it was another decade before the study by Nganampa et al (1987) not only systematically isolated and causally linked complexes of health problems with sets of design features, but also ranked them into a set of priorities based on the likelihood of improving health standards. The Nganampa research in the Anangu Pitjantjatjara lands was largely carried out by an inter-disciplinary team of Paul Pholeros (architect), Steph Rainow (anthropologist) and Paul Torzillo (doctor).

Ongoing discussions on psychological stress in the literature continue to draw on Reser's earlier work (1979). However exploratory research on Aboriginal crowding stress emerged in the 1980s. Ross and Memmott separately carried out crowding and privacy analyses (Ross 1987:110-116,121-123 for Halls Creek; Memmott 1991:249-262 for Wilcannia), and distinguished household crowding and neighbourhood housing, and developing cross-cultural models of such.

Memmott also noted that the non-Aboriginal assessment of the Aboriginal housing problem during this period had often ignored any objective evaluation of environmental health hazards, and often resulted rather from emotive responses to visual perceptions of squalor (1988:34, 1991:144-148). Such approaches highlight the lack of Indigenous involvement in the development and conduct of research, and a general lack of engagement with Indigenous values and perceptions.

The impact of broader social dysfunction on housing was a key health finding in the Tangentyere Housing Stock evaluation study (Memmott 1989:141) on the Alice Springs town camps, albeit briefly mentioning the "impingement of personal and social problems on the stability of the client's tenancy" e.g. poor health, poverty, alcoholism, domestic violence, and the erosion of camp leadership, social organization and behavioural norms.

3.4.6 Commencement of housing management research

Reviews of housing management practice emerged in the 1980s literature. For example Memmott (1988:41-43) documented the activities of the Tangentyere Council in Alice Springs and its multiple set of housing services for both the houses and the tenants. The housing services of Tangentyere Council were identified as something of a benchmark.

In his Wilcannia case study, Memmott examines housing management problems making recommendations on management practice (Memmott 1991:230-248,283-288), whereas recurring maintenance problems and housing management (especially rents) are also a topic of the Central Australian study by Morel & Ross (1993:165-174).

In the 1980s Ross provides the first (albeit brief) economic analysis of household expenditure (Ross 1987:124-128).

3.4.7 Research on professional consultation on housing needs and design in the 1980s

Ross continues Heppell's earlier review of design consultation methods, with case studies and recommendations about such for Halls Creek (Ross 1987:137-141,152-155) and later with Morel for Central Australia, reviewing consultation techniques, and the desirable depth of consultation (Morel & Ross 1993:130-142; also see later by Memmott 1997). One significant aspect of this research theme, of client design consultation, is its contrast with an alternate common policy approach of providing one or only a few housing design types to a large community with minimal consultation on the assumption that one or two sizes will fit all. Another way of conceptualising these two contrasting approaches is 'supporting culture' (the qualitative approach) versus 'addressing the backlog' of housing (the quantitative approach) (Ross 2000:5).

From her Halls Creek research Ross formulates housing design strategies and criteria (Ross 1987:143-149). She also echoes Reser's earlier work by examining the degree of control over household decision-making by clients (Ross 1987:165-167).

Research was carried out in this decade for the first time on changing household needs and the associated design problems and strategies and their relevance for house alterations and extensions (Memmott 1989:135; Morel & Ross 1993:125-129). Researchers identified changing aspirations, values, behaviours and needs in relation to housing and the reasons for such changes as a discrete set of longitudinal design and renovation problems.

3.4.8 Housing design in relation to methods of delivery

The first published discussions appear in this decade on comparative housing provision methods such as 'one-off designs'¹⁸ for individual clients, repetitive use of a one-off design, generic design approach (extendable and generative systems), use of a portfolio of a limited number of types, and a large portfolio of diverse types. (Ross 1987:2,167-171; Memmott 1989:141). However no in-depth study on this topic was carried out.

3.4.9 Construction, materials, services and detailing

Morel and Ross documented house designs and construction materials including climatic performance, numbers and sizes of rooms, room layouts, individual room design treatments, building material performance, energy and water system, landscaping (Morel & Ross 1993:150-164). However, except for the case studies of individual design types, there is surprisingly little research on the construction and technological performance of Indigenous housing.

¹⁸ One-off designs are those that respond to the specific requirements of a client including site conditions, climatic conditions, household size and preferred patterns of domiciliary behaviour and they are usually built once.

3.4.10 National Indigenous housing stock assessments

Ongoing reference is made to the national quantitative assessments of housing stocks and backlogs: Lovejoy (1971), Scott (1973) and Heppell (1979:28,29, Table 4). (Memcott 1989:115.) The idea had emerged of the need to carry out regular State and National audits of Aboriginal housing stocks and using this as a basis to quantify the backlog of housing provision.

3.5 Australian Indigenous Housing Research in the 1990s

3.5.1 An expanded definition of Aboriginal housing

In her book chapter "Lifestyle and Lived Experience" (2000), Helen Ross adopts a very broad definition of Indigenous housing as "all aspects of spatial existence" including settlement patterns (socio-spatial) and access to land (2000:13). She then outlines a useful set of housing research themes that fit within this broad definition. New research themes for the 1990s that appear in her list are:

- patterns of Indigenous land use and residence (environmental and demographic context), land rights and outstations and excision leases;
- the lived experience of Indigenous people in and around their housing;
- housing costs;
- inter-relation of housing with employment, education, governance (and policies on same); and
- the importance and role of housing in Indigenous people's lives. (Ross 2000:3.)

3.5.2 Housing policy research in the 1990s

National Aboriginal housing policies underwent critical review and revision in the 1990s. The decade commenced with the recommendations of the Aboriginal Deaths in Custody Commission which included the need for architects to prepare culturally appropriate housing designs and the recognition that housing management services were required in addition to housing provision (Johnston 1991:Recs 73,324,323,325). Decision-making on housing design, provision and expenditure became partially regionalized through 60 ATSIC Regional Councils throughout Australia from 1990 (Memcott 1993:6).

Attempts were made to integrate more closely the State Aboriginal rental housing programs (ARHPs) and the Community Housing Organisation Program (which had become called CHIP) through a process called 'channelling'. From 1990-1991, ATSIC intensified expenditure on national housing and infrastructure-needs surveys on which to base three-year rolling programs. (Memcott 1993:7,8.) Nevertheless the process of quantifying needs without qualitative needs assessment was challenged (e.g. Memcott 1993:8) and the ongoing relative lack of POE studies noted. An important exception is an audit by the Queensland Department of Housing, Local Government and Planning (1993) on its Indigenous housing stock.

Ross (2000:8) provides an overview of the institutions utilized for Aboriginal housing delivery in the latter half of the 20th century: Commonwealth/State Housing Agreements, Aboriginal Housing Panel, Aboriginal Housing Associations, Aboriginal Housing Boards and Aboriginal Hostels Ltd. She provides brief case study material on the Aboriginal family resettlement scheme in New South Wales in 1972 (Ross 2000:5).

Sanders (1993:224) had noted the increasing integration of infrastructure expenditure with housing provision expenditure for the late 1980s, and this was accelerated under

the National Aboriginal Health Strategy (NAHS) in the early 1990 (Memcott 1993:5). Research on housing and health intensified to the point that it influenced national Indigenous housing policy.

3.5.3 Housing and health research in the 1990s

During the 1990s, housing and health research continued to be led by the original Nganampa researchers (medical doctor Paul Torzillo, anthropologist Steph Rainow, and especially architect Paul Pholeros). They produced a case study of Pipalyatjara (Healthhabitat 1999) involving evaluation of household health hardware, but which also developed a methodology of data recording, testing and maintenance of such hardware (Also see Groome & Pholeros 1997). By the close of the decade, Pholeros had drafted the “National Indigenous Housing Guide” produced by the Commonwealth Department of Family and Community Services, which has since undergone a further edition (Healthhabitat 1999, Aust. Dept of FaCS 2003).

3.5.4 Aboriginal domiciliary behaviour and related housing needs research in the 1990s

More in-depth ethnographic studies of domiciliary behaviour were carried out in the 1990s by postgraduate researchers. Finlayson (1991) completed an anthropological study of Kuranda households, their structure, mobility and economics, whilst ethno-architectural studies of self-constructed camp environments were carried out at Yuendumu/Nyirripi and Goodooga by Cathy Keys (1999) and Stephanie Smith (1996) respectively of the AERC.

Although we have generally excluded the topic of Indigenous homelessness from the current analysis, the literature on homelessness contributes to the ‘needs’ definition of Indigenous housing. It is therefore worth mentioning that this research theme emerged (in terms of publications) in the late 1990s with the appearance of two successive issues of *Parity*¹⁹, the journal of the Council to Homeless Persons, which has continued such specialized editions into the 2000s.

3.5.5 Housing management research and the generation of new research topics in the 1990s

In late 1992, ATSIC developed an interim Community Housing and Infrastructure Program (CHIP) that for the first time in Aboriginal housing policy history, recognized the necessity to support Aboriginal housing management services. Importantly this program also acknowledged that rent collected from a disadvantaged client group was inadequate to cover these costs in many circumstances. (Memcott 1993:6.)

A key event in this decade was “The Indigenous Australians Shelters Conference” held in Brisbane in 1993 which generated a large diverse set of bound papers (ATSIC 1994) from a spectrum of government policy makers, State housing Authorities, Indigenous housing organizations as well as a few professional researchers. For the first time publications, albeit short and not necessarily with strong evidence base, are seen on such topics as Aboriginal building companies, the national profile of the Indigenous housing stock, national housing needs, national funding allocation on Indigenous housing, Aboriginal hostels, housing insurance, tenancy management training, as well as on more regular themes such as housing design and alternate technology.

There are also papers on aspects of mainstream housing that bravely attempt to reach out in an exploratory way to the Indigenous housing sector, albeit with limited

¹⁹ See Vol. 11, Issue 4, May 1998 and Vol. 12, Issue 3, April 1999 of *Parity*.

practical success in engaging with its complex issues e.g. on housing finances, home ownership, training, co-operative housing, owner-builders, equity housing, caravan parks, aged care, private rental access and, tenancy law. However these papers set the agenda for later work in the post-2000 period.

A key value of these proceedings is the snapshot of grassroots Indigenous housing management perspectives from across Australia; the first time a collection of Indigenous perspectives from community housing organizations has been compiled on Aboriginal housing issues.

At the end of the 1990s, Ross (2000:13) summarized the limited findings from research on Aboriginal perceptions of living in houses, noting that the degree of importance of a house varies from group to group and household to household, and identifying important lifestyle factors as location, rent, rental agency; visitation and extended household; gendered perspectives; and stress from mixed cultures in urban areas.

3.6 Summary

At the end of the 1980s, Memmott observed that design knowledge of Aboriginal housing had emerged as a specialized sub-discipline of architectural research due to the many cross-cultural differences that need to be considered and addressed (Memmott 1989).

During the 1990s Aboriginal housing research was largely restrained within the thematic areas defined in the earlier decades, but became more intense in its depth of inquiry and quality of outcomes. At the same time new themes were generated but for the most were not pursued in any rigorous manner by researchers. An exception is Sanders' research on government housing policy.

In 2000 Sanders noted two cultural traditions of housing in parallel and interacting, Aboriginal traditions had transformed but still existed side by side with Western housing norms (Sanders 2000:238).

Definitions of the 'Aboriginal housing problem' in the pre 2000 period included (a) the poverty cycle theory whereby housing is linked to health, education and employment (1970s), (b) a broadened problem definition that included government policy and capacity, limited design types, discrimination in rental housing sectors, and the lack of suitable land tenure (1980s), and (c) a health-related focus whereby both physical and mental health can be linked to many of the problematic housing circumstances contained under (a) and (b) (1980s). By 2000, Ross had defined Indigenous housing as embracing all aspects of spatial existence.

Strong research themes in this period were traditional Aboriginal domiciliary behaviour and related housing needs, housing and health, case studies of design types and professional consultation methodology. These research strengths and the methods employed suggest a theoretical basis in the field of people-environment studies. Consistent research topics, if not tackled as in-depth as the previous, were Indigenous housing policy analysis, housing management, methods of housing delivery and national housing stock assessments. Emerging research topics in the 1990s were national funding allocation method for Indigenous housing, home ownership, Indigenous training in the housing sector, co-operative housing, private rental access and tenancy law, and the Indigenous perception of the housing experience.

It is to be noted that almost all of the research mentioned in this chapter pertained to rural urban and remote contexts with negligible attention to the more densely

urbanized regions of eastern, south-eastern or south-western Australia.²⁰ A major research gap was the failure to investigate rental housing in regional centres, coastal towns and metropolitan centres (Ross 2000:11).

The disciplinary base of the Indigenous housing research during 1970-1999 was a combination of architectural, planning, anthropological and environmental psychology.

Very few writings were produced on housing issues by Indigenous authors that could be classified as research per se, although influential papers with critical Indigenous perspectives were produced by Belleair (1976), Shaw (1977, 1993) and by the various contributors to "The Indigenous Australians Shelters Conference" (ATSIC 1994).

²⁰ One exception is the work of G. Morgan (1998, 1999, 2000).

4 CHARACTERISTICS OF THE AUSTRALIAN INDIGENOUS HOUSING LITERATURE 2000-2006

4.1 Introduction

This chapter reports on the characteristics of the Australian Indigenous housing literature reviewed in this project that was published between 2000 and 2006. The aim of the chapter is to identify strengths and gaps in the disciplinary, methodological, geographic, and cultural characteristics of the literature. The chapter considers each of the eight identified characteristics of the literature in turn: disciplinary background of the authors in the literature, methods used in the literature, places or settlements in the literature, language groups in the literature, regional representation in the literature, states/territories in the literature, settlement type(s) in the literature, and remoteness classification(s) in the literature.

4.2 Authorship of the 2000-2006 literature by their disciplinary background

A characteristic of the post 2000 Indigenous housing literature is the diversity of disciplines or backgrounds of the authors. The disciplines of architecture, anthropology, economics, health, and authors with a background in government dominated the literature reviewed.²¹ The disciplines ranked from highest to lowest frequency of authorship of the publications reviewed were:²²

1. architecture,
2. anthropology,
3. economics, health, and government,
4. social work,
5. housing administration,
6. statistics, technology (environmental and appropriate technology), urban studies, and planning, (8) history,
7. geography, engineering, science, public policy, and program evaluation,
8. education, hydrogeology, product design, interior design, landscape architecture, and renewable energy,
9. quantity surveying, veterinary science, social/market research, building profession, law, librarianship, and linguistics.

Researchers with a background in architecture produced more than twice as much research as the next most prolific discipline. A significant contribution to the body of literature by architects was the *Take 2: Housing Design in Indigenous Australia* edited by Memmott and Chambers (2003). This book provided 13 contributions to the literature. A major contribution to the body of literature from the discipline of architecture came from the Aboriginal Environments Research Centre (AERC), its director Paul Memmott and research assistants and post-graduate students including Long, Keys, Fantin, O'Rourke, Smith, Eckermann, and Chambers. As Memmott is an

²¹ In some instances it took some effort to discover the disciplinary background of authors. Perhaps within the AHURI research documents it would be useful to include short researcher biographies. Where the disciplinary background of the authors of government publications was unclear their background was described as 'government'.

²² Where a number of disciplines are grouped together they had equal representation in the literature.

architect and anthropologist his work also accounts for most of the post-2000 literature by anthropologists. Other significant architectural contributors to this body of literature were Paul Pholeros and Sue Groome.

In 1988 Memmott called for greater inclusion of Indigenous people in the housing process:

It is essential to educate and involve Aboriginal people in the provision of their housing, at least to the extent that they can appreciate the process of design, delivery and manufacture of housing so that they can exercise control over key decisions in all of this process (Memmott 1988:45).

In 2004 Memmott (2004:48) again noted the low number of Indigenous architecture graduates as an indicator of slow progress in this area. While numerous Indigenous people have contributed to the 2000-2006 Indigenous housing literature as research assistants and participants²³ there were only a small number of Indigenous people that contributed to the literature as authors. Of these only a very small number can be considered specialist housing researchers (for example Fred Spring and Gary Jones). The Indigenous authors in the 2000-2006 literature include Spring (see Jardine-Orr et al 2003, 2004; Memmott et al 2003, 2004), Holt (Moran et al 2001, 2002), Go-Sam (Memmott & Go-Sam 2003), Tripcony (2000), Price (2000), Little (2000), Kombumerri (James et al 2003), Solonec (2000), and Jones (2000).²⁴ The capacity of Indigenous housing researchers will be enhanced by AHURI funded graduate positions for Aboriginal or Torres Strait Islander people who wish to pursue housing research. This raises a significant question for universities, the AHURI network and government agencies to consider, why is there such a lack of Indigenous authors of Australian Indigenous housing research? In the New Zealand literature there are calls for the development of Māori research expertise (BRCSS 2005).

4.3 Methods used in the 2000-2006 literature

There are four dominant research methods that characterise the post 2000 Indigenous housing literature, these being (1) literature analysis, (2) questionnaires/interviews, (3) practice based research/action research, (4) quantitative surveys. Literature analysis was used most commonly across the post 2000 literature (40% of publications). Around 15% of the research reviewed relied solely on literature analysis (e.g. Neutze 2000; Thompson 2004) with the remaining cases using literature in combination with other methods (e.g. Cooper & Morris 2005). Questionnaires, interviews, and surveys were the next most commonly used method (e.g. Finlayson 2000; Davis 2003). The AHURI publications are characterised by literature analysis in combination with surveys/interviews (e.g. Jardine-Orr et al 2004). A feature of the post-2000 housing research is that a significant proportion of it is conducted as action based or practice based research, this is particularly the case for research concerned with the design and delivery of housing (e.g. Groome & Pholeros 2000a, 2000b, 2000c; Barker 2003; FaCS 2003) but it is also a method used in research concerned with housing management (e.g. Price 2000; Walker & Ireland 2003).

Other methods commonly used include consultation (user groups, stakeholders and others) (e.g. IHANT 2005), ethnography (Smith 2000), qualitative analysis (e.g. Flatau et al 2005), and case studies (e.g. Memmott et al 2006). The ethnographic technique most commonly used was observation/ participant observation and it features in the

²³ What is the value of the in-kind support that Indigenous community organizations, households and individuals have contributed to housing research in the 2000s?

²⁴ It is possible that we may have inadvertently overlooked Indigenous authors and researchers and apologise in advance for any omissions.

work of anthropologists (Musharbash 2003; Morphy 2004) and architects (Memmott et al 2000; Keys 2003).

Methods used less commonly were longitudinal studies (e.g. Smith 2000), participatory design (e.g. Haar 2000), production or analysis of measured drawings (e.g. Keys 2003), economic analysis (e.g. SGS 2004; Jardine-Orr 2005), public submissions (e.g. SCATSIA 2001), and reflective methods (e.g. Little 2000).

Some of the 2000-2006 reviewed literature illustrates the potential of methods that are not currently in widespread use. Firstly the method of making drawings of the way people use environments, or of the environments they build for themselves, can be used to document and understand preferred domiciliary behaviours and environments (see Smith 2000, Keys 2003, Musharbash 2003, Long 2005).²⁵ The second method is one of reflection by Aboriginal and Torres Strait Islander people on their housing experiences. Little's (2000) autobiography of housing experiences provides a unique insight of an Aboriginal experience of housing pathways but it also provides a parallel insight to the history of Aboriginal housing in a particular part of Australia.

4.4 Places or settlements in the 2000-2006 literature

Just under half of the post 2000 literature aligns (in an obvious way) the relevance of the research to particular places or settlements or draws on research conducted in specific places (e.g. Rowse 2000, Walker et al 2003a, Memmott et al 2000). The remaining body of literature does not make reference to particular places or settlements; this includes some cases where the literature is nonetheless based on place-specific data/research (e.g. SCRGSP 2006, Wigley & Wigley 2003, Groome 2003, ARUP 2000, Booth & Carroll 2005). Over one hundred places are named in the post 2000 Indigenous housing literature (see Figure 2 in the appendices). Of these only a small number are detailed case studies. By way of contrast Heppell (1979:4) identified thirty-three places that were the subject of research within the one book, *A Black Reality* (see Figure 3). Places that feature in the 2000-2006 research are Brisbane, Cherbourg, Alice Springs, Yuendumu, Adelaide, Galiwin'ku, Katherine, and Geraldton but the numbers of publications involved for each place is not high. Brisbane had the highest number of publications for one place (11 publications) but these numbers were inflated by three projects each producing three publications. Alice Springs had fewer publications than Brisbane but a greater diversity of authors and research projects. However the majority of the places in the literature appear in four or less publications and in fact most (over 60%) only appear once in the literature. Overall then there is some diversity of places referred to in the post 2000 literature however with only a relatively small number of detailed studies concerned with the 1200 discrete communities and numerous other locations of Indigenous housing it is not possible to argue that the literature is highly place specific. Of significance is the disproportion of literature pertaining to major cities, which contain comparatively high populations. With the exception of Brisbane there are relatively few publications for Sydney, Melbourne, Adelaide, Perth and Darwin. It seems that further detailed case studies of the housing circumstances of particular places or settlements is required.

²⁵ Several of these authors have also made use of photography. As one of a numerous studies conced with urban Aboriginal housing in Saskatoon, Canada Anderson (2004) undertook a major photographic survey of housing documenting housing types, housing conditions, Aboriginal lifestyles, and Aboriginal infrastructure in the city. A photographic archive of Indigenous housing typologies would be very useful in the Australian context.

4.5 Regional representation in the 2000-2006 literature

The post-2000 literature is comprised of both research that is of national significance and research that is relevant to specific regions. Just under half of the post 2000 literature can be defined as of national significance being either a national survey (e.g. ABS 2001a), a national overview (e.g. AIHW 2005a, 2005b, Read 2000a), a nationally significant issue, or in some instances because they are broad in scope or the authors have not drawn attention to the geographic relevance of the research (e.g. Pholeros 2003). Some of the research is clearly nationally significant and at the same time significant to specific regions. Much of the AHURI research falls into this last category drawing on case studies from particular regions to investigate nationally significant housing issues (e.g. Jardine-Orr et al 2004).

In parallel to its national characteristic the post 2000 research has a unique regional focus. Such literature draws on case studies or examples from particular regions, or is relevant to all regions within a State or Territory (e.g. Memmott et al 2006; Keys 2003; Wells 2000; Smith 2000). The literature is dominated by research that is relevant to Central Australia (circa 40 publications), Arnhem Land (35 publications) and the Western Desert (circa 25 publications). However it should be noted that the body of research for these regions is by no means exhaustive.

There is a second band of literature with a medium level of publications per region; this includes publications associated with Cape York Peninsula (14 publications), South-east Queensland/ Moreton Bay (14 publications), the Pilbara (11 publications), and southwest Western Australia (10 publications). A third band of literature exists for which it appears that negligible housing research was published between 2000 and 2006. Regions that fall within this last category are (in order of highest number of publications to lowest): North-west Queensland and Wellesley Islands, Burdekin & Belyandu River Basins, Kimberleys, South-east Coastal Region, Torres Strait Islands, South-west Queensland, Burnett & Mary River Basin, Darling River Basin, Coorong and Portland region, Fitzroy & (Lower) Dawson River Basins, Spencer and St Vincent Gulf region, Central Highlands Sandstone Belt, Tasmania, Lake Area of South Australia, and the Northern Rivers District.²⁶ These second and third bands of regions represent gaps in the Indigenous housing research.

Of particular note is the negligible amount of housing research that is concerned with the Torres Strait Islands. The Torres Straits is a unique cultural region with its own sub-regions and diversity between the numerous Island communities (see Gadke 2001). For the 2000-2006 period we were only able to readily access six publications concerned with the Torres Straits, although we are aware that further research has been conducted during this time including technical surveys and surveys that are incorporated into national data sets. A further important consideration is that there is a large Torres Strait Islander population living in diaspora on the mainland; there are around 6000 Torres Strait Islanders living in the Torres Straits and an estimated 43 000 living outside of the Torres Straits and mostly within Queensland (ABS 2001b:24,68, Beckett 1994:1092, Taylor and Arthur 1993). Yet although some research may be directed at Aboriginal people and Torres Strait Islanders, no housing research in the 2000-2006 period has specifically investigated Torres Strait Islander housing outside of the Torres Straits and in particular in urban areas. Thus the 2000-2006 Indigenous housing research is predominantly concerned with Aboriginal housing and Torres Strait Islander housing appears to be a neglected area of research.

²⁶ These are the regions L, Y, K, T, I, S, B, D, J, M, G, H, T, E and R of the AERC regional map division.

A regional approach to Indigenous housing is highly important. Indigenous groups in Australia are not culturally homogeneous nor are their housing circumstances and needs. There exist commonalities and differences between the regions of Indigenous Australia on account of cultural diversity (including differences in Architectural traditions, domiciliary behaviour, and customs), differences in contact history (including differences in housing histories – differences in housing types and time depth of housing history) and differences in climate and topography. Within the housing literature there is a clear argument for a regional approach to housing research that considers the unique circumstances of different cultural groups (discussed further in Chapter 7) (see Memmott 2003). The need for research concerned with specific cultural regions is in contrast to the Australian non-Indigenous housing literature that assumes cultural homogeneity.

4.6 Language groups that feature in the 2000-2006 literature

The Indigenous language groups of Australia are another type of regional unit that can be used to assess the degree to which the literature is culturally specific. Twenty-five language groups were mentioned in the post 2000 literature reviewed. Examples include research concerned with the Warlpiri (Keys 2000a, 2000b, 2003; Musharbash 2003), Anangu Pitjantjatjara (Lee & Morris 2005a, Planning SA 2000, Plazinska 2001, Walker & Ireland 2003), Yolngu (Fantin 2003a, 2003b, Memmott & Chambers 2002), and Lardil (Memmott 2000). However most of the language groups only appear in the literature once. There are no language groups that feature strongly in the literature. The research does not seem to be language group specific and this may be taken as an indication that it is not culturally specific. The failure of the literature to be culturally specific suggests a general perception that housing traditions, circumstances, preferences and needs are homogeneous across the different cultural groups of Indigenous Australia. This is perhaps reflected in a failure to adequately address cultural appropriateness in the design of housing and to adequately respond to culturally specific domiciliary behaviour.

Table 4: Language groups that feature in the 2000-2006 literature

<i>Language Group Mentioned</i>	<i>References</i>	<i>Language Group Mentioned</i>	<i>References</i>
Arrernte	Rowse (2000)	Lardil	Memmott (2000)
Warlpiri	Keys (2000, 2003); Musharbash (2003)	Yangkaal	Memmott (2000)
Anangu Pitjantjatjara	Lee & Morris (2005a, 2005b); Planning SA (2000); Plazinska (2001); Walker & Ireland (2003), Pholeros et al (2000)	Kaiadilt	Memmott (2000)
Ngaanyatjarra	Lee & Morris (2005a)	Ganggalida	Memmott (2000)
Yolngu	(Fantin 2003a, 2003b; Memmott & Chambers 2002)	Miriam	Gadke (2001)
Rembarrnga	Haar (2003)	Kala Lagaw Ya	Gadke (2001)
Larrakia	Wells (2000)	Saibailaig	Gadke (2001)
Woolna	Wells (2000)	Kaurareg	Gadke (2001)
Injiladji	Logan (2003)	Kulkalaig	Gadke (2001)
Wakaya	Logan (2003)	Kurnai	Attwood (2000)
Warumungu	Logan (2003)	Wiradjuri	Read (2000b)
Warluwarra	Logan (2003); Long (2005)	Yamaji	Little (2000)

4.7 State/Territory representation in the 2000-2006 literature

The majority of the Indigenous population lives in New South Wales (29% of the total Australian Indigenous population), Queensland (27%), Western Australia (14%), and the Northern Territory (12%) (See Table 4 below and AIHW 2005a:7). NSW has the highest number of Indigenous Community Housing Organisations (ICHOs) (203) followed by Western Australia (125), Queensland (116), and the Northern Territory (111) (ABS 2002:5). The Northern Territory stands out as the jurisdiction with by far the most post-2000 publications that are relevant to that jurisdiction (around 50 publications) (e.g. Runcie & Bailie 2000; Memmott 2001; Territory Health 2001). Following the Northern Territory is Queensland (30) (e.g. Moran et al 2000) and Western Australia (20) (e.g. Ove Arup et al 2000). These are followed by South Australia (12) (e.g. Planning SA 2000), New South Wales (8) (e.g. Balding et al 2005), Victoria (3) (e.g. Attwood 2000), and Tasmania (1) (Price 2000). No literature was identified that specifically addressed Indigenous housing issues in the Australian Capital Territory. If one assumes that there should be a relationship between the size of the population (and/or the number of ICHOs) of a jurisdiction and the housing research output of that jurisdiction then there appears to be some gaps in the 2000-2006 literature by jurisdiction. Given the significant Indigenous population in New South Wales the number of publications specifically relevant to that jurisdiction appears low in comparison to the other jurisdictions, particularly the Northern Territory. Given that Queensland and Western Australia have higher Indigenous populations than the Northern Territory one might also expect a higher number of publications relevant to those jurisdictions. The high number of publications relevant to the Northern Territory may reflect the fact that it has the highest Indigenous population by proportion (29%). However as we shall see below there are further characteristics of the post-2000 body of research that influence the number of publications relevant to each jurisdiction. These characteristics are settlement type and remoteness classification.

The differences between the jurisdictions in terms of numbers of publications may highlight different approaches to research across the jurisdictions. For example, does the Northern Territory Government place greater emphasis on research and research publications than its New South Wales counterpart? It is important to reiterate that the authors recognise that various jurisdictions are conducting research that has not been published in the public domain.

Reflecting earlier findings, the post-2000 literature is also comprised of research that is relevant to all States and Territories. Just over 40% of the publications in this period were of national significance (e.g. ABS 2002; HMAC 2001; FaCS 2003; Hall & Berry 2004; AIHW 2005a, 2005b).

Table 5: Percentage of publications relevant to each jurisdiction in comparison to size and proportion of the Indigenous population. (Estimated resident population 2001 (ABS 2001b:24))

	<i>Aboriginal</i>		<i>Torres Strait Islander</i>		<i>Aboriginal + Torres Strait Islander</i>		<i>Non-Indigenous</i>		<i>Indigenous proportion</i>	<i>Publications</i>
	<i>Total '000s</i>	<i>% of total Australian Aboriginal pop.</i>	<i>Total '000s</i>	<i>% of total TSI pop.</i>	<i>Pop. '000s</i>	<i>% of total Australian Indigenous pop.</i>	<i>Pop '000s</i>	<i>% total Australian non-Indigenous</i>	<i>% of Indigenous to non-Indigenous by jurisdiction</i>	<i>% of 2000-2006 publications surveyed that are relevant²⁷</i>
NSW	130.5	30.3%	8.7	17.8%	135.3	29.4%	6609.3	33.9%	2.0%	5%
Vic	26	6.0%	3.1	6.3%	27.9	6.1%	4822.7	24.8%	0.6%	2%
Qld	107.5	25%	28.7	58.6%	126	27.4%	3635.1	18.7%	3.5%	20%
SA	24.8	5.8%	1.4	2.9%	25.6	5.6%	1514.9	7.8%	1.7%	8%
WA	65.1	15.1%	2.5	5.1%	66.1	14.4%	1906.1	9.8%	3.5%	13%
Tas	16.1	3.7%	2.4	4.9%	17.4	3.8%	472.9	2.4%	3.7%	0.5%
NT	56.9	13.2%	1.9	3.9%	57.6	12.5%	200	1.0%	28.8%	33%
ACT	3.8	0.9%	0.3	0.6%	3.9	0.8%	321.7	1.7%	1.2%	0%
Aus	430.8	100%	49	100%	460.1	100%	19025.1	100%	2.4%	43%

²⁷ Percentages add up to greater than 100% as some of the literature is relevant to more than one jurisdiction.

4.8 Settlement types in the 2000-2006 literature

A full range of settlement types appear in the post-2000 housing literature.²⁸ However it seems that the focus of the research is discrete settlements (e.g. Harris 2000; Territory Health 2001; ABS 2002; Fletcher & Bridgeman 2000; Moran et al 2002). Memmott and Moran (2001) had a similar finding in their analysis of the national Indigenous settlement literature. A significant number of publications are relevant to the category of 'outlying discrete settlements', for example the *National Indigenous Housing Guide* (FaCS 2003). However there are few case studies of housing in this settlement type (see Scally 2003; Haar 2003; IHANT 2004; Altman 2006). Whilst a number of publications are relevant to 'discrete urban settlements' there are very few case studies of discrete urban housing (exceptions are Wells 2000; SCATSIA 2001; Dillon & Savage 2003; and James et al 2003). In 2001 there were 1216 discrete Indigenous communities in Australia with the majority located in the Northern Territory (52%), and the remaining distributed as follows: Western Australia (23%), and Queensland (12%), South Australia (8%), New South Wales (5%), Victoria (0.16%), and Tasmania (0.08%). There were no discrete communities in the ACT. The ranking of the jurisdictions in terms of number of relevant publications reflects this ranking of jurisdictions by number of discrete communities. The post 2000 literature is dominated by research concerned with discrete communities. (ABS 2002:13,14.)

Whilst national literature such as AIHW (2005) is relevant to 'dispersed settlement in urban areas' there were only a small number of case studies of housing in such settlement types (examples are SCATSIA 2001; Memmott & Eckermann 2001; Victoria 2002; Hansen & Roche 2003; Sanders 2005; Flatau et al 2005). Similarly whilst a number of national publications are relevant to 'dispersed settlement in rural areas' (e.g. Neutze et al 2000) there are few case studies of housing circumstances in such settlement types (examples are Finlayson et al 2000; Memmott et al 2003; Thompson 2004). A significant proportion of the Indigenous population lives in urban areas in either discrete or dispersed settlements there is thus research on housing within such settlements is highly important. This may become increasingly so should government policies concerned with discrete settlements in remote Australia trigger migration towards urban centres.

In camps Indigenous people create their own environments (self-built), maintain architectural traditions, and maintain and enact customary domiciliary behaviour. Yet camps rarely appear in the housing literature. Why is this? It seems that such environments are discounted or disregarded by much housing research as they are viewed as substandard or inadequate. For example the AIHW makes the following assertions regarding 'improvised dwellings' in the context of indicators to measure the progress of the BBF plan:

Improvised dwellings are inadequate dwellings and in most cases do not meet the standards required to support healthy living practices. There is a strong correlation between inadequate housing and poor health outcomes. (AIHW 2005b:6.)

An improvised dwelling is defined as a structure used as a place of residence which does not meet the building requirements to be considered a permanent dwelling. This includes caravans, tin sheds without internal walls, humpies and dongas. Permanent dwellings are buildings designed for people to live in, with fixed walls, a roof and doors. Dwellings were not considered permanent

²⁸ In the case of publications of national significance such as reports from the Australian Bureau of Statistics (2001) we considered the publication to be relevant to all settlement types except camps.

unless they had internal walls dividing the living space into separate rooms. (AIHW 2005b:6.)

Yet there are significant numbers of improvised dwellings, for example the Northern Territory Government Reports the existence of 757 improvised dwellings, this compares with over 6000 houses provided by housing agencies (NTSLGHS 2006). In contrast to the AIHW's position a number of researchers recognise that improvised dwellings in camps may be culturally appropriate as such dwellings can draw on architectural traditions and support preferred patterns of domiciliary behaviour. The approach of many of these researchers can be traced to the influence of the research of Hamilton (1972), then Heppell (1979) and later Memmott (e.g. 1988). Case studies of camps and 'improvised dwellings' include Keys (2000, 2003), Smith (2000), Musharbash (2003), and Long (2005). By observing the environments people create for themselves one can more fully understand and appropriately respond to their housing needs (see Heppell 1979). Memmott (2003) calls this approach the 'cultural design paradigm' whereas Long (2005:181, 370) describes this as a cultural heritage approach to Indigenous housing. The requirement to study camps and self-built architecture was reinforced by Neutze et al (2000:16) in their work on a multi-measure approach to Indigenous housing need. They warned that their multi-measure approach is limited by a poor understanding of need in terms of cultural appropriateness and that many of the indicators of need were drawn from non-Indigenous values that Indigenous people may not share or aspire to (see also AIHW 2005a:66). The failure to engage with Indigenous camps and self-built architecture represents a significant omission from the post-2000 literature. A continuation of the perception that improvised dwellings are inadequate may contribute to an ongoing failure in the literature to engage with Indigenous architectural traditions and domiciliary behaviour.

Table 6: Representation of settlement types in the 2000-2006 literature

<i>Settlement type</i>	<i>% of 2000-2006 publications surveyed that are relevant²⁹</i>
1. <u>Discrete Settlements</u> that are generally separate or bounded from other centres and often referred to as 'communities'	66%
2. <u>Discrete Urban Settlements</u> that usually comprise an enclave or precinct within a rural town or regional city (they usually have origins as a 'fringe settlement', town camp, ration depot or mission on the periphery of a town)	47%
3. <u>Outlying Discrete Settlements</u>, consisting of outstations or homelands which are small family-based settlements often located on traditional Indigenous countries, 'estates' or 'homelands' (and usually associated with a return to country from a larger settlement)	43%
4. <u>Dispersed Settlement in Urban Centres</u>, a high proportion of the Indigenous population live in housing dispersed through regional centres	48%
5. <u>Dispersed Residence in Rural Centres</u>, a high proportion of Indigenous people live in smaller rural towns	39%
6. <u>Camps</u>, 'un-official' and often un-serviced settlements, including temporary and perennial camping places.	12%

²⁹ Percentages add up to greater than 100% as some of the literature is relevant to more than one settlement type.

4.9 Remoteness classification of the 2000-2006 literature

The 2000-2006 Indigenous housing literature is dominated by research concerned with remote and very remote Australia. In 2001 of the 1216 discrete communities 1030 were located in very remote Australia and 109 were located in remote Australia. Nonetheless within very remote and remote Australia there are gaps in the research, for example there is little research on housing in the Torres Straits (see Figure 4 in the appendices).

A significant number of publications were relevant to all of the remoteness categories. Such research includes the housing chapters in the annual Reports on Government Services (SCRGSP 2005, 2006). Other research relevant to all classifications includes the work of Neutze et al (2000), HMAC (2001), NTCDSACA (2004), AIHW (2005), Rogers et al (2005) and Sanders (2005). The table below indicates a significant number of publications relevant to major cities however this is slightly misleading as a number of these are nationally significant publications. Nonetheless, there are important case studies of Indigenous housing in major cities (e.g. SCATSIA 2001; Memmott & Eckermann 2001; Tripcony 2000; Victoria 2002; Memmott et al 2003; Walker et al 2003b, Walker & Ireland 2003; Walsh 2003; Cooper & Morris 2004; Sanders 2005).

If one assumes that there should be a relationship between the size of the population of a remoteness category and the housing research output associated with that category then there appears to be some gaps in the 2000-2006 literature according to remoteness. In proportion to population it appears that major cities, inner and outer regional Australia are under represented in the 2000-2006 housing literature.

The remoteness characteristic of the 2000-2006 research reflects the focus of housing constructed under the first Commonwealth-State funding arrangements some thirty years earlier. Writing of this period, Jeremy Long (2000:107) observed:

In New South Wales, about one-third of the houses in the early years were built in the Sydney-Newcastle-Wollongong area and the rest in 'country centres', with a concentration in north-western towns...whereas in Victoria all the building occurred in country towns...In Queensland, virtually all the building was done in the north, in the reserves and large provincial centres...and not in Brisbane. In South Australia, the first program was entirely devoted to country and reserve communities, but by 1971 Adelaide was getting some attention. In Western Australia, all of the regions figured in the first program and by 1971 between a quarter and a third of the houses were being provided in Perth.

Heppell (1979:4,5) illustrated the remote focus of *A Black Reality* by mapping the places mentioned in the text against Rowley's "colonial" and "settled" areas" of Australia. It is noteworthy that the overwhelming majority of discrete communities lie north of Rowley's 'line' yet there are substantial areas of remote and very remote Australia that are south and east of Rowley's line (see Rowley 1971:377; ABS 2002:97). The anthropologist Peterson describes the area south of Rowley's line as "settled" Australia and those areas to the north as "remote" Australia and an Aboriginal domain (Peterson 2004:225, 236). These are alternative definitions of remoteness; they have less to do with the concepts of remoteness related to service accessibility that inform the ARIA classification, and more to do with the history of Indigenous and non-Indigenous relations in Australia including contact history,

displacement, Aboriginal land rights, the development of settlements etc. Peterson (2004:225) observes:

In geographically remote parts of Australia the former Aboriginal reserved lands, which are now Aboriginal lands, have greatly facilitated the maintenance and reproduction of largely separate arenas or domains of social life... Although there is an element of resistance in the maintenance of these domains by Aboriginal people, the separation was initially imposed on them by state legislation...

Therefore it seems that the ARIA remoteness categories alone do not fully explain the focus of the literature. As with the case studies in *A Black Reality*, the 2000-2006 literature is concerned with the area Rowley describes as “colonial” Australia and which Peterson describes as the Aboriginal domain.

Table 7: Representation of the literature and numbers of discrete communities in each remoteness category

<i>Classification</i>	<i>Access to services</i>	<i>Estimated population 2001 (ABS 2003)</i>	<i>% of 2000-2006 publications surveyed that are relevant³⁰</i>	<i>Number of discrete communities (ABS 2002:13)</i>
Major Cities of Australia	Minimal restriction	138 494 (30.2%)	37%	5
Inner Regional Australia	Some restriction	92 988 (20.3%)	32%	19
Outer Regional Australia	Moderate restriction	105 875 (23.1%)	48%	53
Remote Australia	High restriction	40 161 (8.8%)	59%	109
Very Remote Australia	Highest restriction	81 002 (17.7%)	73%	1030
All categories		458 520	26%	1216
Not stated/unclear			8%	

4.10 Summary

The 2000-2006 Australian Indigenous housing literature reviewed in this project is characterised by the following key features. The authors in the literature are mostly aligned with the disciplines of architecture, anthropology, economics, health and government. There were only a small number of Indigenous people that contributed to the literature as authors. There are four dominant research methods that characterise the literature, these being (1) literature analysis, (2) questionnaires/ interviews, (3) practice based research/action research, and (4) quantitative surveys. Other methods with illustrated potential include ethnography, measured drawings and autobiographies of housing experiences.

Although some of the literature is concerned with specific places or settlements further detailed case studies of the housing circumstances of particular places and settlements is required. Similarly the research does not seem to be language group

³⁰ The totalled percentages is greater than 100% as a number of publications were relevant to more than one remoteness category.

specific and this may be taken as an indication that it is not culturally specific. If there is serious will amongst housing providers to adequately address the issue of cultural appropriateness in the design of housing and the issue of cultural appropriateness in performance measurements then Indigenous housing research must become more culturally specific.

The literature is dominated by research that is relevant to Central Australia, Arnhem Land and the Western Desert. Furthermore the literature is predominantly concerned with Aboriginal housing. These strengths in the research also reveal weaknesses or gaps in the literature, there are many regions of Aboriginal Australia that are neglected in the research and the Torres Straits and Torres Strait Islander housing as a whole appears to be a neglected area of research. Greater emphasis on a regional and culturally specific approach to Indigenous housing research is required.

The literature relevant to each jurisdiction is not proportionate to the Indigenous population size of the jurisdictions. Instead the publication output relevant to each jurisdiction is proportional to the number of discrete settlements in the jurisdictions. This focus on jurisdictions with a high proportion of discrete settlements is a research strength that reveals a weakness in the literature, that is, a failure to adequately engage research in jurisdictions with high Indigenous populations.

The post 2000 literature is dominated by research concerned with discrete communities. Again, this focus is a research strength that reveals a research gap, that is, a failure to adequately engage research in the full range of settlement types and particularly those with high Indigenous populations.. An increase in Indigenous housing research concerned with discrete and dispersed urban settlements is required. Should changes to funding arrangements for remote discrete communities produce a migration trend from remote to urban settlements then the need for Indigenous urban housing research will be further heightened. At the same time the failure to engage with Indigenous camps and self-built architecture represents a significant omission from the literature. Greater engagement with the full range of settlement types is required

Lastly, despite the relative high Indigenous population in major cities of Australia the literature is dominated by research concerned with remote or very remote Australia, or what has been referred to as the 'Aboriginal domain'. Greater attention to Indigenous housing circumstances in the full range of remoteness categories is required.

How to respond to the identified gaps in the characteristics of the literature? The most productive response would be a continuation, if not a strengthening, of the current research effort in remote and very remote Australia while simultaneously developing a program of research concerned with other areas. One way to achieve this is to make detailed comparisons between housing circumstances in various remoteness categories, settlement types, and regions. Another way to respond to these gaps is to develop regional Indigenous housing research strategies and approaches.

This chapter has provided an overview of the strengths and gaps in the disciplinary, methodological, geographic, and cultural characteristics of the post-2000 literature. From this position it is now possible to more fully consider and understand the significance of the research themes that are identified and discussed in the following chapter.

5 THEMES OF THE AUSTRALIAN INDIGENOUS HOUSING LITERATURE 2000-2006: HOUSING DEFINITIONS AND MICRO-ISSUES

5.1 Introduction

The aim of this chapter is to identify strengths and gaps in the research themes represented in the 2000-2006 Indigenous housing literature. The chapter commences with an examination of the recent definitions of 'housing' in the Indigenous sector and how they influence the focus of research. The chapter then reports on one of two broad categories of research themes of the Australian Indigenous housing literature reviewed in this project and published between 2000 and 2006. This broad category of research directly examines Indigenous living environments or what might be described as the 'micro-issues' of Indigenous housing. 'Micro-issues' deal with the scale of the house and settlement, both in terms of use by residents in their day-to-day behavioural patterns and in relation to design and physical attributes. Seven of the twenty-six research themes initially identified in the analysis (see Chapter 2) constitute this broad category these being occupation and use of housing, domiciliary composition and household size, user groups, mobility, design, technology, and home and place. Following the discussion of definitions of housing found in the literature, each of the micro-issue themes is discussed in turn. Within each research theme a range of issues or sub-themes are identified and discussed.

5.2 Definitions of housing in the 2000-2006 literature³¹

A broad characteristic of the 2000-2006 literature is that much of the research does not define what housing is. There seems to be an assumption that the audience of the research, policy makers, government housing authorities, Indigenous housing organizations and Indigenous housing users have a shared understanding of what 'housing' is, and furthermore what 'households' are and how housing is used. Nonetheless a significant number of publications explicitly tackle a definition of housing.

The architect Geoff Barker observes:

Many architectural practitioners believe that housing is a process wherein people can significantly improve their situation on many levels. This happens through people being made the centre of their housing process, determining their own needs, being involved in planning and design, having a role in funding, and implementing the steps toward delivery of appropriate and sustainable living environments. Achieving change requires much more than people being consulted about the type, shape and design of the structure and its surrounding environment. It is about recognising the potential for people to control and manage their own process, and implementing a framework in which this can happen successfully. In recent times there have been some important revisions made to how programs can be implemented more effectively. (Barker 2003:99.)

³¹ It should be noted that this project did not engage with the homelessness literature, within which there is a debate on the meaning of 'home'. Two of the current authors (Memmott & Long) have previously considered definitions of homelessness that are appropriate to the Indigenous sector (see Memmott et al 2003).

While a building itself cannot deliver wellbeing, the product does have the potential to impact negatively if it is poorly designed, constructed and maintained. If the housing process is implemented and managed well then the outcomes can satisfy broad development needs as well as achieving appropriate and sustainable living environments. (Barker 2003:105.)

Similarly the architects Dillon and Savage (2003:41) argue: "...the design of individual houses was often of less significance than the method used to implement the housing program." Jardine-Orr also views housing as a process rather than simply a product, one "which includes the construction, materials management, the maintenance, housing management and other activities associated with Indigenous housing" (Jardine-Orr 2005). The architect Haar (2000) argues that his research "... illustrates the value in allowing remote communities to appropriate their own dwelling experience - to design, construct and take pride in their own homes - to again embrace housing (the verb) as a symbol of the self..." (Haar 2000).

In their analysis of best practice in Indigenous housing Minnery et al adopt a dynamic model of housing: "The method used here to conceptualise best practice in remote Indigenous housing [starts] with a dynamic framework of the production process, treating housing as a dynamic system" (Minnery et al 2000:245).

Fantin (2003a:26) acknowledges the housing process but argues for a focus on housing as culturally appropriate living environment:

The primary concern of this research is not Indigenous housing management or the application of technical standards. It is the relationship between Aboriginal culture, beliefs and practices and the design of living environments in north-east Arnhem Land. For Yolngu living at the settlements of Ramingining and Galiwin'ku, houses that are adequately built, well serviced and repaired regularly are appreciated, but houses that are designed with Yolngu to take into account cultural practices such as avoidance behaviour, environmental surveillance and beliefs in sorcery (amongst other things), push the possibilities of remote area Aboriginal housing design to accommodate and support Aboriginal cultural frameworks. (Fantin 2003a:26.)

Lee & Morris (2005a:1) provide a definition of housing that includes the physical environment of the house, external spaces and community structures as well as the social and cultural environment:

The concept of housing is expanded in this research by the use of the term built environment, which encompasses infrastructure and associated community structures and external built works such as landscaping....The built environment describes a system that encompasses all aspects of the physical environment, including the social, cultural and environmental attributes of places. (Lee & Morris 2005a:1.)

Similarly the NT Environmental Health Standard moves outside of the house and recognises the role of external living environments. It defines housing as (THS 2001:C.2): "...in addition to the building, the surrounding living area that is identified as part of that family's 'home'." The standard defines the living area as: "The outdoor area around a house used for domestic purposes such as sleeping, cooking and eating, storage of household and personal effects, and family congregation" (THS 2001:C.2).

Memmott provides a definition of customary houses that emphasises wider environmental relationships than are usually associated with the western house:

Customary houses or shelters were used like tools to make everyday life more comfortable from inclement weather.....They were not a 'home' in the Western sense of being a permanent structure for physical protection against climate and other physical hazards, to which is also attached personal decorations, colours and symbols...For Aboriginal people, memories and experiences were associated with campsites and other places in the landscape, not with specific shelters which were too many, too similar and too impermanent to provide such a wealth of stable links with the past. The artefactual, behavioural and sensory properties of the Western construct 'house' are best construed in the Aboriginal context to be embedded in and between the domiciliary space and the camp rather than in the shelter per se. (Memmott 2000:33.)

Keys (2000:119) illustrates that differences in understandings of 'house' may exist within communities noting that for the Warlpiri at Yuendumu, housing became associated with *yupukarra*, one of three customary household types: "In the new social and physical contexts of settlement, the house came to be associated with *yupukarra*." *Yupukarra* is a household unit consisting of husband, wife (or wives), children, and visiting relatives. The other household units are single men's households and single women's households (Keys 2000a:119).

The anthropologist Musharbash, who followed Keys at Yuendumu, makes the observation that amongst the Warlpiri a house is part of a wider repertoire of living environments encapsulated by the term 'camp':

The Warlpiri term for the physical structure of a house is *yuwarli*. However, independent of the kind of physical structure they are located in and around, any Warlpiri residence at Yuendumu is called a camp. That is, a camp can be a humpy or a five-bedroom brick house. It is in the sense of residence that I use the term 'camp' throughout this thesis. (Musharbash 2003:41.)

Musharbash (2003:9) argues that the term household is problematic and positions her work, as Fantin and others also do, as an examination of "social practice and how it relates to domestic space (situated within residential structures)..." (Musharbash 2003:12). She makes important observations of the concept of household:

The term household, depending on the purpose of study, may be defined by any one of three different but usually somewhat overlapping criteria:

- household may be dwelling defined
- household may be defined as social units
- households may be purpose defined. (Musharbash 2003:9.)

Memmott provides a broad definition of residential architecture or housing for Aboriginal Australia based on an understanding of traditional camps:

The fundamental elements of residential architecture can be defined as domiciliary spaces, with sub-spaces for particular activities and hearths, and optional shelters. The 'architecture' is initially generated by distinct spatial and cognitive rules and behaviours. The introduction of structure and buildings is dictated by these rules and behaviours, and represents a material extension in response to climatic and social factors. Cultural symbols encoded in physical form may provide another overlay of architectural properties. (Memmott 2000:104.)

Cooper and Morris's observations suggest that there may be differences between genders and between Indigenous communities/groups in understandings of house and home:

The meaning of home to Indigenous people encompasses obligations to extended family and attitudes towards ownership, possessions and disposal of income. It may also differ between and within communities. In this study, it was found to differ between genders, with men seeing it as ownership and women seeing it as a safe place to raise their children. (Cooper & Morris 2004:8.)

Parnell & Seemann stress the need to gain an understanding of the local values of housing:

Experience with housing in desert communities indicates that the living space is where two quite different value systems meet: the values embodied in the mainstream notions of house and the values expressed by desert people in their everyday usage of housing and its related infrastructure. The technology of the house, particularly the funded, standardised, codified version, has an embedded culture of funding, design, construction, usage and maintenance. For desert people, this culture is not always obvious, acknowledged and valued, with substantial discontinuity in understandings of how to manage and maintain their housing. (Parnell & Seemann 2005:340.)

In a marked departure from these culturally sensitive definitions of housing, Hall and Berry (2004,2006) in their study of recurrent and capital expenditure in Indigenous housing, adopt the Productivity Commission's definition of housing that is concerned with tenure types and funding arrangements and which excludes private rentals and privately owned housing:

Indigenous housing: includes public rental housing targeted at Indigenous households and houses which are owned and managed by Indigenous community housing organisations and community councils in urban, rural and remote areas.

Indigenous community housing: in addition to funding under the CSHA, Indigenous housing and housing-related infrastructure is funded through the Community Housing Infrastructure Program. State and Territory governments also provide funding from their own resources." (Productivity Commission in Hall & Berry 2004a:5.)

... Indigenous Housing includes State sponsored Indigenous Housing provided as either public housing to Indigenous Australians, and/ or Indigenous public housing provided by State owned Indigenous Housing Organisations. It also includes Indigenous Housing provided by not for profit Indigenous Housing Organisations, (IHO's)" (Hall & Berry 2004a:5.)

The above repertoire of definitions demonstrate that there are a diverse range of meanings and values associated with Indigenous housing, some generated by the residents and users (as particularly noted in the anthropological studies), and some generated by the researchers, drawing on non-Indigenous constructs. Indigenous housing can be defined rather narrowly, as Hall and Berry do (2004:5), as targeted public housing, state owned and managed Indigenous Housing, or housing provided by Indigenous community housing organisations. However such definitions would exclude housing which more broadly is simply owned, rented, or occupied/used by Indigenous residents. The current authors maintain that it is useful to adopt a broad definition of Indigenous housing by considering it to encompass all aspects of the

production, management, maintenance and occupation of Indigenous living environments. This includes social, behavioural and physical properties of living environments. It includes camps and 'houses'. It includes traditional or self-built architecture and it includes buildings and living environments designed and built by others. It includes internal and external living environments. It includes houses owned by Indigenous people and those rented from either the private market, Indigenous community housing organizations, state owned and managed Indigenous housing, and public housing. The current authors understand Indigenous housing to exist within a complex set of broader environmental relationships. (See Ross 2000:3; Barker 2003: 105; Dillon and Savage 2003:41; Fantin 2003a:26; Hall & Berry 2004a:5; Lee & Morris 2005a:1.)

Arguments for a broad definition of housing also appear in the international literature. Writing on Maori Housing Experiences Waldegrave et al (2006:19-23) observe that there is very little literature on Maori conceptions of housing, nonetheless they also note the position of housing amongst broader environmental relationships and they argue:

The conceptions of land and housing held by individual Maori whānua range widely from traditional views that associate them strongly with whakapapa (genealogy), to those viewing housing as a resource that meets certain security, status, and economic needs without being linked to ancestry. However, it is clear from the literature that models that do not value the social, spiritual, and cultural/historical aspects of housing, as well as the economic and status aspects, are likely to be inadequate when addressing housing expectations and aspirations of Maori. (Waldegrave et al 2006:11.)

From this broad definition of housing we now turn to consider the seven micro-issues of Indigenous housing research commencing with occupation and use.

5.3 Occupation and use of housing

Around 20% of the 2000-2006 literature reviewed is concerned with the occupation and use of housing. This theme area is dominated by the work of architects and anthropologists and a focus of their work is Indigenous patterns of domiciliary behaviour also referred to as culturally-specific socio-spatial behaviours. An overarching intention of much of this work is to investigate Indigenous domiciliary behaviour in order to inform and improve the quality of design of future housing (Memmott & Go-Sam 2003:24). Lee & Morris (2005a) argue for greater use of design consultation processes in which consultants learn about the preferred living practices/domiciliary behaviour of clients. This theme area is closely related to the research theme 'design of housing' (see '5.7 Design of housing' below).

5.3.1 Externally orientated behaviour

A sub-theme of research in this area is the external orientation of Indigenous people and Indigenous preferences for externally orientated living environments (Smith 2000; Keys 2000b; Memmott 2003; Dillon & Savage 2003:41,42; Keys 2003; Kirke 2003). For example Dillon & Savage (2003:41,42) observe:

Aboriginal people in Central Australia tend to live around their houses rather than in them. This allows them to: maintain close contact with activities occurring throughout the camp, benefit from breeze and sun, use traditional campfire cooking methods, gather informally in large groups, supervise playing children, engage in activities such as painting or carving, sleep in comfort under a shade structure or next to a fire and accommodate visitors.

However most studies of externally orientated domiciliary behaviour are concerned with remote and very remote settlements. Do households in major urban centres or in cooler climates have a preference for external living environments? If so, are there implications for housing design and tenancy management? Further investigation of these questions is required. One study that considers the implication of preferences is Flatau et al's 'Indigenous access to mainstream and public housing'. They found that the maintenance of externally orientated behaviour in towns and cities impacted on Indigenous access to housing and the sustainability of tenancies:

Visitors to Indigenous households in urban and regional centres are usually from remote communities and are often not familiar with the demands of urban, or town, life, including the expectations of day and night time behaviour and tolerable noise levels. Furthermore, the 'external orientation', or preference of many Indigenous Australians to cook, eat and socialise outdoors, contravenes the norms of wider society. Many non-Indigenous Australians view such behaviours as anti-social and indicate a preference not to reside next to Aboriginal tenants due to household densities and activities.

These ethnocentric perceptions of Indigenous domiciliary behaviour are at odds with current trends to be found in Australian Architectural journals, popular 'housing' magazines and lifestyle television shows that encourage the design of mainstream housing to promote the external orientation of behaviour, including the design of 'outdoor rooms' for socialising and cooking.

5.3.2 Surveillance

Another related sub-theme is research that considers preferences for visual surveillance, visual (non-verbal) communication and the relationship between surveillance and privacy (Memmott et al 2000; Smith 2000; Memmott & Chambers 2002; Keys 2000b, 2003; Fantin 2003b:75). For example reporting on her work concerned with Warlpiri women's camps Keys (2003:67) observes:

Visual surveillance of the sky and ground increased Warlpiri people's sense of security in their environment, and was vital to their ability to predict or analyse social and climatic conditions. Women told me that they felt safer when this was possible. The scale of mainstream Australian domestic architecture, being so much larger than Warlpiri ethno-architecture, prevents people from readily seeing between, over and behind houses from a fixed point.

Key's (2000b:61) also found that Warlpiri read tracks left around living environments in order to monitor access and trespass. They experienced a heightened sense of insecurity during windy times when tracks were quickly erased by wind action and thus could not be easily monitored.³²

5.3.3 Kinship and the occupation of housing

A further sub-theme is research that considers how kinship influences, or structures, the occupation of housing particularly through kinship-based socio-spatial patterns (Memmott et al 2000; Memmott 2003:29; Kirke 2003). A specific type of socio-spatial behaviour is customary avoidance behaviour that involves "culturally prescribed rules governing behavioural relations among kin..." (Fantin 2003b:73). Fantin (2003a, 2003b) is the only researcher to have investigated this phenomenon of avoidance in relation to housing in any detail. However Fantin's findings are specific to the

³² External surveillance and externally oriented behaviour are topics that were embedded in the 1970s Aboriginal housing literature.

communities of Galiwin'ku and Ramingining in north-east Arnhem Land where she conducted her research (compare Haar 2003:92).

5.3.4 *Privacy*

A sub-theme within the literature is Indigenous concepts of privacy yet this remains a poorly understood area of research. One line of research considers the relationship of private and public spaces within domiciliary environments (see Memmott & Chambers 2002; Musharbash 2003). A unique area of privacy research considers forms of approach behaviour whereby outsiders provide visual or aural cues to household occupants that they are approaching (see Memmott 2003:29). A little understood phenomenon is the relationship between smell, privacy and domiciliary behaviour. Fantin for example (2003a:186) raises the issue of smell and the maintenance of avoidance relationships. Keys (2003:68) noted a relationship between smell and preferred patterns of domiciliary behaviour in women's camps in Yuendumu: "...some cooking smells were considered dangerous to people's health. Culturally specific beliefs about the strength of cooking fat and smells make it important to separate well-ventilated kitchens from those rooms used for sleeping".

A further little understood phenomenon is the relationship between sound, domiciliary behaviour and surveillance/privacy. In a post-occupancy evaluation (POE) of Northern Territory housing, Memmott et al (2000:120) recorded instances of poor aural privacy and problems associated with structure borne sound transmission. Keys (2000:61,62) found that Warlpiri employed aural surveillance as a means of protection from kurdaitcha. Such protection was compromised during the seasonal "windy time". Fantin (2003a:186) considers the issue of sound and the maintenance of avoidance relationships.

5.3.5 *Hearth-based activity*

An important sub-theme is customary hearth-based activity (Smith 2000; Memmott 2003; Musharbash 2003:166-169; 185-190; Long 2005:176-182, 257). For example Musharbash provides a detailed account of "breakfast fires" in women's camps at Yuendumu:

If at all possible, breakfast is cooked and eaten outside. This is dependent upon three factors: weather, availability of firewood, and availability of food. Provided these are all in order, typically, the morning in the jilimi is started by some of the older, but not the very old women, making fires...Fires are lit in a little distance from the yunta, so as not to wake up the sleepers with the clatter and the smoke. (Musharbash 2003:166.)

Long (2005:176) makes the following observation of hearths in western Queensland:

In Dajarra domiciliary activities were predominantly externally orientated throughout the year, with the household 'yard' being the principal setting for family and social life. During the cold time of year, when the south winds blow, the northern, warm, sunny sides of houses, together with windbreaks and external fires, became the focus of these activities.

5.3.6 *Cooking activities*

A research sub-theme closely related to hearths is that of cooking activities, which encompasses external cooking activities, internal or kitchen based cooking, as well as the interaction and relationship between internal and external cooking activities (Memmott et al 2000:99; 2003:32; Musharbash 2003; Scally 2003). A paper by CAT considers the use of kitchens in remote Indigenous communities and argues for a

design approach to kitchens that enhances people's existing cooking behaviours and technologies (CAT 2002).

5.3.7 Sleeping arrangements

A further sub-theme in the literature considers sleeping arrangements, sleeping positions and interpersonal relations (Keys 1999:209,210; Memmott et al 2000; Musharbash 2003:139-162). Musharbash's (2003) study of women's camps at Yuendumu provides one of the most detailed studies of sleeping arrangements within Indigenous households. Memmott notes: "There is little research on the composition of contemporary sleeping groups in either camps or contemporary Aboriginal households, despite the fact that good designs are predicated on an understanding of the composition of sleeping groups" (Memmott 2003:33).

5.3.8 Daily cycle of social life

The daily cycle of social life within domiciliary environments also appears as a sub-theme in the literature. An important finding of this research is that the people who sleep in a house may not necessarily be the same people who occupy that house throughout the day. (See for example Musharbash 2003:56-61,165-190; Long 2005)

5.3.9 Belief systems and occupation

A number of researchers consider the way belief systems and magic/sorcery influence the occupation and use of housing (Keys 2000b:57-61; Wigley & Wigley 2003:23,24; Memmott 2003:33; Fantin 2003a:223; 2003b:74). Hansen & Roche (2003:5) raise the issue of Noongar families rejecting rental properties for spiritual reasons.

5.3.10 Sharing behaviour

Another sub-theme is the sharing of accommodation and household goods and resources with kin/visitors (Memmott et al 2000; 2003:31; Victoria 2002; Memmott et al 2006:87, 90, 91,102-105). Hansen and Roche (2003:5) observe: "Public Housing codes of behaviour especially demand tight restraints on size and occupancy of rental properties. It is not easily acceptable for family 'visitors' to come and stay for a while, or for tenant families to wander for a term elsewhere" (see also Walsh 2003). An interrelated sub-theme is Indigenous mobility patterns and the flow, or movement, of people through domiciliary environments (intra-settlement mobility or micro-movements) (Musharbash 2003; Long 2005:262; Memmott et al 2006:88). The sharing of accommodation with kin leads into the themes of household size and composition, notions of overcrowding and the relationship between overcrowding and poor environmental health, these are discussed below (SCRGSP 2003:10.21-10.28; SCRGSP 2005a:10.2-10.13).

Researchers have also considered kinship and demand sharing and the negative impact that this may have on households (Memmott 2003:29). Memmott et al (2000:98) observed members of large households, and/or those of complex compositions, storing food items and other household contents that one might usually expect to find in kitchens and living rooms in bedrooms.

5.3.11 Seasonal domiciliary behaviour

A unique sub-theme within the literature involves observations of seasonal domiciliary behaviour (Keys 2000b: 61; Memmott et al 2000). For example Long (2005:176-180, 221-225) made observations of seasonal changes in the occupation of external living environments in northwest Queensland. Keys (2003:68) observed Warlpiri women adjusting the physical properties of camps in response to climatic conditions: "When building, I found that Warlpiri women themselves were readily able to make their living environments respond quickly to desert conditions. Their designs directed wind

around or through self-constructed shelters, depending on the heating or cooling result desired, or wall and roof planes were positioned according to the movement of the sun.”

5.3.12 Indigenous domiciliary behaviour and western housing typologies

A sub-theme within the literature is research that reports on a lack of fit in the Indigenous occupation of conventional models of housing; that is a lack of fit between Indigenous domiciliary behaviour and western housing typologies (see for example Keys 2000b:56; Lee & Morris 2005a:19). Wigley & Wigley (2003:23) observe:

A European codification of domestic space is what defines the conventional Anglo-Australian house. In most Indigenous households some, but by no means all, household activities have now been incorporated within this conventional house form. The transition this change represents has not always been an easy one; often there remains a lack of fit between some of the functional demands of domestic activities and the conventional house form.

Musharbash (2003:52) summarises some of the differences between Warlpiri and Western use of houses:

1. Life in houses occupied by Warlpiri is orientated outwards rather than inwards, i.e. most ‘living activity’ takes place in the yard and on the verandah, including sleeping, cooking and eating on most days.
2. Bedrooms, as well as other rooms, are used primarily for storage, and only secondarily for sleeping or socialising.
3. Warlpiri occupied houses generally tend to have much less furniture in them than non-Indigenous occupied ones, as well as less decorative items.

Despite the reported lack of fit between Western housing types and Indigenous domiciliary behaviour many Indigenous people continue to maintain culturally specific domiciliary behaviour. Keys (2000:126) observes: “Despite experiencing over forty years of cultural change in the physical setting of Yuendumu, Warlpiri people continue to maintain Indigenous domiciliary beliefs and behaviours.”

Resistance to attempts to forcibly modify Indigenous domiciliary behaviour in response to non-Indigenous housing can be found in the literature. For example Attwood’s (2000) historical analysis of Ramahyuck Mission revealed that despite attempts by missionaries to convert the Kunai of Victoria from communal to individualistic people, exemplified by attempts to force people to occupy individual cottages as nuclear families, the Aboriginal occupants continued to assert their socio-spatial patterns and preferred domiciliary lifestyles over the non-Indigenous defined physical space of the mission.

5.3.13 Mourning customs

An important research concern within this theme is mourning practices associated with domiciliary environments. Keys and Musharbash provide detailed observations of Warlpiri mortuary rituals at Yuendumu, and Fantin provides an account of mourning practices in northeast Arnhem Land, at Galiwin’ku in particular, highlighting design implications (Keys 2000a:126, 2000b:60, 2003:68; Fantin 2003a:219-223; Musharbash 2003:205-213).

5.3.14 Reconstruction of customary lifestyle

A unique paper within this area of literature is Memmott's (2000) reconstruction of customary domiciliary behaviour of the Lardil people on Mornington Island. The aim of the reconstruction was to describe traditional architecture within the context of the associated traditional lifestyle. (Memmott 2000:15.)

5.3.15 Transformation of dwellings and personalisation

A small number of publications report on the transformation of dwellings by occupants. Smith (2000:190, 198) provides an account of self-built architecture of camps at Goodooga and argues that an advantage of such dwellings is that they "are easily modified, adjusted, relocated and maintained." Long (2002; 2005:220-225) documented the transformations that tenants made to housing stock at Dajarra, Northwest Queensland, in response to social and climatic conditions. This included the use of self-built architecture and Indigenous architectural traditions to transform the housing to support preferred patterns of domiciliary behaviour. That is, rather than adapting behaviour to the physical properties of the house, the tenants have adapted the physical properties of the house to support behaviour. Long (2002:11) observes:

'In town' and 'out bush' Dajarra people continue to produce and maintain a repertoire of architectural elements and architectural environments that were first documented in the 1890s. The creative architectural transformations of Dajarra people 'in town' are an extension of these architectural traditions. The transformation of housing stock to (re)produce some of this repertoire indicates that the housing does not provide environments that totally satisfy patterns of behaviour or preferred lifestyles. There is an opportunity to develop an understanding of the preferred architectural environments of Aboriginal clients by not only investigating the architectural traditions they maintain but also the way they transform built environments to suit patterns of behaviour.

The transformation of housing stock is closely associated with a poorly understood sub-theme in the Australian Indigenous housing literature that being the personalisation of housing. During POEs in a number of Northern Territory communities, including Wadeye, Memmott et al (2000:104,105) noted instances of graffiti and artwork on internal and external walls of houses and this led the authors to question whether this was a form of personalisation, an expression of social identification, or whether it was perceived by the community or the community council as an act of vandalism. At Galiwin'ku one of the authors (Long) observed a horizontal line of red ochre wrapping around the external walls of some houses. Later in an account of mortuary practices and housing on Galiwin'ku Fantin (2003a) observed, "This line indicated that the house had been cleansed and taboos associated with it were lifted." Memmott et al observe (2000:105): "There is nothing of substance in the Aboriginal housing literature on the graffitiing of houses. This is an area that requires further inquiry and research to determine whether it should be viewed as a social problem or a valid form of social expression in accordance with Indigenous values."

Some six years later on a visit to the Wadeye community the Federal Minister for Families, Community Services and Indigenous Affairs called for Wadeye householders to cover over graffiti on houses with government supplied paint and paintbrushes (Brough 2006). Before covering over such forms of expression, it would be useful to attempt to understand the relevance of graffiti and artwork applied to Indigenous housing. It seems that greater effort needs to be made to understand, (1) how individual houses or clusters of houses are identified with families or clan groups within communities, (2) the methods used by tenants to personalise houses, and (3)

how the personalisation of houses by householders can be facilitated (for example through the design process) (Memcott et al 2000:104,105).

5.3.16 The cultural and regional focus of this theme area

In the post 2000 literature all of the case studies of domiciliary behaviour and the occupation and use of houses are concerned with Aboriginal environments and most of these are located in remote and very remote Australia and in particular the AERC's Arnhem Land, Central Australia and Western Desert regions. There are no studies that describe specific Torres Strait Islander domiciliary behaviours. While a significant proportion of the literature considers Indigenous occupation and use of housing, given the number and diversity of Indigenous settlements³³, the volume of research concerned with this theme is in fact limited. Overall there is little systematic and detailed empirical study of the occupation and use of housing. For example very few POEs have been conducted. Such a program of research is critical to what Memcott & Go-Sam (2003:13 2004) have labelled as the "cultural design paradigm" (discussed below). While past AHURI Research Agendas have targeted sub-themes of occupation and use such as residential mobility, the 2006 AHURI Research Agenda was the first to explicitly target the investigation of the occupation and use of housing:

With regard to the functionality and design of dwellings for Indigenous people: How do Indigenous households use dwelling spaces? To what extent do current housing design practices meet the housing aspirations of Indigenous households and communities? ...How can social housing be designed or modified so that it is liveable, functional and sustainable for different family types including from remote Indigenous communities? (AHURI 2006:19.)

The 2007 AHURI Agenda targets two interrelated occupation and use research sub-themes these being (1) Indigenous mobility, and (2) the sharing of accommodation with kin/visitors. The ongoing targeting of the occupation and use of houses in the AHURI Research Agendas seem critical to achieving Outcome 1 of the Building a Better Futures framework – 'Better housing'. Despite the importance of this research theme, and despite the fact that the priority research questions of the 2007 AHURI research Agenda targeted it, in 2007 AHURI has not funded research projects that proposed to investigate the theme of occupation and use of houses.

In the international literature Dawson's (2003, 2004) studies of Inuit occupation and use of housing provide a useful cross-cultural comparison to the Australian context. Dawson argues for the importance of the study of occupation and use of housing:

Domestic activities are accommodated when the cultural values of the occupants match the spatial layout of the house. When this is not the case, household activities are spatially distributed in ways that can be disruptive to the household and potentially damaging to the house. By examining how the domestic activities of families are spatially sequenced throughout the house...one can determine the compatibility of the house design with the lifestyles and cultural values of the family. (Dawson 2004:2.)

In one of his studies Dawson (2004:2) studied and documented on floor plans the occupation and use of forty-seven Inuit households over a two-month period. Wanhalla (2006) provides an account of the historical use of western housing models by New Zealand authorities to transform Maori domiciliary lifestyles.

³³ A diversity of geographic, cultural, architectural, social, economic and historical circumstances is to be found amongst the many Indigenous settlements of Australia, as well as in terms of the housing types, construction methods, and age of housing stock.

5.4 Domiciliary composition, household size and composition

5.4.1 Domiciliary composition

Around 13% of the 2000-2006 literature reviewed examines the theme of domiciliary composition or household size and composition. Within this theme a number of publications describe Indigenous household types. Memmott (2003:27-28) argues that Indigenous household compositions can be complex and he provides an overview of five household types: nuclear families, single men, single women, compound family groups and extended family groups (see also Morphy 2004). Keys (2000) describes the maintenance of three domiciliary groups at Yuendumu: (1) the *yupukarra* - a residential unit of husband, wife or wives, children and visiting relative, (2) *jilimi* - single women's camps, and (3) *jangkayi* - single men's camps. Keys (2000:119) notes: "In the new social and physical contexts of settlement, the house came to be associated with *yupukarra*. People living in culturally defined gender-specific residential units of *jilimi* and *jangkayi* continued to live in Warlpiri ethno-architecture". Keys reports that in Yuendumu single women's domiciliary units were not allocated housing until the mid 1990s and by 1996 households of single men continued to be ignored by the housing system.

Musharbash (2000) argues that Indigenous households are "fluid and hard to define" and introduces the possibility of multiple 'households' occupying one dwelling. Memmott (2003:32) describes the social position of dogs as members of Aboriginal households in the Western Desert and Central Australia (Memmott 2003). Finlayson et al (2000) provide a useful study of the size and complex composition of households in outer regional Australia. A key finding of Finlayson et al's work (2000:125) is that effective welfare policy must be directed at Indigenous family structures rather than at "individuals and nuclear families".

Much Indigenous housing has been designed without regard for Indigenous household compositions. Instead a mainstream model of a nuclear family has been employed and this has led to the prevalence of the three-bedroom house in the Indigenous housing sector. A key argument of this theme area is that Indigenous housing must be designed in response to preferred Indigenous household compositions or types (see Memmott et al 2000; Keys 2003; Kirke 2003). Whilst there has been a small amount of work on women's camps and housing circumstances none of the 2000-2006 research has investigated male domiciliary groups, men's camps and housing circumstances. The study of gender specific camps and domiciliary groups remains as a significant gap in the literature.

Fantin's (2003a) previously mentioned study of kinship and avoidance relationships in northeast Arnhem Land is unique amongst the literature concerned with domiciliary composition. This research illustrates that a failure of housing to respond to particular household compositions can create stress amongst the users.

5.4.2 Household size

An issue that overlaps with Indigenous household compositions (or structures) is the size of households (Memmott et al 2000:97; Memmott 2003:31). The appropriateness of house designs in terms of household size is a sub-theme in the literature. For example case studies by Flatau et al (2005:xvi-xvi.) concerned with sustainable Indigenous tenancies in mainstream housing revealed that mainstream house designs were not appropriate for Indigenous household sizes and compositions. The 2000-2006 literature concerned with domiciliary composition has focussed on the match between household size and dwelling size in terms of 'over occupation' or overcrowding (see AIHW 2003: 12).

5.4.3 Overcrowding

The match of dwelling to household size (rate of overcrowding) is one of the indicators of the national performance indicator framework (AIHW 2003:2,3; 2005b:1). According to this performance indicator framework overcrowding occurs where there is 'over' occupation of dwellings, that is, where the dwelling size is not appropriate for the household size (AIHW 2003:13). Overcrowding was used to monitor the performance outcomes of the BBF particularly Outcome 3- More Housing (AIHW 2005b:66). Overcrowding is also used to measure the performance of governments in providing housing under the Commonwealth State Housing Agreement (see AIHW 2003:13; AIHW 2005c:14; SCRGSP 2006). Another aspect of 'overcrowding' and performance is the relationship between high household numbers and the technical performance of the house (see Memmott et al 2006). Therefore a further sub-theme is housing performance and overcrowding.

The examination of performance in terms of overcrowding is closely related to another sub-theme that being the relationship between overcrowding and housing need. Neutze et al (2000:5) identified overcrowding as one of seven dimensions of Indigenous housing need. They determined overcrowding to exist where the size of a household exceeds the number of bedrooms according to the following occupancy standard (other standards are discussed below): "one bedroom for each couple and for each single, non-dependant adult, with dependant children sharing bedrooms at a maximum of two per bedroom" (Neutze et al 2000:5). They found that across Australia 17.8% of Indigenous family and group households were overcrowded; 11% of houses in major urban areas were overcrowded, 17.2% of houses in other urban areas were overcrowded, and 30% of houses in rural areas were overcrowded. To alleviate this Indigenous overcrowding, the authors determined that 28 580 additional bedrooms were required in Australia. Neutze et al (2000) made a critical connection between overcrowding and affordability, noting the importance of trade-offs that households often have to make. In the year 2000 the authors observed:

While overcrowding has gone down...need measured in terms of affordability has gone up. As the supply of housing has increased, lessening overcrowding, the annual affordability deficit of those occupying that increased supply of housing has gone up. We are faced, therefore, with the policy paradox that program success in reducing one measure of need may in fact increase another measure of need. (Neutze et al 2000:16.)

A key characteristic of Indigenous housing literature is that analysis of the match between household size and house size is mostly conducted quantitatively and using non-Indigenous occupancy standards. For example the AIHW's reporting on Indigenous housing need acknowledges that overcrowding is "a subjective measure, influenced by cultural norms" yet it employs two measures of overcrowding that are not derived from Indigenous perceptions. These measures are the Canadian National Occupancy Standard that "specifies the number of bedrooms required in a dwelling based on the number, age, sex and relationships of household members." The second measure is the Proxy Occupancy Standard that defines the number of rooms per household type. The two measures of overcrowding produce considerably different estimates of the extent of overcrowding. A significant problem with the Proxy Occupancy Standard is that it underestimates overcrowding, as it "does not adequately specify needs for large or multifamily households." Using the Proxy Occupancy Standard the report found 10% of Indigenous households were overcrowded and 22% of the Indigenous population were living in overcrowded households. The rate of Indigenous people living in overcrowded households was six times the rate of non-Indigenous households. The AIHW Indigenous Housing Needs

report identified a gap in the overcrowding data; it argues that greater effort is required to gather data on household composition and number of bedrooms per dwelling. (AIHW 2005a:2, 31-32, 43.)

Whilst it is easy to source statistical analysis of 'overcrowding' in the 2000-2006 period, and despite the AIHW's acknowledgement that perceptions of overcrowding are subject to 'cultural norms', there were no significant studies of Indigenous perceptions of overcrowding. Such perceptions should be considered a research sub-theme. Until such empirical perceptual studies are carried out, the measurement of 'crowding' from occupation density remains methodologically flawed. Nonetheless, important observations of overcrowding and high household numbers were made. In a review of housing at Galiwin'ku Memmott and Chambers argue: "It is important to emphasise that large households should not necessarily be categorised as overcrowded, but as including normal sub-units of extended families." Memmott et al (2000) and later Memmott & Chambers (2002:92) argue that the size of households not only has implications for the number of bedrooms but also to the size of the bedrooms themselves. A quantitative study in Katherine by Flatau et al (2005) examined the relationship between tenancy experiences and well-being. The report found:

Existing research evidence has indicated a negative association between high household density and psychological wellbeing in multiple family households when compared with that in single family residences. Despite this, the expected difference in the level of psychological distress between those residing in overcrowded and non-overcrowded households was not evident in this study. (Flatau et al 2005:xvii.)

Memmott & Moran (2001) introduced an interrelated and as yet unexplored research theme, that being neighbourhood overcrowding which they argue could be as pertinent a topic as household overcrowding.

5.4.4 Household size & sustainable tenancy

A further sub-theme is the relationship between household size, house size and the sustainability of tenancies. Within the context of increasing the sustainability of Indigenous tenancies in the mainstream housing sector Flatau et al (2006) have argued for a boost in the stock of larger houses. This theme also appears in Walsh's (2003) assessment of the sustainability of tenancies by Indigenous families in urban WA.

5.4.5 Household size & visitors

Within this theme area is research concerned with household visitors and household size, and the ability of dwelling designs to appropriately accommodate visitors. 'Visitors' are prevalent in Indigenous households, residential visitation is a social norm, and in some cases Indigenous people do not distinguish between resident and visitor (in the same way that the ABS does). In a POE of housing in the Northern Territory, Memmott et al (2000) found that houses often experience high household numbers including visitors and that appropriate design responses are required. Dillon & Savage (2003) observe that households in Central Australia often experience high household numbers including short and long-term visitors. They argue that in such circumstances the size of rooms and the number of service areas (toilets etc) provided is more critical than the numbers of bedrooms. Similarly a report on Indigenous disadvantage notes that whereas the occupancy standard places an emphasis on numbers of bedrooms "the numbers of bathrooms and toilets, and the size of kitchens, bedrooms and other living spaces may be as important as, or more important than, the number of bedrooms" (SCRGSP 2003:10.21-10.28).

In her study at Yuendumu, Musharbash (2003:121) observed four categories of household residents based on the number of occasions they slept at a *jilimi* (women's camp) over a particular period: (1) key residents, (2) regular residents, (3) on & off residents, and (4) sporadic residents. She makes an important distinction between resident and visitor. She illustrates that visitors are people that visit *jilimi* during the day; a resident is anyone who sleeps at a *jilimi*. This contrasts with the ABS definition of visitor. This leads into the theme of Indigenous mobility and the implications it has for housing services.

To date no AHURI research agendas have explicitly set out research questions concerned with domiciliary composition, household size and composition, and Indigenous perceptions of overcrowding. Yet an understanding of such is critical to BBF outcomes 1 – better housing, and 3- more housing.

High household sizes and overcrowding appear as themes in the international literature. In the Canadian literature there are reports on this theme for non-reserve and urban circumstances (Norris & Clatworthy 2004:38-42; Anderson 2005; Walker 2005:2,3). High household sizes are reported amongst Native Hawaiian households with a significant proportion of households being comprised of more than one family (DHH 2005:8). In the report *Two Few Rooms* the National American Indian Housing Council (NAIHC 2001) identifies Household overcrowding as a significant issue amongst Native American communities and Alaska Native villages and reports on the existence of complex, compound households. This report identifies the implications of high household numbers and methods for ameliorating them (see also NAIHC 2006). Rankine (2005) provides a brief overview of overcrowding and Maori households noting that there has been no research of Maori or Pacific Islander concepts of crowding, instead the Canadian Occupancy standard is employed in New Zealand. Waldegrave et al (2005:69, 85, 114) make findings on Maori overcrowding that are comparable with those of Neutze et al (2000) for Australia; they found that overcrowding in Maori houses was a more significant issue in rural areas than in urban areas, they found that Maori households made tradeoffs between affordability and overcrowding, and they found that standard house designs were not suitable to “extended whanua living” and domiciliary behaviour.

5.5 User groups- gender, youth, aged, single people

A small number of publications focus on particular user groups. One area of research is concerned with the housing circumstances of Indigenous women. In central Australia Keys (2000,2003) and Musharbash (2003) have conducted research that focuses on the everyday life of women's camps (*jilimi*) at Yuendumu. These are complementary studies with Keys' work providing more detailed observations of the physical environment of women's camps and Musharbash's work providing more detailed observations of the social interaction within these camps. In urban areas research has been conducted concerning women's access to housing and sustainable tenancies (Cooper & Morris 2004, 2005). In the 2000-2006 period there are no studies of the housing needs and circumstance of Indigenous men despite, for example, reports of men's camps or households in central Australia (see Keys 2003).

In comparison to the non-Indigenous population the Indigenous population is young and has a much higher proportion of the population below the age of 30 (see ABS 2003:18). However, it is surprising to find that there are few studies that specifically target the housing circumstances and needs of young Indigenous people. A notable exception is Victoria's (2002) study of the housing needs of young people in Queensland that highlighted the role of mobility in the lifestyle of young people and the need for housing support services. It seems that negligible research was

undertaken in the 2000-2006 period that considers housing and the aged. One publication that considers the aged is Memmott & Eckermann's (2001) review of a housing complex in inner Brisbane designed for Indigenous people over the age of 50.

Morphy (2004:14) argues that the nuclear family is the implicit ABS household structure and this is a flawed model to use as a basis for surveying Indigenous households. Morphy (2004:16) argues that if the census aims to capture the size, age distribution, gender composition, and dependency structures of households then the ABS should add the extended household as a model. Keys makes the following argument regarding the application of Western household models: "Funding, construction and allocation of housing based on a Western model of 'household' can be conceptualised as perpetuating the assimilationist policies of the 1940s and 1950s" (Keys 2000a:119).

The 2005 AHURI Research Agenda contained a research question concerned with user groups. However no publications addressing this question have resulted to date:

How are the housing-related meanings of 'stability', 'security', 'control' and 'home' understood by different Australian Indigenous cultural groups, how do these meanings vary by gender and family life-stage, and how do these different meanings shape people's housing aspirations? (AHURI 2005:28.)

The housing needs of particular user groups appear as a theme in the international housing literature. Walker (2005:8) raises the question of the housing needs of lone-parent families, elders, students and those with health and support needs in non-reserve settings in Canada (see also Broxbourne 2004; Chenew 2004; Wallace et al 2004; Anderson 2005; MacKay 2005). The following observation of a failure to address the housing needs of young single Aboriginal people in Canada is equally applicable to the Australian situation:

In many Aboriginal communities people are on waiting lists for housing. When houses become available, they are generally given to families. In some cases, single people do not qualify for the waiting list.

This results in either young people leaving the community or increased crowding problems as they continue living with family...Many people interviewed emphasized the need to design houses that meet the needs of single people in their communities. (CIER 2005:5.)

Davey et al's (2004) report on accommodation options for older people in New Zealand would provide a useful source for future Australian research. The report contains sections on the housing circumstances and needs of older Maori and Pacific Islanders and comparisons with the Pakeha population. As homeownership amongst older Maori is in decline, and the Maori proportion of the older population is growing there is an emerging need for rental accommodation for older Maori. The report discusses current housing options and the specific housing needs of older Maori including the preferred location of housing:

Older Maori share with older people in general a range of special housing needs and preferences, but, in addition, their cultural preferences need to be recognised. These include a holistic perspective on life, whereby physical, mental, spiritual and family (whānau, hapu and iwi) wellbeing are inter-related. The cultural roles of kaumatua and kuia bring with them housing requirements in terms of housing form (space to accommodate visitors) and location (access to marae and places of cultural significance). Maori place considerable emphasis on kinship, authority, and inter-generational links. This helps to maintain the health of older people by avoiding isolation and

despondency. It honours them as a source of wisdom, and can help to stabilise family situations. (Davey et al 2004:149.)

The New Zealand literature also contains some research on Maori women and housing however a report by the Ministry of Women's Affairs (MWA (2001:1) notes that little is known about the nature and extent of Maori women's housing needs. This report analyses the housing circumstances of Maori women using the indicators of tenure, affordability, temporary housing, crowding, and housing amenity (MWA 2001:98-107). The report found that Maori women's housing circumstances were very different to non-Maori but similar to Maori men with the exceptions being that they are less likely to be living in owned housing and more likely to be living in crowded dwellings than Maori men (MWA 2001:106). MWA (2001:129) argue for further research that considers the extent of the use of temporary dwellings for permanent residence, the impacts and dynamics of rural and urban housing markets for Maori women, the housing needs of large families, Maori women's whanau responsibilities, discrimination experienced by Maori women in the rental and lending markets, and the establishment of official measures of crowding. NWA (2001:6) define a number of initiatives to improve the housing circumstances of Maori women.

5.6 Mobility

Around 11% of the literature reviewed in the current study considers the relationship of Indigenous mobility and Indigenous housing. Early in the 2000-2006 period Memmott & Moran (2001) identified Indigenous mobility as a research gap and called for research that considered contemporary Indigenous residential mobility and Indigenous mobility regions. Yet the relationship between mobility and housing remains poorly understood particularly the implications of mobility for housing services and housing design. A unique, albeit brief, insight into Aboriginal experiences of mobility and housing is Little's (2000) autobiographical paper that traces the residential mobility of an Aboriginal family. Little's paper illustrates a reliance on kin for accommodation. This was also a key finding of a recent AHURI study by Memmott et al (2006) and the Tangentyere Council Research Unit's recent study of population and mobility in the Alice Springs Town Camps (Foster et al 2005).³⁴ Memmott et al (2004, 2006) provide the most recent and detailed study of Indigenous mobility. They identified the need to understand the accommodation needs of visitors and argue that this may not necessarily mean an increase in the numbers of bedrooms but the inclusion of attributes such as appropriately sized verandahs and living rooms, that can be used for visitor accommodation, and sufficient service facilities (see also Dillon & Savage 2003; SCRGSP 2003:10.21-10.28). Memmott et al (2006:103) also highlighted the implications of high mobility for housing maintenance. The need to consider accommodation options for visitors is a sub-theme within the mobility literature. Kirke (2003) for example reports on designs for a designated visitor's camp in a Western Desert community.

Another mobility sub-theme is research that investigates the motivators of mobility. In a study that considered the impact of Indigenous mobility on household economies, Finlayson et al (2000) found that most mobility is motivated by social relationships (see also Smith 2000). Similarly Memmott et al's (2006:91) study found that kinship and social interaction is the great driving force of Indigenous mobility; kinship triggers mobility and it supports mobility (See also Foster et al 2005:38). Memmott et al (2006:80-88) also considered the spatial extent of mobility, and the frequency and

³⁴ See Long & Memmott (2006) for a comparison of the findings of the mobility studies by Foster et al (2005) and Memmott et al (2006).

duration of travels. They found a high rate of travel with relatively short stays within a cultural or Indigenous mobility region. The spatial extent of Indigenous mobility regions across Australia remains poorly understood. Nonetheless Memmott et al (2006:3, 91-92) argue for policy and services to be developed in response to Indigenous mobility regions. Recently Altman (2006:i) has argued:

...there is too little research and understanding of culturally distinct, but evolving patterns of Indigenous mobility and migration in remote and very remote Australia. In particular, there is a danger that policy-makers will fall into the trap of conceptualising Indigenous residence as occurring in some fixed hierarchy of settlements, rather than as occurring regionally and flexibly between larger and smaller communities and between smaller communities.

An under-explored research sub-theme is mobility and the housing needs of Indigenous youth. Memmott et al (2006:11) targeted Indigenous men and women in their survey of Indigenous mobility in response to Taylor & Bell's (1996:3999; 1999:9,11) analysis of census data that illustrated a peak in the residential mobility in the 20-34 year old cohort. Memmott et al (2006:88,89) found that young men and women are exceptionally mobile and that different patterns of mobility can exist for men and women from the same community. Memmott et al (2006:101,102) identified the need to consider accommodation options for young people who are required to move from remote or very remote communities to attend secondary school. Another important investigation in the 2000-2006 period was Victoria's (2002:iv-v) study of Indigenous youth housing need at two study sites in Queensland (Wynnum, Mossman). Victoria identified two types of mobility, the first being kin-based mobility that was expected, considered normal and a developmental experience. The second type of mobility she identified was mobility associated with problematic youth behaviour and she argued that those engaged in this latter pattern of mobility required support services. (See MacKay (2005) for comparable Canadian research.)

A sub-theme within the mobility literature is research that examines Indigenous migrations from very remote and remote Australia to major urban areas in order to access services and the implications such migrations have for housing and housing support services (see Memmott et al 2006). For example Walker and Ireland (2003:22) found that numbers of people who migrate from the Anangu Pitjantjatjara Lands to Adelaide for health services are not equipped to manage urban living. They argue that there is a need to develop a greater understanding of such 'migration' patterns to ensure that all people have access to support and referral processes. Memmott et al's (2006) study found only a minor pattern of migration from the remote north-west Queensland region to major urban centres with most people remaining within their home region. An associated theme to recently emerge in the literature is criticism of a policy push towards centralisation, which envisages people moving from smaller discrete communities to larger discrete communities or urban centres in order to improve livelihoods (Altman 2006).

Another research sub-theme examines differences in the mobility of Indigenous men and women. Memmott et al's work (2006:88,89) found differences in the extent and frequency of travels by men and women but these differences varied between communities. In their project concerned with the difficulties experienced by Indigenous women in sustaining tenancies in urban areas, Cooper & Morris found that the literature identifies high Indigenous mobility as a cultural norm yet their research participants wanted stable accommodation and did not want to be constantly mobile. Cooper & Morris found that the high mobility of homeless Indigenous women meant they were 'hidden' from services that could assist them and it meant that it was

difficult for them to access services that may prevent homelessness. (Cooper & Morris 2004:ii; 2005.)

An under-explored research sub-theme is intra-settlement mobility, or micro-mobility. Such mobility involves changed residency from day to day or night to night within the same settlement, and includes changes in household composition and turnover in household members. Musharbash's study of women's camps at Yuendumu provides a unique ethnographic insight into the small-scale and daily mobility patterns that occur within a settlement and within a household. For example Musharbash (2003:122-138) mapped the sleeping arrangements of a *jilimi* (women's camp) for 221 nights over a 467 day period. A significant finding of this mapping was that more than 160 individuals slept in the *jilimi* during those 221 nights. This provides a significant insight to the flow through a domiciliary environment and is a useful complement to statistics that inform of the numbers of people in residence at any point in time. (See also Morphy 2004.)

AHURI introduced Indigenous residential mobility in its 2002 and 2003 agendas and it appears as a theme in an AHURI research brief in 2004. The 2007 research agenda set out a research question concerned with the implications of Indigenous mobility for residential design. Such research is critical to outcome 1- better housing, outcome 3- more housing, and implementation strategy 1 (identify and address unmet housing needs of Indigenous people) of the BBF. Despite the importance of this research question AHURI did not fund proposals that addressed it in their 2007 funding applications.

Mobility appears as a theme in the literature on Aboriginal housing in Canada with high rates of mobility reported as well as reports on Aboriginal mobility within urban areas (see SIIT 2002; Anderson 2004, 2005; MLCNHC 2004; Holmes 2006). In considering the circumstances of Canadian non-reserve Aboriginal housing Walker (2004:9) observes that much residential mobility is due to housing affordability and adequacy issues. Walker (2004:3) reports regular movement backwards and forward between urban centres and reserve or rural communities, he argues, "This prompts the need to consider the concepts of housing and home as terms that for a given household can straddle both an urban and a reserve/rural community, something that will impact upon housing solutions." In a study of First Nations/ Métis/Inuit mobility focussing on migrations into Winnipeg, Distasio & Sylvester (2004:i) found that family reasons, and employment, education and training opportunities fuelled the initial moves. They also report on the relationship between housing and mobility and identify a link between affordability, accessibility and high household sizes (2004:35-59). Norris & Clatworthy (2003:67) identify family and housing as a major reason for Aboriginal mobility in Canada. The Canadian literature also reports on the development of survey instruments to investigate the link between living arrangements, homelessness and mobility (CMHC 2001). The Canadian literature seems to suggest a movement between urban areas and reserves that parallels the Australian mobility context of movement between urban areas and outlying settlements (see Norris & Clatworthy 2003). It seems that the Australian and Canadian literature would mutually benefit from further research that studies different forms of and propensities for short and long-range patterns of mobility.

5.7 Design of housing

5.7.1 Culturally appropriate design

Around 42% of the 2000-2006 literature is concerned with the design of houses. Within the theme of design there are a number of sub-themes. The first of these is concerned with the notion that appropriate designs are those that are informed by

culturally specific domiciliary behaviour; in other words designs that are informed by preferred patterns of Indigenous occupation and use. In Australia this sub-theme has been referred to as culturally appropriate housing/design and culturally specific housing/design, terms that are also used internationally to refer to designs that consider and respond to the interrelationship between cultural elements and the physical environment of building designs. In the context of Australian Indigenous housing the origins of this sub-theme are to be found in the early 1970s activities of the Aboriginal Housing Panel and in Heppell's (1979:1-62) work (see earlier). This sub-theme is constantly reiterated in Memmott's observations on Aboriginal housing (see for example Memmott 2000:104). Despite the common usage of the term 'culturally appropriate design' Memmott & Go-Sam (2003:12) introduced the modified term "cultural design paradigm" to refer to this sub-theme and argue: "Its premise is that to competently design appropriate residential accommodation for Aboriginal people who have traditionally orientated lifestyles, architects must understand the nature of those lifestyles, particularly in the domiciliary context" (see also Memmott 2004).

A number of housing design issues associated with Indigenous domiciliary behaviour are found in the literature, these are mostly drawn from the practice-based research (observations and design considerations) of architects that have worked in remote and very remote Aboriginal Australia. Each of these design issues constitute a research topic in their own right but they are listed here as a summary of culturally appropriate design considerations.

1. The design of houses to accommodate preferred patterns of externally orientated behaviour. This includes considering the design of the edge of the house and semi-enclosed spaces as well as the design of yard spaces. (Memmott et al 2000:104; Smith 2000; Groome & Pholeros 2000a; Memmott 2001, 2003:33-35; THS 2001:C.2; Dillon & Savage 2003: 41,42; Keys 2003:76.)
2. The design of houses to accommodate Indigenous domiciliary groups and household types and compositions (Memmott et al 2000:97; Smith 2000; Keys 2002:118; Memmott & Eckermann 2001; Memmott & Chambers 2002; Memmott 2003:27,28; Dillon & Savage 2003:42).
3. The design of houses to accommodate fluctuating and large household sizes (Memmott et al 2000:97; THS 2001:B.40-B.42; Memmott 2003:29-31; Dillon & Savage 2003:42; FaCSIA 2003:115-125).
4. The designs of houses to accommodate visitors including consideration of overflow spaces (Memmott et al 2000:104; Memmott 2001, 2003:30-32; THS 2001:B.40-B.42; Dillon & Savage 2003:42.)
5. Designing for culturally-specific socio-spatial arrangements and behaviours including avoidance behaviour and the location and orientation of houses in relation to family and country (Memmott et al 2000:100; Memmott et al 2000:98; THS 2001:B.40-B.42; Memmott & Chambers 2002; Fantin 2003a:210-212, 2003b:74-76; Memmott 2003:29).
6. The design of bedrooms, living rooms and verandahs to be of adequate size for large and complex households (Memmott et al 2000:98, 101).
7. Design informed by kinship associated domiciliary behaviour (Memmott 2003:29).
8. Design and the impacts of sharing behaviour (Memmott et al 2000:103; Smith 2000; Memmott 2003:29).

9. Design responses to the Indigenous use of a space for multiple and changing functions. For example, the design of living rooms needs to consider their common use as sleeping areas. (Memmott et al 2000:98; Memmott 2003:30.)
10. Design responses to Indigenous concepts of privacy in houses (Memmott et al 2000:98, 101; THS 2001:B.40-B.42; Memmott 2001, 2003:29; Memmott & Chambers 2002).
11. The design of houses to accommodate customary hearth-based activity (Smith 2000; Memmott 2003:32).
12. The design of houses to accommodate preferred internal and external cooking activities (Memmott et al 2000:99; Myers 2000; Memmott 2001, 2003:32; CAT 2002; Keys 2003:68; Scally 2003:85).
13. Design responses to contemporary Indigenous sleeping groups and preferred sleeping locations (Memmott 2003:33).
14. The design of houses to accommodate preferences for visual surveillance and non-verbal communication (Memmott et al 2000:99, 100; Smith 2000; Memmott 2001; THS 2001:B.40-B.42; Memmott & Chambers 2002; Keys 2003:67; Fantin 2003b:75).
15. Consideration of the appropriate location of toilets including for nocturnal use (Memmott et al 2000:99; THS 2001:B.40-B.42; Memmott & Chambers 2002; Memmott 2003:33).
16. The design implications of sorcery including surveillance, security, access, landscaping and lighting (Fantin 2003a:223-229, 2003b:75-76).
17. The design implications of mortuary practices (Keys 2003:68,69; Fantin 2003a:219-223).
18. Resolving contradictions between culturally specific requirements and technical design guidelines (Fantin 2003b:77,76).

This last issue is significant yet it has received very little research attention. What compromises do designers have to make within the parameters of a housing project? Do designers have to make decisions that prioritise one cultural design issue over another, or decisions that compromise certain cultural issues? What compromises are made due to budgetary constraints and in meeting the Indigenous housing requirements set by jurisdictions? An important, and to date unanswered question is how widespread is culturally appropriate design in Australian Indigenous housing? To what extent is culturally appropriate design promoted by jurisdictions and housing agencies? Do jurisdictions and agencies ensure that new houses are designed according to culturally appropriate design principles? Will there be a failure to engage with these cultural design issues as Indigenous services in Australia are increasingly 'mainstreamed', and if so, what are the socio-cultural, health and economic implications of such a failure?

5.7.2 Visual appearance of houses

Another research sub-theme is the visual appearance of the house. Wigley & Wigley (2003:22) note a conundrum: "The challenge for architects, and others, has been to provide for those functions that can best be catered for within conventional building forms while also enabling culturally specific uses of space to continue." Dillon and Savage (2003:44,45) observe that in Alice Springs there is a preference of housing designs that have the appearance of western housing and yet are responsive to and support Aboriginal patterns of domiciliary behaviour. At Yuendumu, Keys (2003:69) found a preference for houses that "conformed to the visual and functional properties

of those found throughout all Australian towns and cities". Keys (2003:69) argues that architects/designers must be sensitive to "people's aspirations of what constitutes a proper house." At the same time Keys recognizes the need for culturally specific design for her study group.

5.7.3 Climatically appropriate design

A significant theme in the literature is climatically appropriate design that maximises the use of passive heating and cooling (Memmott et al 2000:100; Keys 2000b:55; Groome & Pholeros 2000a; Memmott 2001; THS 2001: B.1-B.38). Dillon and Savage (2003:43,44) make important observations of how to achieve climatically appropriate desert architecture in Central Australia whilst responding to preferred patterns of Aboriginal domiciliary behaviour. They note for example that models of climatically appropriate desert architecture elsewhere in the world are internally orientated with very little relationship to the wider environment whereas most Aboriginal domiciliary behaviour is externally orientated and there is a preference for the maintenance of visual and aural surveillance. It would therefore be inappropriate to impose these other models of desert architecture on the Central Australian context. Keys (2003:68) argues that self-built traditional architecture in central Australia responds to climatic conditions whereas most houses have poor passive thermal performance. (See also Fletcher & Bridgeman 2000; Memmott et al 2000; Haar 2000, 2003; Planning SA 2000; Memmott 2001; Memmott & Chambers 2002; Groome 2003; Logan 2003; Duell & Martin 2005.)

5.7.4 Technological research and design

The literature has a design sub-theme that examines building and infrastructure technology and construction details. The Centre for Appropriate Technology has contributed to this research for many years and it publishes research through its 'Our Place' and 'Bush Tech Sheet' series in a format that is accessible to Indigenous householders and organizations in remote Australia. The issues considered include power supply, water supply, rainwater tanks, hot water systems, sewage systems, plumbing requirements (toilet systems, storm water, external hose cocks, floor wastes and levels), insulation, floor detailing and cleaning issues, wall and roof details, doors and windows minimising damage to locks and latches on doors, storage in kitchens, ponding in yard spaces and below house, insect and pest management, car, boat and equipment storage, safety and security, fire safety. (THS 2001: B.1-B.2; Fletcher & Bridgeman 2000; Dillon & Savage 2003:45,46; Memmott et al 2000:103,118-121.)

5.7.5 Self-built housing design

A related area within the literature is research of self-built and traditional domiciliary environments. The most detailed studies of this nature are Keys's (2000a; 2000b; 2003) study of Warlpiri women's camps at Yuendumu and Smith's (2000) study of the self-built architecture of camps on the Goodooga reserve, New South Wales (see also Fantin 2003a, 2003b). In a study concerned more broadly with cultural heritage issues Long (2002, 2005) makes observations of self-built architecture of camps and the yard spaces of houses in north-west Queensland. A number of advantages of self-built architecture are identified in these publications including that such structures support preferred patterns of domiciliary behaviour and they can be easily modified to adapt to changes in climatic and social conditions. Reiterating arguments he made in the 1980s Memmott makes the following observations:

Since the 1970s a small group of researchers have been studying the domiciliary behaviour of Aboriginal self-constructed shelters and settlements...These self-constructed camps are the laboratories in which customary lifestyles are practised and learnt. Since they are organised and

constructed by their residents, a clear cultural fit can be observed between the settlement's type, the distribution of structures and the activity patterns contained within them.

[A] key premise is that to competently design appropriate accommodation for Aboriginal people who have traditionally orientated lifestyles, architects must understand the nature of those lifestyles, particularly in the domiciliary context.... (Memmott 2003:27.)

5.7.6 *Housing design and health*

A significant sub-theme in the 2000-2006 literature reviewed is housing design and environmental health. Memmott & Go-Sam recently called this research theme the "environmental health paradigm" and attribute the emergence of this theme to the work of Pholeros, Torzillow and Rainow as they "...systematically isolated and causally linked complexes of health problems with sets of design features..." (Memmott & Go-Sam 2003:13,14). Pholeros et al's (2000) nine Healthy Living Practices have had a significant impact on health and housing research, these practices being: (1) washing people, (2) washing clothes and bedding, (3) removing waste safely, (4) improving nutrition, (5) reducing crowding, (6) reduce negative contact between people and animals, insects and vermin, (7) reducing dust, (8) controlling the temperature of the living environment, (9) Reducing trauma. Pholeros (2003) provides an overview of the principles underlying the 'housing for health' and 'fixing houses for better health' projects.

A component of this research area is environmental health surveys or the status of Indigenous environmental health; one such survey in the NT employs six and not nine living practices (Runcie & Bailie 2000, 2001; Trewin & Madden 2003; IHANT 2004). Other research focuses on one aspect of environmental health such as kitchen design or cooking (see for example Tietz 2000, CAT 2002, 2003). Producing "effective environmental health systems" has been identified as one of seven ways to overcome Indigenous disadvantage (SCRGSP 2003:10.1; SCRGSP 2005a:10.1).

Housing maintenance is a strong focus of the environmental health research area (see Groome & Pholeros 2000c; Jack 2000; Pholeros et al 2000; Bailie & Runcie 2000, 2001; Pholeros 2003; FaCSIA 2003; IHANT 2004; Stewart et al 2004). Pholeros (2003) found that most repair work arises from a lack of routine maintenance, poor design and poor specification, and poor initial construction; he reports very minor rates of repairs arising from tenant damage. The focus of the environmental health research area is physical health and safety and the physical elements of housing it is therefore somewhat surprising that the design and provision of housing in relation to disabilities and accessibility is largely neglected in the Indigenous housing literature (one exception is a short report by Davis (2003)).

While there is no doubt that Pholeros and his colleagues have made a significant contribution to research concerned with Indigenous housing and environmental health, a small number of publications in the post 2000 period indicate a much longer history of causal links between environmental health and Indigenous domiciliary environments. For example Briscoe (2000) provides a history of research concerned with Aboriginal environmental health and settlements in Queensland regional centres in the early 1900s. Wells (2000:66,67) illustrates the historical misperception of a relationship between self-built camps and poor environmental health. She provides an example from 1911 of medical officers finding Aboriginal camps around Darwin to be

clean however 'Aboriginal Inspectors'³⁵ defined the same camps as dirty and insanitary. Such perceptions contributed to decisions to displace Aboriginal people from self-built and spatially defined camps to government run compounds and settlements.

The focus of the environmental health literature is physical health and safety and the physical elements of housing that are supportive of healthy and safe living practices (see FaCSIA 2003). However there is research that suggests that mental health considerations must also be considered. For example Fantin has argued that a failure of designs to respond to the cultural requirements of the occupants will create stress amongst them as they struggle to carry out practices such as avoidance behaviour and they may experience an increased fear of sorcery (Fantin 2003a; 2003b). Wigley & Wigley (2003:23) make similar observations: "The fixed nature and scale of conventional construction can make it extremely difficult to adapt living spaces to meet the many seasonal changes experienced in northern Australia, whilst keeping out magic, maintaining avoidance relationships and providing safety and security."

Keys' (2003) work concerned with Warlpiri women's camps at Yuendumu contains unique findings on health issues. This is the only research to consider Indigenous concepts of environmental health. She argues (2000b:58), "Indigenous beliefs and practices concerning health and illness were linked to a holistic conceptual framework based on spiritual, religious, social and environmental well being." Keys (2003:57-64) provides examples of interactions between these dimensions of well-being and their implications for design such as the relationship between correct sleeping orientation, the Jukurrpa (Dreaming) and physical health. Keys (2000b:64) observes: "'Health hardware' (in fact any physical intervention) only goes part way to addressing a Euro-centric definition of the 'Aboriginal Health Problem'." Indigenous concepts of environmental health remain as a gap in the literature.

A further unique area of research is concerned with institutional accommodation and environmental health. Eckermann (2000) argues for the provision of culturally specific architecture in the institutional settings of secure hospitals and prisons. The author argues that culturally appropriate architecture can improve the psychological comfort and wellbeing of Indigenous people occupying such institutions.

5.7.7 *Environmental health and design standards and codes*

Within this theme is a number of guides or design standards that inform the design of housing in terms of environmental health. The first of these design and environmental health guides is the *Environmental Health Handbook* (Harris 2000). This handbook covers land management, essential services and housing (Marshall 2000; Tietz 2000; Groome & Pholeros 2000a, 2000b; 2000c; Rainow 2000; Walker et al 2000; Lloyd 2000a, 2000b). The housing section covers the design of various parts of the house, the management of the construction process and maintenance issues. A more recent publication is the *National Indigenous Housing Guide*. Part A of the guide is concerned with safety issues in the house concerned with electricity, gas, fire, structure and materials. Part B, the focus of the guide, is concerned with the health hardware required to perform nine Healthy Living Practices. A section of the guide is devoted to each of these practices and each section defines design considerations, a checklist for quality control during construction, ideas for cyclical maintenance and survey data that illustrates the significance or characteristics of the design issue. "The guide complements the Building Code of Australia, Australian Standards, state and

³⁵ From Well's (2000:66) account it seems these were non-Aboriginal people associated with the Chief Protector.

territory building standards, state and territory environmental health, building and planning legislation and local government building regulations” (FaCS 2003:v). (FaCS 2003.)

Various jurisdictions have found it necessary to produce guides, standards or specifications that supplement the National Design Guide or the Building Code of Australia. Such documents assist with addressing issues that are specific to the jurisdiction, issues that require a higher level of specification, or issues that for various reasons are not covered by other codes/standards. In 2000 Western Australia produced a *Code of Practice for Housing and Infrastructure Development in Aboriginal Communities Western Australia*, the code was revised and recently republished (Ove Arup et al 2000; IEHCC 2006). Within a framework of environmental health this code aims to “raise basic living standards for the long-term in Discrete Indigenous Settlements” (IEHCC 2006:3). The code describes principles for the development of housing and related infrastructure including (1) the operating environment which includes appropriate engagement and appropriate design, (2) appropriate standards. The NT Environmental Health Standard (THS 2001; NT Gov 2002) was developed as a tool to ensure environmental health standards were met in housing in remote areas. The standard describes performance requirements for housing and cultural issues to be considered, it also adopts a broad definition of environmental health that includes the notion of ‘quality of life’: “Environmental health comprises those aspects of human health, including quality of life, that are determined wholly or partially by factors in the social and physical environment...” (UK Commission on Environment and Health 1996 in THS 2001:A.1.). The South Australian Government produced a specification in response to the particular circumstances of western South Australia:

[which]...outlines the requirements for increased levels of durability, sustainability and health and safety for housing (Class 1 buildings as defined in the BCA96), located on designated Aboriginal lands in Western South Australia, which are subject to harsh environmental conditions and limited access to maintenance facilities. These conditions necessitate requirements additional to those prescribed in the Building Code of Australia. (PSA 2000:1.).

IEHCC (2006:25) note that no current design guides provide detailed information on cultural design requirements and they indicate the need for such a guide. The neglect of the National Indigenous Housing Guide to discuss socio-cultural aspects of design indicates that the authors do not consider such matters to be critical to environmental health. Research reviewed in this project suggests otherwise, see for example Keys (2000, 2003) and Fantin (2003a, 2003b). The development of a design guide(s) that considers socio-cultural issues remains as a gap in the literature.

5.7.8 Comparison with New Zealand design guide

The New Zealand Housing Corporation design guide prepared by Hoskins et al (2002) for Maori housing illustrates a very different focus to the Indigenous housing design guides that were produced and published in Australia in the 2000-2006 period. Whereas the Australian guides focus on technical information, particularly elements concerned with environmental health, the NZ guide focuses on the socio-cultural aspects of design.³⁶ This guide provides information on preferred settlement planning options, site planning, the role of communal spaces, the need for designs to be flexible and able to cope with fluctuating household sizes, requirements for visitor

³⁶ A useful comparison is Wanhalla's (2006) account of Maori housing 1930-1945 which describes the imposition of western housing types.

zones, requirements for teenagers and young children, connections between indoor and outdoor spaces, and open planned living areas. The guide describes household functions that must be kept separate to maintain their tapu (sacred or prohibited) and noa (common or profane). A matrix is provided that indicates desirable and undesirable relationships between functions/spaces. Other elements considered are entry, the role of the living room, sleeping arrangements and the use of the living room for sleeping, the size of bedrooms, the size of kitchens, ways to facilitate outdoor cooking, fencing and food gardens. A number of design examples are provided to illustrate how the design guide can be implemented. In the Australian context a national socio-cultural design guide would be difficult to produce due to the diversity of cultural, historical, climatic and other circumstances. It may be possible to produce such a guide at a regional level but even then the literature warns of differences across regions (see Haar 2003).

5.7.9 Design portfolio approach

A further research sub-theme is that which considers the use of portfolios of standard designs. Memmott reports on the use of a portfolio of designs in the Central Remote Model with a view to minimising construction and design costs. Memmott (2001:64) observes “the use of a limited portfolio of designs from which clients can choose is by no means new to Central Australian Indigenous communities.” He argues that there are limitations to the use of a portfolio of designs these being (1) a failure to explore variations in site and variations in the user requirements of the different cultural groups within the region, (2) a portfolio of designs must include designs for different building orientations, (3) the suitability of prototypes to a range of household types and compositions.

5.7.10 Design and housing as process

A further design theme is what Memmott & Go-Sam (2003:14) have defined as the housing-as-process paradigm “which aims to firmly situate housing design and provision within the broader framework of an Aboriginal community’s planning goals and cultural practices, as well as its socio-economic structure and development.” Within this theme area are publications that consider the role of consultation in the design of houses (THS 2001:A.7-A.9; Lee & Morris 2005a; IEHCC 2006:14-15). A number of publications provide useful overviews of the operating environment for Indigenous housing including management of construction processes (see Groome & Pholeros 2000b:189-194; THS 2001; IEHCC 2006:10-42).

However in the literature there are calls for much more than consultation (Dillon & Savage 2003:42; Barker 2003). Fantin (2003a; 2003b) calls for designers to learn the culture of the users and argues that they must design to facilitate the maintenance of Indigenous culture. Barker (2003) outlines an approach to housing that not only engages communities in the entire process but also importantly gives communities control and ownership of that process and the outcomes:

Many architectural practitioners believe that housing is a process wherein people can significantly improve their situation on many levels. This happens through people being made the centre of their housing process, determining their own needs, being involved in planning and design, having a role in funding, and implementing the steps toward delivery of appropriate and sustainable living environments. Achieving change requires much more than people being consulted about the type, shape and design of the structure and its surrounding environment. It is about recognising the potential for people to control and manage their own process, and implementing a framework in which this can happen successfully. In recent times there have been some

important revisions made to how programs can be implemented more effectively. (Barker 2003:99.)

Haar's (2000, 2003) reporting on self-built housing projects provides a unique insight into alternative housing processes that facilitate Indigenous control and ownership. Outcome 4 of the BBF, improved partnerships, fits within this housing as process theme.

5.7.11 Lack of published design case studies

There are infrequent reviews of Indigenous housing schemes in mainstream design journals (see for example Memmott & Eckermann 2001; Memmott & Chambers 2002). Such reviews remain as a gap in the literature. The publication of housing reviews would assist designers and communities to make informed decisions about future housing in much the same way that mainstream housing and design journals inform the public and design professionals. Such reviews could contain information on the brief, budget, funding stream, design/consultation process, and design issues/ideas, and they might be documented with photographs, architectural drawings and text. This type of review would partly answer Keys' (2003:65) observation that criticism of Indigenous housing is often made without evidence from community specific research.

5.7.12 Further design research gaps

Very little research has considered the symbolic meaning in Indigenous built environments. Keys (2000b:57) argues that her research demonstrates "inherent symbolic meaning in Warlpiri built environments and strongly refute[s] a concept of Aboriginal structures being little more than 'shelters'. Fantin (2003a:118-120,244-245) later investigated meaning and architecture in north-east Arnhem Land.

An obvious gap in the literature concerned with the design of Indigenous housing is research concerned with the creation, characteristics and contents of design briefs for Indigenous housing.

The 2003 & 2004 AHURI Research Agenda's raise the theme of investigating "links between housing, health, and physical, mental and spiritual well-being for Indigenous people". The 2006 & 2007 agendas contain slightly more specific design related research questions.

Design appears as a theme in the international housing literature with particular emphasis on the need to design houses in response to preferred patterns of domiciliary behaviour and an ongoing failure to do this. Wanhalla (2006) and Walker (2006:499-500) describe Maori families challenging the appropriateness of house designs in the 1930s, 1940s, and the 1970s and 1980s. Walker (2006) also describes mainstream housing providers endeavouring to produce culturally appropriate houses that are designed in response to Maori domiciliary preferences. Hoskins et al (2002) illustrate Maori housing preferences in a design guide. Davey et al (2004) discuss the housing design preferences of the older Maori population. Waldegrave et al (2006:132) call for house designs for Maori that support whanua (family) commitments and celebrations. Dawson (2003, 2004) provides a detailed study of the suitability of non-Inuit housing designs for Inuit patterns of domiciliary behaviour and cultural values. Dawson's observations in Canada parallel observations made in the Australian literature as illustrated by the introduction to one of his papers:

Daily activities such as hunting, fishing, the upkeep of rifles, fishing nets, snow machines, as well as family values, entertaining, and visiting habits, define cultural values that differ considerably from those of Euro-Canadian society. Yet, since the 1950s, cost effective and durable Euro-Canadian-style houses have been built for Inuit households. The unique economic and

cultural configurations of Inuit families have been largely left out of the design process. (Dawson 2004:1.)

A recent Canadian paper reports on a survey of Aboriginal design preferences and the use of local materials in housing noting: "Traditionally, the dwellings of Aboriginal peoples were built with materials on hand and evolved with their way of life. Today, most houses in Aboriginal communities are dwellings designed for an urban, non-Aboriginal culture, built with industrially produced materials often transported from afar" (CIER 2005:1). The Canadian literature also suggests the existence of cross-cultural differences in housing preferences that exist amongst the various Aboriginal groups (see for example Walker 2005:9; CIER 2005). There is also a report on the use of design charettes (intense group design workshop) to explore affordable housing solutions for Aboriginal people in urban areas of Canada (Johnson 2004). A further Canadian study considers design in relation to home ownership and housing affordability (SRHBA 2004). Health and housing also appears as a research theme in the Canadian literature (Green 2001). Moran (1997) provides a useful comparison of Indigenous housing issues in Australia, Canada and the United States which includes environmental health issues. Fantin (1999) compares consultation processes in Indigenous housing programs in Australia and Canada.

Wanhalla's (2006) account of Maori housing and health provides a useful comparison to the Australian literature on housing and health. She describes the imposition of western housing types as a means to ameliorate Maori health problems and as a means of transforming Maori domiciliary lifestyles in the 1930s and 1940s. Yet housing surveys at the time failed to understand Maori concepts of health including the concepts of tapu (restricted) and noa (accessible), and the structure of Maori domiciliary life. Rankine (2005) provides a useful overview of health and housing in Auckland analysing relationship between ten housing conditions and six areas of health. The housing conditions were affordability, substandard housing, cold, damp and mould, faulty heating sources, pollutants and pests, noise, monocultural housing, lack of shelter. The health areas were infectious diseases, respiratory health, other chronic conditions, injuries/poisoning, psychological health and cultural health. The report argues that housing policy, regulations and design are based on Pakeha cultural norms and argues for housing to respond to Maori and Pacific Islander domiciliary lifestyles. The report links monocultural housing to impacts in psychological and 'cultural' health.

5.8 Remote area technology

Around 13% of the 2000-2006 literature reviews is concerned with housing technology. This theme overlaps with the theme of 'design'. Most of this literature is focussed on housing technology in remote and very remote Australia. A dominant area within this theme is housing technologies and environmental health. Pholeros (2003) argues that poor design and poor building specifications can contribute to the poor performance of housing. He argues that poor initial construction can also contribute to a high rate of routine technical failures. This poor technical performance can have a negative impact on environmental health. Housing technology that impacts on health has been referred to as 'health hardware'. A number of publications provide guides or standards that focus on environmental health and technology. For example the National Indigenous Housing Guide (FaCS 2003) "... provides practical advice on the design, selection, installation, construction and maintenance of housing health hardware and other aspects related to environmental health..." The earlier *Environmental Health Handbook* (Harris 2000) provides information regarding the design of the house and living areas, the design of kitchens and their installation and

maintenance, the design of wet areas, management of the construction process, and the maintenance of houses; it also provides a series of building checklists.

The Northern Territory's Environmental Health Standards is a further publication concerned with remote area building technology (NT 2001, 2002). The aim of the standard is to improve environmental health conditions in remote communities in the Northern Territory and it fills a significant gap in the ability to control environmental health standards in remote communities in the Northern Territory created by the fact that most remote areas are not gazetted building areas and therefore are not subject to legislation such as the BCA. The standard defines performance requirements for housing including cultural and climatic requirements, technical specifications and construction methods. (THS 2001: B.1-B.2.)

Similarly the South Australian government published a specification that aims to improve the durability, sustainability and health and safety of housing in very remote designated Aboriginal lands in western South Australia. The specification is a response to the harsh environmental conditions and limited access to maintenance services and it defines technical requirements in addition to those of the Building Code of Australia. (PSA 2000:1.)

Although relevant to the health hardware theme this specification is aligned to another sub-theme that is appropriate remote area housing technologies. At a different scale to these standards and specifications is a paper by Scally (2003) that argues that houses must be designed and construction processes selected based on an assessment of local conditions, including the skills base of the local workforce. Technological considerations described by Scally include the very high construction and repair and maintenance costs of very remote locations, the selection of durable construction systems that reduce construction costs, the selection of technologies that allow ease of management and maintenance. A unique contribution is Haar's research that argues for the selection of building technologies that facilitate the development of self-help housing. Other contributions to this sub-theme focus on technological responses to climatic conditions such as Groome's (2003) paper, are concerned with northern Australia.

A third sub-theme is research concerned with the performance of building elements and household appliances such as hot water systems (Wilson 2000), stoves (CAT 2003), sewage systems (Marshall 2000), rainwater systems (Plazinska 2001), and energy (Lloyd 2000a). This sub-theme has been lead by the work of the Centre for Appropriate Technology, which for many years has conducted research and implemented projects concerned with suitable technologies for remote Indigenous communities (see www.icat.org.au).

The AHURI Research Agendas do not directly raise research questions concerned with housing technology/ remote area technology. However related themes were raised such as maintenance in 2000 and the relationship between housing and health 2002-2004.

Appropriate technology also appears as a theme in the international Indigenous housing literature. Vandale (2004) reports on the use of straw bale construction in experimental self-built Aboriginal housing initiatives in Canada. Canadian research has also explored the potential for the use of local materials in housing construction and the use of manufactured housing in First Nations Communities, including as a means to improve affordability (CIER 2005, CHMC 2005).

5.9 Home, place and space

The theme of 'home, place and space' does not appear explicitly as a research theme in the post 2000 Indigenous housing literature. However it is implicitly or perhaps inherently a theme of most of the literature concerned with culturally appropriate design, occupation and use of housing, mobility, and decentralisation versus centralisation. Perhaps an indicator of the inherent nature of this theme is that discrete communities in remote and very remote areas dominate the literature and such communities are mostly, but not always, located on or close to home communities, homelands or 'country'. Negligible research has considered the role of housing in relation to place, the exception being Memmott:

Customary houses or shelters were used like tools to make everyday life more comfortable from inclement weather.....They were not a 'home' in the Western sense of being a permanent structure for physical protection against climate and other physical hazards, to which is also attached personal decorations, colours and symbols...For Aboriginal people, memories and experiences were associated with campsites and other places in the landscape, not with specific shelters which were too many, too similar and too impermanent to provide such a wealth of stable links with the past. The artefactual, behavioural and sensory properties of the Western construct 'house' are best construed in the Aboriginal context to be embedded in and between the domiciliary space and the camp rather than in the shelter per se. (Memmott 2000:33.)

There are significant publications concerned with domiciliary space but these are more closely aligned with the themes of 'occupation and use' and 'design':

The fundamental elements of residential architecture can be defined as domiciliary spaces, with sub-spaces for particular activities and hearths, and optional shelters. The 'architecture' is initially generated by distinct spatial and cognitive rules and behaviours. The introduction of structure and buildings is dictated by these rules and behaviours, and represents a material extension in response to climatic and social factors. Cultural symbols encoded in physical form may provide another overlay of architectural properties. (Memmott 2000:104.)

The theme of 'home, place and space' has not appeared in the Indigenous section of the AHURI Research Agendas.

5.10 Summary

This chapter has examined definitions of housing that appear in the 2000-2006 Indigenous housing literature and the broad category of micro-issues. Seven of the twenty-six research themes initially identified in the analysis (see Chapter 2) constitute this broad category these being occupation and use of housing, domiciliary composition and household size, user groups, mobility, design, technology, and home and place.

A broad characteristic of the 2000-2006 literature is that much of the research does not define what housing is. There seems to be an implicit assumption of a shared understanding of housing but the diverse range of meanings and values associated with Indigenous housing in the literature suggests that such a shared understanding may not exist. One way to ensure a shared understanding of housing is to adopt, as we have in this project, a broad definition of Indigenous housing. Such a definition considers Indigenous housing to encompass all aspects of the production, management, maintenance and occupation of Indigenous living environments and it

considers Indigenous housing to exist within a complex set of broader environmental relationships. Such a broad definition reflects the interlinked or overlapping nature of the research themes in the literature.

Housing design is by far the most represented theme in this micro-issues category and the 2000-2006 body of literature as a whole. The occupation and use of housing is also a strong theme within the literature being the second most represented theme in the micro-issues category and the third most represented theme in the literature as a whole. Design and occupation and use are complex themes that contain numerous research sub-themes; twenty-nine design sub-themes and sixteen occupation and use sub-themes were identified.

Whilst the relatively high representation of these micro-issues in the 2000-2006 literature represents a research strength considerably more work in this category of research is required. Despite the strength of this research category houses continue to be designed that do not respond to Indigenous patterns of occupation and use. Perhaps a greater engagement with the findings of the existing research is also required.

There is significant scope for ongoing investigations of occupation and use, for example do patterns of occupation and use vary across Australia? An ongoing program of post occupancy evaluations would contribute significantly in this regard. Further work is required to gain a more thorough understanding of household composition, for example, what commonalities and differences exist in preferred household compositions and sizes across Australia? A significant weakness in the literature is the ongoing use of non-Indigenous occupancy standards to assess overcrowding. What is the nature of Indigenous perceptions of overcrowding? Similarly a greater understanding of the needs of various Indigenous user groups is required. The research on Indigenous mobility and housing is really in its infancy and further research that considers the accommodation needs of the mobile population is required.

An overarching strength of this micro-issues category is the focus on remote and very remote Australia but this also reveals a weakness; very little research has investigated these seven research themes for outer and inner regional Australia and the major cities.

The dominant message from this micro-issues research category is the necessity for culturally appropriate housing and an ongoing failure in the provision of such.

The focus of the micro-issues research and the methods employed suggest that the theoretical basis of this research category lies in the field of people-environment studies.

6 THEMES OF THE AUSTRALIAN INDIGENOUS HOUSING LITERATURE 2000-2006: MACRO-ISSUES

6.1 Introduction

This chapter reports on macro-issues in Indigenous housing, this being the second of two broad categories of research themes of the Australian Indigenous housing literature reviewed in this project and published between 2000 and 2006. Macro issues are those that extend outside of the realm of actual living environments. This category encompasses broad scale issues and analyses that fall within the realm of region, state and national administrations. Although macro-issues extend beyond the micro-issues of actual living environments they are not independent from them. Sixteen of the twenty-six research themes initially identified form this broad category these were ownership, funding and costs, sustainability and efficiency, management, policy, planning and decision making about housing, mainstream versus dedicated programs, decentralisation versus centralisation, performance, affordability, accessibility, appropriateness, location and geography of housing provision and services, home and place, housing needs, housing and other outcomes, and historical and institutional aspects of housing. The aim of this chapter is to identify strengths and gaps in the macro-issue research themes represented in the 2000-2006 Indigenous housing literature. The chapter examines the nature of each of these themes and identifies sub-themes within them. Each theme area is discussed in turn.

6.2 Indigenous housing ownership³⁷

6.2.1 Home ownership & affordability

Around 7% of the post-2000 literature reviewed included the theme of ownership. Ownership is analysed in the literature as an indicator of housing need in two different ways. Firstly some studies analyse the rate of Indigenous households who own or are purchasing their house and are in a state of affordability need. According to the Australian Institute of Health and Welfare (AIHW), households in the bottom 40% of incomes who pay more than 25% of household income in rent or mortgage repayments are defined as in affordability need.³⁸ The AIHW found that in 2001, 37% of Indigenous households were in affordability need (AIHW 2005a:2,44,53). Neutze et al (2000) have also analysed the affordability of Indigenous homeowners as an indicator of need. They analysed the “income left for housing after other basic needs had been met” (Neutze et al 2000:3,7,11).

6.2.2 Home ownership and housing need

Secondly, the rate of Indigenous households in home ownership is analysed as an indicator of need and as an indicator of performance (see SCATSIA 2001). For example the AIHW considered rates of home ownership in their assessment of the performance of outcomes of the Australian Housing Ministers’ ten-year programme on

³⁷ Although the current authors believe the term ‘housing ownership’ is more accurate than the commonly used ‘home ownership’, the latter is used in this report. There is a clear difference between house and home in the Indigenous context. For example many Australian Indigenous communities assert ownership over their ‘home’, their traditional country and some have had their ‘ownership’ of this ‘home’ recognized in land rights or native title processes. Yet the same communities may not own the houses that were built for them and which they occupy.

³⁸ The AIHW (2005) report notes that this method fails to cover the affordability needs of larger households.

new directions for Indigenous housing titled *Building a Better Future* (BBF). In order to assess BBF Outcome 3 - More Housing they compared the proportion of Indigenous households by tenure type and found that rates of Indigenous home ownership were highest in Victoria (36.6%), New South Wales (32%) and Queensland (30.3%). (AIHW 2005b:66-70.)

6.2.3 *Rates of Indigenous home ownership*

Rates of 'home ownership' were used by Steering Committee for the Review of Government Service Provision (SCRGSP 2003; 2005) as one of fourteen 'headline indicators' of Indigenous disadvantage. The following reasons explain the significance of its use as an indicator:

Home ownership is an important economic indicator of wealth and savings, and is likely to be positively related to employment and income indicators. Home ownership provides a secure asset base that can contribute to financial stability and against which people can borrow. A home can be passed from one generation to another. Home ownership allows households to build or modify a dwelling to suit their particular needs, something that may not be possible with rental accommodation. Improvements in the strategic areas for action, particularly those relating to education, and economic participation and development, could increase the level of Indigenous home ownership in the future. (SCRGSP 2003:3.33.)

The SCRGSP reports acknowledge that not all Indigenous people aspire to home ownership, particularly people living in remote parts of Australia or those living "more traditional lifestyles." They found that the rate of Indigenous home ownership was much lower than the non-Indigenous population. The reports argue that low rates of Indigenous home ownership can be partly explained by the younger age profile of the Indigenous population. A second reason identified for lower rates of home-ownership is the number of Indigenous people living on communally owned or controlled land (SCRGSP 2003:3.33-3.36). In the 2005 report it is noted that: "Unlike the United States and Canada, where similar situations arise on Indigenous communally owned land, in Australia the legislative provisions which provide for sub-leasing and private sector financing have yet to be fully explored and used" (SCRGSP 2005a:3.47-3.51).

6.2.4 *Home ownership on community title land*

A small portion of the literature investigates the issue of home ownership on community title land. Moran et al (2001; 2002) investigated the prospects for home ownership on community title land in Queensland where they interviewed householders in four discrete settlements.³⁹ Moran et al considered the nature and disadvantages of a closed housing market on community title land. They found a significant level of interest in home ownership but cautioned that home ownership on community title land is a complex issue that must be treated with care. An interrelated issue is the recent changes by governments to leasing arrangements over townships on Aboriginal land in the Northern Territory. For example an NT Government report mentions investigating leasing arrangements that will facilitate private sector investment in Indigenous housing (NTDCDSCA 2004:20).

Sanders (2005:1-19) has argued that the socio-economic differences between remote and settled Australia mean that it is unrealistic to attempt to transpose the housing tenure system of settled Australia to remote Indigenous Australia. Instead of using home ownership as a measure of Indigenous housing disadvantage, Sanders

³⁹ Cherbourg, Palm Island, Yarrabah and Lockhart River.

proposes that private rental rates are a more useful measure in settled areas and household size is a more useful measure in remote areas. The paper calls for housing tenure in remote Australia to be understood on its own terms, and concludes by stating: "...it is highly unlikely that radically new forms will be found which quickly change Indigenous housing tenure in either remote or settled areas" (Sanders 2005:19). It should be noted that studies of self-built (Smith 2000:198) and self-help (Haar 2000, 2003) housing have argued that such construction methods open up opportunities for affordable home-ownership. However, the self-built houses studied by Smith would be considered inadequate by most surveys of housing and housing need.

Research questions concerned with Indigenous home ownership appear in a number of the AHURI Research Agendas. The 2006 Agenda had a particularly strong focus on Indigenous home ownership as a research theme. Yet no Indigenous home ownership research has resulted.

Home ownership appears as a significant theme in the international literature. Home ownership in urban areas is a key issue in Canadian research (Sutton 2004; SRHBA 2004; Foss 2004; Just 2005; Holmes 2006). Walker (2005:2) reports low rates of Aboriginal home-ownership in Canada, and raises a question that is also pertinent to the Australian context: "How will the framework accommodate those that have no desire to own their own homes and prefer renting over the long-term?" (2005:9). Relatively low rates of Native American and Native Hawaiian home ownership are reported in the literature (see NAIHC 2006). Increasing rates of home ownership is seen as a method of ameliorating poor housing circumstances and a feature of the international home ownership literature is publications that aim to assist people into homeownership or report on programs that aim to do so (see HUD 1996a, 1996b, 2000; Just 2005; ONAP 2006b). The 2005 Native Hawaiian housing plan describes the use of self-help housing programs to assist low-income families achieve home ownership, and it raises the issue of pre and post-homebuyer education, including financial literacy, for Native Hawaiians, (DHH 2005:3-4). A unique report on Indigenous home ownership in the international literature is a survey that identifies high rates of predatory and abusive lending in tribal areas of the USA with first home buyers and purchasers of mobile or manufactured housing being especially targeted (NAIHC 2003). The Office of Native American Programs (ONAP:2000) has published a document that details the formation of tribal non-profit organizations to promote home ownership, there is also a report on one-stop mortgage centres in Indian Country that were created to facilitate and promote home ownership (HUD 2000).

Home ownership appears as a strong theme in the literature from New Zealand. Murphy (2005) provides an overview of the New Zealand government's role in homeownership through its involvement and later disengagement from the provision of mortgage finance. Murphy discusses two types of mortgages aimed at Maori that may well be relevant to the emerging push for home ownership in Indigenous Australia; the Papakainga scheme which provided loans for houses on multiple-owned land, and the Low Deposit Rural Lending Scheme (see also Waldegrave 2006). Murphy notes that both schemes serviced a sector of the home loan market that the private sector was reluctant to lend to. Davey et al (2004) report on a declining rate of home ownership amongst the older Maori population and discuss the implications this has for current and future demand for appropriate rental accommodation. Waldegrave et al (2006) report that since the 1950s Maori home ownership rates have been falling, they also report that Maori home ownership is highest in rural areas and in "traditional areas of Maori settlement." Despite the limited nature of the research that has investigated Maori housing aspirations Waldegrave et al (2006:33, 34) state that "Maori wish to own their own home" and report that Maori aspirations for home

ownership are equivalent to Pakeha. They also report on barriers to Maori home ownership including financial constraints such as access to private sector loans, lack of knowledge about homeownership, access to services and information and discrimination (Waldegrave 2006:34,133). Waldegrave et al (2006:129, 130) make a number of recommendations to facilitate Maori aspirations for and thus increase rates of home ownership. Waldegrave et al's observations on Maori communal title are highly relevant to the topical issue of home ownership on community title land in Australia: "...the range of Maori experiences of housing must be understood in the context of Maori cultural practices and their relationships with the prevailing commercial housing model. That model is grounded in a market system of individual property rights and is often in conflict with land development models premised upon lineage-based shared property rights" (Waldegrave et al 2006:12).

6.3 Indigenous housing funding & costs

6.3.1 Analysis of funding vs costs

Around 8% of the literature reviewed was concerned with funding and costs. A sub-theme is concerned with the analysis of costs as an indicator of performance. For example under the performance indicator of 'efficiency', the annually produced Reports on Government Services (RoGS) analyse the gross costs per unit to provide State Owned and Managed Indigenous Housing or 'SOMIH' (see SCRGSP 2000-2006). Gross costs include administration costs, operating costs, depreciation costs and the user cost of capital (SCRGSP 2006:16.49; see AIHW 2005c:27). These reports note that the costs in supplying SOMIH cannot be directly compared with equivalent indicators concerned with public housing:

State owned and managed Indigenous housing dwellings are also more highly concentrated in rural and remote areas where the cost of providing housing assistance is potentially greater. The need to construct culturally appropriate housing...may also affect the cost per dwelling. Finally, different cost structures may apply to the programs. Construction of dwellings, for example under State owned and managed Indigenous housing may involve a skills development element to allow for training of apprentices in rural areas. (SCRGSP 2006:16.50.)

The Community Housing Infrastructure Needs Survey (CHINS) has collected data associated with the costs and financial arrangements of Indigenous Community Housing Organisations (ICHOs). The ABS analysis of the CHINS data introduces the sub-theme of analysis of recurrent costs and income. The ABS uses the CHINS data to report on maintenance expenditure, rental income, weekly rent per dwellings and the percentage of ICHOs that receive rent. The 2002 survey found a decrease in the per household maintenance expenditure, but increases in the total reported rental income, the average weekly rent per dwelling and the percentage of ICHOs that received rent. Analysis of maintenance costs/funding and housing revenue can be described as a sub-theme in the literature. (ABS 2002:3-4.)

In monitoring the progress of the BBF, the AIHW (2005b) reported on a number of cost/funding indicators, these being: average weekly rent collected, rent collected as a percentage of total rent charged; total, and average amount spent on maintenance each year; maintenance expenditure as a proportion of rent collected; recurrent to capital expenditure ratio; proportion of organizations using rent deduction schemes; and average cost of providing assistance per dwelling.

A recent analysis of funding and costs is Hall & Berry's (2004, 2006) *Indigenous Housing- Assessing the Long Term Costs and the Optimal Balance Between*

Recurrent and Capital Expenditure. This project provides findings, policy implications and recommendations concerned with the costs of providing long term Indigenous housing, the cost differentiation between Indigenous and mainstream public and community housing, and capital versus recurrent funding. Hall & Berry observe that geography has strong implications for housing revenues and argue, “locating rental dwellings in remote and very remote [Australia] creates a major revenue penalty” (2006:v). This introduces the sub-theme of funding/costs and remoteness classification. Hall & Berry add further information to the sub-theme of maintenance costs and revenue and they also investigate the sub-theme of management expenditure and revenue.

6.3.2 *Reducing capital costs*

A sub-theme in the literature is methods of reducing the capital costs of housing. For example the Central Remote Housing Delivery Model aimed to reduce the cost of capital works in remote areas by employing a regional approach. The project was piloted to see if there were cost savings in running housing contracts using a central project manager and using a small number of prototype houses designed by selected architects. Whereas Memmott identified a number of limitations with prototype designs, SGS Economics reported that the houses were more culturally appropriate than those previously constructed and that there were substantial cost reductions. (See Memmott 2001; Jardine-Orr et al 2004; SGS Economics 2004.)

6.3.3 *Mobility & housing costs*

A further sub-theme is introduced in the work of Neutze (2000:491-502) who, in an analysis of reasons for the continuation of poor quality housing, makes a connection between the cost of housing and Indigenous mobility: “It is difficult to provide housing and infrastructure that Europeans regard as being of reasonable standard at an acceptable cost if the housing is to be occupied only intermittently or if it has greatly varying numbers of occupants at different times.” However there is negligible published work that explores this association in Indigenous Australia. One could also ask are there cost benefits to the Indigenous housing sector that are generated by Indigenous mobility? For example what would be the cost implication to the housing sector if the mobile Indigenous population were not to rely on kin for accommodation? (See Memmott et al 2006.)

6.3.4 *Housing funding deficit*

The housing and infrastructure-funding deficit appears as a sub-theme in the literature. For example the report *National Issues in Indigenous Housing* identifies a significant emerging housing need in urban and remote areas as the Indigenous population grows and existing housing stock deteriorates and projects a \$2.3 billion infrastructure deficit (NTCDSCA 2004). Hall & Berry (2006:iv) consider deficits in recurrent revenue, and the capital deficit for upgrades and replacements.

The AHURI Research Agendas and Research Briefs have defined a number of research questions concerned with the theme of funding and costs. For example the 2006 Agenda raised a question related to the financial viability of outstations.

The theme of funding and costs and economic viability also appears in the international Indigenous housing literature. For example, Walker (2005:8) discusses the economic viability of Canadian Aboriginal housing organizations in terms of economies of scale. A report by the National American Indian Housing Council that examines funding provides reviews of successful projects and approaches in order to provide information for other tribes (NAIHC 2002:iii see also NAIHC 2003). The report introduction provides a good insight to funding circumstances:

The condition of housing continues to be detrimental for Native Americans and Alaska natives. Functioning with under-developed economies and, in some cases, no developed economies at all, have forced tribes and Alaskan communities to continue to seek funding. Current funding for Indian housing is insufficient to address critical housing shortages. These shortages constitute a common denominator of all Native communities. The complexities of land status and tribal sovereignty continue to make leveraging of federal, state and private sector funds a hardship. (NAIHC 2002:v.)

The report argues that it is necessary for tribes to leverage funding from sources other than dedicated housing funding, but they observe that communities need the capacity to be able to do so (NAIHC 2002:35). The NAIHC (2004) have also examined the complex relationship between tribal economic development and housing (see also NAIHC 2006). Australia and the USA are affluent nations yet Indigenous communities in both countries experience housing funding shortfalls. Why is this the case?

6.4 Sustainability, efficiency, embodied energy & lifecycle analysis

6.4.1 Efficiency

Around 4% of the literature reviewed was concerned with the notion of efficiency that is embedded in the National Performance Indicator Framework. Since 2002 the annually produced RoGS have analysed the efficiency of SOMIH. In these reports the efficiency of SOMIH was measured using the following indicators: (1) the cost per dwelling of providing housing, including administration costs, operating costs, depreciation costs, and the user cost of capital; (2) occupancy rates or the proportion of housing stock occupied; (3) turnaround time, which is the speed of re-occupation after a house has been vacated; and (4) rent arrears - the total rent collected as a proportion of rent charged. (SCRGSP 2002:915-919; 2004:16.49-16.52; 2005:16.63-16.67; 2006:16.72-16.76; see also AIHW 2005c.)

6.4.2 Sustainable tenancy

'Sustainability' appears in the literature as a theme in a number of ways. Firstly sustainability appears as a theme related to the ability to gain and maintain a tenancy. Cooper and Morris (2004) examined the factors that inhibit sustainable tenancies amongst Indigenous women. The authors identified 'pathways into a cycle of homelessness' including, disempowerment, the consequences of removals, overcrowding, drug and alcohol abuse, intergenerational unemployment, poverty and low levels of literacy. Contrary to the literature, the report did not find that incarceration contributed to homelessness (Cooper & Morris 2004:ii.). The report identifies a range of factors that are critical to maintaining sustainable tenancies including the need for culturally appropriate housing, a need for greater awareness of women and children at risk of homelessness, and one-stop service centres (Cooper & Morris 2004:iv; see also Cooper & Morris 2003;2005). Walker & Ireland (2003) have examined the tenancy sustainability of Indigenous people who migrate to Adelaide from remote areas to access health services and they report on a pilot program that aimed to "increase the number of traditional living Aboriginal people who are able to sustain their housing tenancies in an urban setting..."(Walker & Ireland 2003:5). Victoria (2000) considered tenancy sustainability amongst Indigenous youth in Queensland. Each of these research projects emphasise the need for tenancy support services. The small proportion of the reviewed literature that considered this sub-

theme, is in fact part of a much larger and emerging body of Indigenous homelessness literature.⁴⁰

6.4.3 *Physical sustainability of houses*

The physical sustainability of houses is also covered in the literature. The *National Indigenous Housing Guide* is informed by the principles of the *National Framework for the Design, Construction and Maintenance of Indigenous Housing*, one of the four principles being sustainability which is described as the “Long-term functionality of houses through good design, construction and cyclical maintenance.” Thus the focus of sustainability in the *National Indigenous Housing Guide* is health hardware and housing maintenance. Others have considered sustainability in terms of the lifecycle of remote housing but they focus on a relationship between maintenance and sustainability (Parnell & Seemann 2005). Etherington & Smith (2004) argue that sustainable Indigenous housing is reliant on “adequacy of design, construction and maintenance”.

6.4.4 *Sustainability and energy*

A paper by Duell & Martin (2005) illustrates another physical sustainability sub-theme, that being embodied energy and thermal performance. They made an analysis of the embodied energy and climatic performance of two house designs used in the Central Remote Housing Delivery Model project in Central Australia. The thermal performance of the houses was analysed against the ‘deemed-to-satisfy’ criteria of the Building Code of Australia. Each of these employs a limited concept of sustainability. Logan (2003), a student of the AERC, investigated sustainable architecture on the Barkly Tableland using the principles of the RAI Environmental Design Guide (1) reducing energy required to operate a building by selecting building elements and services that are appropriate to the local environment, (2) preserving local ecosystems, and (3) the use of locally sourced materials/resources. The work of Scally (2003) and Haar (2003) highlights the opportunities for using local building materials.

6.4.5 *Sustainable Indigenous housing*

Ross employs a broader notion of sustainability in a short and basic analysis of sustainability and Aboriginal housing. Ross (2002:138) argues, “traditional camps and dwellings represent a comfortable integration of the social, economic (labour) and environmental dimensions of sustainability, involving minimal use of environmental resources...” Ross (2002:138,139) then critiques contemporary Aboriginal housing according to the energy and resources tied up in their construction arguing that “housing for Aborigines is largely a drain on local and global environments and largely inappropriate.” Ross (2002:139-140) critiques the economic aspects and social aspects of Aboriginal housing. She argues that the inappropriate and fixed socio-spatial arrangements of Aboriginal settlements create significant stresses. Ross then introduces preferred Aboriginal domiciliary behaviour, household size and composition and argues that the “design of the house affects the sustainability of social characteristics of Aboriginal life...Where the nature of houses conflicts with social norms, some adaptation is necessary, either on the part of the people or the way they use the house” (Ross 2002:140). Finally Ross (2002:140) observes that the “economic aspects of Aboriginal housing are poorly integrated with environmental and social aspects...Sustainable Aboriginal housing requires the *integration* of social, economic and environmental analysis and design.”

⁴⁰ Indigenous homelessness literature was not targeted in the current audit review.

There is significant scope to develop a program of research of sustainable Indigenous housing that investigates innovative responses to economic, socio-cultural, climatic, and material factors. Such research could consider the use of bush materials in traditional Indigenous architecture including their availability and structural and thermal performance. This information could then inform investigations of the potential use of these materials in contemporary housing. For example the potential for the use of local materials such as bush timbers, earth (rammed earth), rock, ant bed, and grasses such as spinifex in the design of new houses for very remote or remote communities could be explored.

Sustainability has appeared in the AHURI Research Agendas since 2002 as a research area with the aim to gain an understanding of “the longer term economic, social, environmental and cultural outcomes of the current policies and programmes” (AHURI 2003). However despite the broad intent of this aim, the Agendas have focussed on economic viability and building maintenance and lifecycles. Social and cultural elements of sustainability remain a gap in the AHURI Research Agenda.

Amongst the international literature a Canadian publication provides a review of a First Nation’s sustainable community plan and sustainable housing designs (Kennedy 2004; see also Green 2002). This review applies a broad definition of sustainability similar to that described by Ross (above).

6.5 Indigenous housing management

A substantial portion of the 2000-2006 literature reviewed (over 30%) was concerned with housing management.

6.5.1 Housing management and governance

A sub-theme within the housing literature is governance and the interrelated issue of Indigenous control of housing management. Neutze (2000:500) argues for greater community control of housing in order to ensure that housing meets Indigenous defined needs and priorities and to engender greater responsibility for housing outcomes and maintenance. Jardine-Orr et al (2004) conducted research concerned with good governance and Indigenous housing in remote Western Australia and Northern Territory. Their research provides case studies of Indigenous housing organizations and considers differences in the “nature of community control, ownership and management of housing...” (Jardine et al 2004:i). Jardine-Orr et al (2004:37) illustrate the potential to enhance Indigenous control and management of Indigenous housing and argue that the development of strong Indigenous leadership involves recognising Indigenous systems of control and organization. Burke (2004) uses case studies from Aboriginal Australia to illustrate the need for culturally specific management practices in social housing more broadly. Current research by Anda et al (forthcoming), analyses case studies of the management capacity of ICHOs across Australia providing a significant contribution to management and governance knowledge.

Jardine-Orr (2005) examined why the remote Indigenous housing system can either fail or succeed in meeting Indigenous housing needs. She found that the system fails where it is supply-driven (externally prescribed) and it is successful where it is demand-responsive (community determined). She observes the characteristics of successful remote Indigenous housing to be “Indigenous control and self-determination, an enabling environment and a culturally responsive system” (Jardine-Orr 2005:iv-v). Indigenous control within the housing system falls within BBF Outcome 4: Improved partnerships – “Ensuring Indigenous people are fully involved in planning, decision making and delivery of services.” The AIHW has monitored the progress of

this BBF outcome by using indicators such as the “proportion of people employed in housing management who are Indigenous; strategies and outcomes to increase Indigenous employment in housing services; [and] mechanisms for Indigenous input to planning, decision making and delivery of services” (AIHW 2005b:75). A unique piece of research is Tripcony’s overview of Aboriginal management of Aboriginal housing in urban Victoria: “The underlying principle for Aboriginal management of Aboriginal rental housing is the maintenance of Aboriginal lifestyles and values...Victorian Aboriginal communities have never lost sight of that aim” (Tripcony 2000:156).

6.5.2 Evaluation of management

The literature also contains research that considers methods for evaluating housing management. Walker et al (2002, 2003) criticise existing program/management evaluation methods. They call for evaluations and indicators that are framed within a framework of human rights and Indigenous control. They note: “Such a position challenges housing funding bodies to establish housing evaluation policies, processes and practices aimed towards Indigenous self-determination, social transformation and cultural integrity” (Walker et al 2003a:v). Recently Rogers et al (2005) defined a framework for evaluating the BBF and the AIHW (2005b) produced a set of indicators to monitor the performance of the BBF. Both publications evaluate management issues, particularly in relation to the BBF’s Outcome 2- Better Housing Services, Outcome 4- Improved partnerships, and Outcome 6- Improved performance linked to accountability

6.5.3 Housing management training

A sub-theme in the literature is housing management training and capacity building. Hall & Berry (2004,2006) have recently compared the ICHO and SOMIH sectors in terms of capital and recurrent expenditure, including expenditure on management training. Hall & Berry (2006:vi) have also identified impediments to ICHOs accessing management training. They (2006: ix) have called for the Australian Government to establish and fund a National Indigenous Housing Training and Development Centre that would provide training in Indigenous housing management covering topics such as governance, records keeping, rent policy and arrears management, revenue retention, tenancy management and allocations, asset management and refurbishment, ‘hands on’ maintenance, and contractual arrangements. Jardine-Orr et al (2004:30-37) provide an overview of management training and capacity building in the Northern Territory and Western Australia and they argue for a ‘community development’ approach to capacity building and training. AIHW employ management training as an indicator to monitor progress of the BBF; the indicator being “proportion of Indigenous employees in ICHOs who are undertaking accredited training in housing management and related areas” (AIHW 2005b:37). Parnell & Seemann (2005:346) provide a unique argument regarding training and housing management. In relation to improving housing maintenance and thus the life-cycle of housing they call for “technacy⁴¹ education, focusing initially on the critical middle schooling years...to assist and explore...the development of critical capacities in choosing, valuing, problem solving, and skilfully applying technology to meet human needs.”

6.5.4 Management and delivery

An additional sub-theme in the literature is research that examines management in terms of the delivery of housing. A number of researchers have considered the

⁴¹ Technacy meaning science and technology.

Central Remote Housing Delivery Model that was piloted in central Australia (see Jardine-Orr et al 2004:24-26). This scheme sought to create economies of scale by centralising the planning, design and project management of housing (SGS 2004). Within this sub-theme is research that examines the role of Indigenous construction and repairs and maintenance teams (e.g. Memmott & Eckermann 2001; Jardine-Orr et al 2004). A unique area of research is concerned with management of the housing design and construction process (see Ove Arup et al 2000; IEHCC 2006). For example Groome & Pholeros (2000) address the following issues (1) selecting a design consultant, (2) how to know what will be built, (3) how to know if the builder is doing a good job, and (4) contractual rights and responsibilities.

6.5.5 Tenancy Issues

Within the Indigenous housing management literature is a research sub-theme that examines tenancy waitlists, allocations and prioritisation. FaCSIA's (2006:12) CHIP Review discussion paper calls for examination of "probity in allocation of housing stock", IHANT's rent review found that "the formulation of waitlists and the allocation of dwellings are at times disconcerting for administrators and tenants alike" (IHANT 2005:4). Although a current project by Anda et al (forthcoming) will contribute to the Australian literature on this sub-theme, it seems that more work is required on this issue not only within Australia but also in Canada and New Zealand.

A further sub-theme is analysis of Indigenous housing rents, rent collection arrangements, rent arrears and access to The Commonwealth Rent Assistance (CRA) Scheme. One paper specifically concerned with rent is IHANT's (2005) "Rent Review: Discussion Paper". This report considered rental circumstances within the context of the following house management issues: repairs and maintenance, expenditure of maintenance grants, rental income, insurance, waitlists, allocation of dwellings and access to the CRA Program (IHANT 2005:3). The rent collected and rent arrears of SOMIHs is analysed in the annual RoGS (SCRGSP 2004, 2005, 2006). (See also NT Gov 2004; Rogers et al 2005; Hall & Berry 2006; FaCSIA 2006.)

6.5.6 Management and tenancy sustainability

Another sub-theme is management practices that can facilitate Indigenous people to sustain tenancies or avoid eviction (Hansen & Roche 2003; Cooper Morris 2003, 2004; Flatau et al 2005). Within this theme is research that advocates the development of services that assist Indigenous tenants with home living skills. For example Walker & Ireland (2003:22) identify the need for an 'innovative living program' to assist 'traditional people' who relocate to Adelaide from very remote communities with home management issues. Flatau et al (2005:5) observe that some Indigenous people may lack the home management skills necessary to maintain mainstream tenancies. I

6.5.7 Housing management and environmental health

The relationship between housing management and environmental health forms yet another sub-theme in the literature. Environmental health appears as a component of a number of research themes in the literature (e.g. see 5.7.6 housing design & health). In this instance the literature is concerned with management responses to environment health issues, or the implications of environmental health for housing management. For example, Pholeros et al (2000) outline programs that have addressed maintenance issues to improve the environmental health of remote and very remote housing. Davis (2003) raises a number of management issues concerned with disability and housing provision including the development of disability policies, prioritisation and waitlists. Balding et al (2005) report on the development of a Healthy Housing Worker Program in western NSW that address housing maintenance issues.

6.5.8 Asset management

The literature also examines asset management and in particular the relationship of management, repairs and maintenance and the longevity of the housing stock. Neutze (2000:496-498) examines the relationship between rental incomes and the ability of organizations to carry out maintenance. A paper by the NT Government (2004) argues that improvement in housing management is a key strategy in addressing housing need. The paper identifies the need for adequate resources to maximise the life of existing housing stock. The paper calls for jurisdictions to take action to improve the capacity of Indigenous housing organizations to competently manage housing stock and thus improve the life span of the stock. The paper argues that "jurisdictions have a responsibility to ensure that recurrent expenditure on repairs, maintenance, housing management and essential service infrastructure are set at levels commensurate with the capital investment in housing assets on communities." The paper suggests that funding for new housing should be conditional on demonstrated capacity to allocate adequate recurrent expenditure. (NT Gov 2004:18.)

Jardine-Orr et al (2004) examined the capacity of communities to carry out asset management and maintenance activities. Their study found that in many remote communities the skills exist to carry out repair and maintenance works yet they also identify the opportunity to develop local repair and maintenance capacity. Jardine-Orr et al identify housing construction, maintenance and management as one of but few economic opportunities in remote areas. Given this skills base and the potential for employment there exists a highly important opportunity to develop (or enhance the development of) a localised Indigenous housing industry. (Jardine-Orr et al 2004:ii, 37.)

Parnell & Seemann argue that in addition to economic and technical factors it is critical to gain an understanding of how social factors can affect the life span of housing:

Experience with housing in desert communities indicates that the living space is where two quite different value systems meet: the values embodied in the mainstream notions of house and the values expressed by desert people in their everyday usage of housing and its related infrastructure. The technology of the house, particularly the funded, standardised, codified version, has an embedded culture of funding, design, construction, usage and maintenance. For desert people, this culture is not always obvious, acknowledged and valued, with substantial discontinuity in understandings of how to manage and maintain their housing. (Parnell & Seemann 2005:340.)

There are publications that establish a link between housing management and maintenance, and housing design. For example Scally (2003) describes maintenance and management issues that were considered in the design of houses in north-central Arnhem Land including, the cost of repairs associated with very remote location, selection of appropriate construction systems, and the need of appropriate technology and regular maintenance. Parnell & Seemann (2005) identify two broad categories of construction (1) lightweight, local resources, temporary, and (2) heavyweight, external resources, permanent. They argue that category (1) houses facilitate effective management and maintenance, as they require less specialised skills to build and maintain (Parnell & Seemann 2005:343. See also Jack 2000.)

Surveys and associated reports that identify repair and maintenance requirements and achievements are a further element of the maintenance and management sub-theme (Groome & Pholeros 2000c; ABS 2002; IHANT 2004; Stewart et al 2004; Balding et al 2005; DCDSCA 2005).

6.5.9 Economic analysis of housing management

A most recent study of housing management issues is Hall and Berry's (2004a, 2004b, 2006) *Indigenous Housing: Assessing the Long Term Costs and the Optimal balance Between Recurrent and Capital Expenditure*. Hall and Berry (2006) identify significant recurrent revenue gaps in both the SOMIH (\$44million/annum) and remote and very remote ICHO (\$52.6million/annum) sectors with such gaps impacting on the adequacy of management and housing maintenance. They also identify a substantial capital backlog in both sectors required to upgrade or replace existing stock. They analyse expenditure on management and found that such expenditure was substantially higher in the SOMIH than the ICHO sector. Hall and Berry (2006:vii) identify the link between management, maintenance and revenue as a "ruinous cycle: insufficient revenue ensures inadequate maintenance and housing management, which ensures poorer quality stock, lower proportions of potential rents..., which ensures further deterioration of the stock, and lower housing management expenditures which ensures even lower revenues..." Hall & Berry (2006:106-107) provide a number of policy and funding reforms in relation to both SOMIH and ICHOs. Hall & Berry's work sits within the management sub-theme of repairs and maintenance but it is also part of a research sub-theme concerned with management and costs which includes assessment of the use of maintenance grants (see also IHANT 2005).

Housing management has featured in the AHURI Agendas. For example a suggested research output in the 2003, 2004 and 2005 agendas called for the evaluation of the "long-term outcomes of housing maintenance programmes in Indigenous communities for the sustainability of Indigenous housing organizations."

Housing management also appears as a theme in the international literature. For example Walker (2005:2) reports high rates of non-reserve housing requiring repair in Canada and the need to develop capacity within the Canadian Aboriginal community to develop new non-reserve housing (see also Anderson 2005). The Native American Indian Housing Council (2003) recently conducted an assessment of the management training needs of tribal housing entities. They identified a significant need for ongoing and on-site training, specialised regional training and as staff members often fulfil more than one role there is a need for training across a number of responsibilities. The Office of Native American Programs (ONAP c2006) has published a guidebook for Native American housing associations to use to improve management procedures including grant monitoring and reporting. The guide includes themes such as monitoring roles and responsibilities, conducting environmental reviews, audit reports, fiscal and financial management, and complaint management.

6.6 Indigenous housing policy

Around 14% of the 2000-2006 literature is explicitly or solely concerned with policy. In fact the number of publications concerned with policy is arguably much higher than this because nearly all of the Indigenous housing literature is implicitly concerned with housing policy. One area of research in this theme is literature that outlines policy direction, the most notable being the Australian Housing Ministers' 'Ten year Statement of New Directions for Indigenous Housing - Building a Better Future' (BBF). This document sets out the vision and desired outcomes of the Commonwealth, State and Territory housing ministers for safe, healthy and sustainable Indigenous housing. The document describes a set of principles, objectives and implementation strategies for achieving the vision and desired outcomes. (HMAC 2001:2-7.)

Another sub-theme is research that provides an overview or history of policy. For example Jeremy Long (2000) traces the history of the Commonwealth Government's

Aboriginal housing strategies from the referendum of 1967 until 1981. Tripcony (2000) traces the development of Aboriginal housing and related policy in Victoria. In their overview of policy, Minnery et al (2000) note that Indigenous housing policy does not sit easily with mainstream housing policy, and they argue that Indigenous housing policy is comparable to the policy framework of socialist countries. FaCS (2005) produced a guide to the Indigenous housing and infrastructure policy context including the interrelationships between various programs and levels of government.

Within this policy theme is literature concerned with the evaluation of policy. Rogers et al (2005a, 2005b, 2005c) recently produced a framework for conducting a mid-term (2005-2006) and final review (2011) of the implementation process and outcomes of 'Building a Better Future: Indigenous Housing to 2010'. AIHW (2005) employed 38 indicators of the National Reporting Framework for Indigenous Housing (NRF) to assess progress in the seven outcome areas of the BBF. Jardine-Or et al (2003, 2004) and Jardine-Orr (2005) examine why the housing system fails to meet the needs of Indigenous households. Sanders (2005) has assessed recent moves in policy to promote Indigenous home ownership in remote Australia and argues that such moves are unrealistic due to the employment and income status of Indigenous people in such communities. Altman (2006) outlines significant issues that must be considered in the development of new policy for outstations.

A further theme is research that considers policy issues (albeit briefly) related to the history of Indigenous settlements in Australia (see Wells 2000; Rowse 2000; Attwood 2000).

An overarching theme of much of the research is literature that sets out to inform policy. This is explicit in the series of post-2000 AHURI publications concerned with Indigenous housing issues (e.g. Flatau et al 2005; Memmott et al 2006) and in particular the AHURI research and policy bulletins (e.g. Memmott et al 2004; Flatau & Copper 2005; Lee & Morris 2005a; Cooper & Morris 2005). The series of annual RoGS reports and their relevant sections on Indigenous housing could be considered as a contribution to this area (e.g. SCRGSP 2006).

6.7 Planning, coordination and decision making about Indigenous housing

Around 6% of the 2000-2006 literature reviewed was categorised within the theme of 'planning, coordination and decision making about housing'. However much of the literature could be viewed as contributing to decision making about housing, for example the annual RoGS reports (e.g. SCRGSP 2004). Three of the seven outcome areas of the BBF (HMAC 2001) are explicitly concerned with this research theme, these being Outcome 2: better housing services; Outcome 4: improved partnerships; and Outcome 7: coordination of services. The AIHW's Indigenous Housing Indicators monitor these outcomes. A theme of the indicators for Outcomes 2 & 7 is Indigenous involvement in decision making about housing; for example one of the indicators is concerned with "mechanisms for Indigenous input to planning, decision-making and delivery of services". The AIHW monitors Outcome 7 with qualitative assessment of the arrangements in place for the coordination of services across Government departments and between the state and Commonwealth. (AIHW 2005b:75-91, 108-109.)

Other research that calls for greater Indigenous control of the housing process includes Jardine-Orr et al's (2003, 2004) project concerned with governance and Indigenous housing and Jardine-Orr's (2005) assessment of the remote housing system. Jardine-Orr's (2005) thesis introduced the concept of supply and demand as a way of analysing the Indigenous housing system. She found that the current remote

Indigenous housing system has a supply-driven focus where the housing 'solutions' are controlled and largely provided from an external source - the Commonwealth, State and Territory Governments. Jardine-Orr discusses an alternative demand-responsive focus where remote communities have more control over the delivery of their housing. (Jardine-Orr 2005.)

Another sub-theme within the literature is concerned with planning, coordination and decision-making associated with the construction of housing and housing related infrastructure. Such literature includes the WA Code of Practice for Housing and Infrastructure Development (Ove Arup et al 2000; IEHCC 2006). The aim of this Code of Practice is to improve the design and delivery of housing and infrastructure in discrete Indigenous communities. The document describes the operating environment, appropriate standards and approval processes involved in producing housing. (Ove Arup et al 2000; IEHCC 2006.)

A unique document within this theme is the CHIP Program Guidelines (FaCS 2005). These guidelines are meant to assist FaCS and ICC staff to administer activities funded through CHIP. Thus it is a document that specifically aims to assist public servants in their capacity to make decisions about housing.

This research theme appeared most clearly in the 2003 AHURI Research Agenda that defined a research outcome concerned with the "nature of community control, ownership and management of housing..."

Control and decision making also appear as a theme in the international literature. For example Walker (2005:4) makes observations on the ongoing role of self-determination in relation to non-reserve housing in Canada noting, "Programs designed and delivered by Aboriginal organizations have better outcomes for Aboriginal peoples than mainstream programs."

6.8 Mainstream housing versus dedicated Indigenous programs

Around 5% of the literature reviewed considered Indigenous access to mainstream housing in lieu of dedicated Indigenous programs. An argument within this theme area is that access to mainstream housing programs will alleviate Indigenous housing need. For example in a position paper presented at a Housing Minister's conference, the Northern Territory Government outlined three strategies to reduce Indigenous housing, need the first being to improve access to mainstream housing and infrastructure programs and in particular the Commonwealth Rent Assistance program (NTCDSCA 2004:5). In fact access to the CRA should be viewed as a sub-theme of research in its own right (see IHANT 2005:12). The proportion of Indigenous households accessing mainstream housing services was used by the AIHW (2005:66) as one of a number of indicators to monitor Outcome 3 of BBF-More Housing. More recently Hall & Berry (2006:6) report a 75% increase in Indigenous access to mainstream housing programs between 2000 and 2004. However, they also report (2006:6) that despite a projected further increase in new allocations to Indigenous clients in the mainstream public and community housing sector in the period 2001-2009, such allocations will not meet the projected Indigenous housing need by 2009.

Another related sub-theme is research that considers impediments to Indigenous access to mainstream public housing. A report by SCATSIA (2001) that considered the needs of urban dwelling Aboriginal and Torres Strait Islander people found that Indigenous people experienced barriers to accessing public housing these being: affordability, suitability of the housing stock (particularly in relation to household size and composition), overcrowding, visitors putting tenancies at risk, problems adapting

to urban life, the need for accommodation options for transients/itinerants. The Northern Territory Government (2004:17) identified the following as impediments to equitable access to mainstream services and programs: language barriers, cultural awareness and acceptance of programs, the design and delivery of mainstream programs, discrimination, and low literacy and numeracy. More recently Flatau et al (2005:vii-ixi) identified a similar range of impediments to Indigenous access to and sustainability of mainstream and community housing tenancies including discrimination, Indigenous cultural and historical factors, cultural miss-match, a lack of appropriate, affordable and available accommodation, poverty, fragmentation in service delivery, spiritual and psychological homelessness, lack of skills in home management and “urban living”, and disadvantage and risk factors (Flatau et al 2004:24, 2005:vii-ixi.). Flatau et al argue that the design of mainstream housing stock can impede access, particularly where there is a poor relationship between design and household size and composition (Flatau et al 2005:xvi-xvi).

Memcott (2004) argued that governments should re-examine their history of housing provision to avoid re-inventing the wheel. He cites the re-cycling of the notion of ‘mainstreaming’ into the Indigenous sector as a failure in this regard. Memcott (2004) warns, “To not take cultural needs into consideration, both at the housing design and management levels, may ultimately result in a service failure.”

The relationship between mainstream versus dedicated Indigenous housing programs appears as a theme in the AHURI Research Agendas (see 2004, 2006, 2007).

A tension between mainstream and dedicated housing programs also exists in New Zealand. In an analysis of the history of urban Maori housing (NZ), Walker (2006:499-500) illustrates that despite specific Maori housing needs the government has resisted the creation of a dedicated Maori rental housing program. However, in comparison to the Australian context, mainstream state housing is designed to suit Maori households “in terms of size and cultural preferences for the use of and partitioning of space” (Walker 2006:500; cf Flatau et al 2005:vii-ixi). Walker (2005:4-5) also discusses the importance of dedicated programs in non-reserve Aboriginal housing in Canada and notes the multi-functional role of Aboriginal housing organisations. Moran (1997) provides a useful comparison of dedicated programs in Australia, Canada and the United States.

6.9 Decentralisation vs centralisation

Only two of the 2000-2006 publications reviewed considered the theme of decentralisation versus centralisation, yet this is emerging as a significant issue, with the Commonwealth Minister for Indigenous Affairs raising concerns about the economic viability of small discrete settlements and the capacity of government to deliver infrastructure and services to them (Altman 2006:2,8, 16). Altman (2006) argues the case for the socio-economic significance of small discrete communities, or outstations, and argues for their maintenance:

...there is no compelling case for a policy change that would encourage centralisation from small discrete Indigenous communities of less than 100 persons to larger discrete Indigenous communities with populations over 100. Nor is there a compelling case made that demonstrates that a move from outstations to townships or from townships to larger urban centres will improve Indigenous people’s livelihood prospects. (Altman 2006:15.)

Memcott et al’s (2006:4) mobility study considered the movements between outlying communities and centralised services. They found that while people travelled to access services, Indigenous attachment to place and social relations dominated

residential mobility patterns. They argued that while some services will only be economically viable if they are operated from a regional centre there may be others, or elements of services, that could be decentralised, or that will be most effective if they remain decentralised. Altman (2006:16) recently called for the development of outstation policy based on “deep local knowledge”. Further exploration of Indigenous mobility patterns, and in particular the nature of regional mobility and regional residency, is likely to be critical to such policy (Altman 2006:l; Memmott et al 2006:91,92).

Movement between outlying settlements and larger settlements and the issue of decentralisation versus centralisation, appear as a theme in the 2006 & 2007 AHURI Research Agendas.

The relationship between decentralisation and centralisation appears as a theme in the New Zealand literature which emphasises the importance of attachment to place and social relations. Waldegrave et al report a reduction in Maori home ownership as Maori migrated to urban areas from rural areas in the 1950s and '60s where they then relied on rental accommodation. Since the 1980s the migration pattern has reversed with Maori families choosing to migrate from urban areas to the to their land of origin (located in the country). In many cases there is limited housing accessibility in these country areas leading to families living in sub-standard and overcrowded housing. However affordability has hindered the aspirations of some to return to their land of origin, especially those whose traditional land lies in expensive coastal areas. Waldegrave et al call for a range of initiatives to facilitate decentralised as well as centralised housing preferences (Waldegrave et al 2006:12, 28, 131, 132).

6.10 Indigenous housing performance

6.10.1 National performance indicator framework

Approximately 16% of the post 2000 literature includes the theme of performance. There are three performance research sub-themes that appear in the Indigenous housing literature. Firstly a number of publications report on the performance of housing using the National Performance Indicator Framework that was developed as part of the 1999 CSHA. This framework employs eleven indicators of performance:

- P1. amenity/location,
- P2. affordability,
- P3. match of dwelling to household size (rate of overcrowding),
- P4. low income,
- P5. special needs,
- P6. priority access to those in greatest need,
- P7. customer satisfaction,
- P8. direct costs per unit,
- P9. occupancy rates,
- P10. turnaround time,
- P11. rent arrears.

One set of publications that reports against these indicators is the AIHW's Commonwealth –State Housing Agreement National Data Reports concerned with SOMIH (AIHW 2005c) and previously the Aboriginal Rental Housing Program (AIHW

2003). However a gap in these reports is a failure to provide data on P1 amenity/location and P7 customer satisfaction (AIHW 2003:2; 2005:1).

Since 2002, the performance of governments in the provision of Indigenous housing under the Commonwealth State Housing Agreement (CSHA) has been reported in the annually produced Reports on Government Services using the National Performance Indicator Framework. Prior to this these indicators were used to assess mainstream public housing (SCRGSP 2002). Despite the fact that the RoGS reports use the National Performance Indicator Framework they warn that comparisons with other housing reported against this framework cannot be made: "while the performance indicator framework for State owned and managed Indigenous housing is the same for public and community housing, it is not appropriate to directly compare the performance of public and State owned and managed Indigenous housing" (SCRGSP 2004:16.25). Is there a need for specific Indigenous housing performance indicators? The 2002 and 2003 reports employed two measures of performance (1) effectiveness and (2) efficiency. Effectiveness had three sub-categories each with their own performance indicators. These were (a) appropriateness with the indicators of amenity/location, affordability, and match of dwelling to household size; (b) access with the indicators of low income, special needs and priority access to those in greatest need; and (c) quality, with the indicator being customer satisfaction. In 2004 the reporting framework was modified to reflect the adoption of accrual accounting and a focus on outcome orientated performance. The 2004 Performance indicators had three measures (1) equity, with a sub-category of access, (2) effectiveness, with sub-categories of appropriateness and quality, and (3) efficiency. However the same eleven indicators were employed although they were now defined as 'outcomes'. The 2006 report provided findings from the first National Housing Survey of SOMIH. Amenity/location (whether amenity/location was important and met the tenants needs) and customer satisfaction (overall satisfaction with housing service) were reported for the first time in 2006 (SCRGSP 2006:16.77-16.78). An emerging sub-theme is therefore research that investigates the appropriateness of current performance indicators (see Walker et al 2003a). (SCRGSP 2001, 2002, 2003, 2004, 2005, 2006.)

6.10.2 Post-occupancy evaluations

The second area of performance research is the small body of literature concerned with post-occupancy evaluation (POE). POE is "...the process of evaluating built environments in a systematic way after they have been constructed and occupied for some time...As a research tool POEs provide a means of assessing the consequences of design decisions against the building's performance in terms of users' needs" (Memmott et al 2000:58). Community specific POEs provide detailed information that can be used to inform decisions about the design and performance of future housing and decisions about ways to improve the performance of existing housing stock.

In 2005 Lee & Morris (2005a:47-54) argued for an ongoing program of post-occupancy evaluation of Indigenous housing in terms of both social and cultural factors. However In the post 2000 literature it seems that few POEs were conducted that thoroughly examine the social, technical and economic performance of Indigenous housing. An example of a thorough POE was one conducted in the Northern Territory that included technical analysis, costing analysis and social analysis (Fletcher & Bridgeman 2000; Memmott et al 2000). Fantin's (2003) study of housing at Ramingining (NT) provides an example of a POE that is primarily concerned with the performance of housing in terms of socio-cultural factors. In order to assist with improvements to the lifecycle of desert housing Parnell & Seemann (2005) have argued for a unique form of performance methodology called

'Participatory Monitoring and Evaluation' (PME). Incorporating storytelling as a data collection technique, this methodology facilitates the exploration of local values and preferences in housing and settlement development. Parnell & Seemann argue that the proposed methodology "increases the chances of obtaining a fuller picture of what value people place on their housing; their usage behaviours; and critical events that impact on the life of housing" (Parnell & Seemann 2005:341). In comparison to national housing surveys (macro performance surveys), POEs provide a way to undertake more detailed, qualitative analysis at the local level of the performance indicators (P1) amenity/location, (P2) affordability, (P3) match of dwelling to household size (rate of overcrowding), and (P7) customer satisfaction.

6.10.3 Technical performance

Most POEs and surveys of housing seem to focus on technical performance. Many of these types of surveys are unpublished as they are conducted and used by organizations for their own purposes. For example such surveys are used by ICHOs to determine maintenance requirements. Other surveys focus on the technical performance of the house in relation to environmental health (Runcie & Bailie 2000; Bailie & Runcie 2001; IHANT 2004; Stewart et al 2004).

Other technical surveys include the surveys that the Centre for Appropriate Technology has conducted on the performance of particular building elements and household appliances such as hot water systems (Wilson 2000) and stoves (CAT 2003).

The AHURI Research Agendas have defined a range of research questions broadly concerned with performance.

6.11 Indigenous housing affordability

6.11.1 Affordability & need

Around 12% of the 2000-2006 literature is concerned with the theme of affordability. Firstly, affordability appears in the literature as an indicator in multi-measure assessments of Indigenous housing need (see AIHW 2005a:44,53). Neutze et al (2000:3, 7) measured affordability by assessing the income left for housing "after other basic needs had been met in accordance with the Henderson Poverty Line". Neutze et al (2000:16) identify a policy paradox in that as overcrowding has reduced, affordability need has increased.

A key finding on affordability is that affordability need varies in relation to the remoteness category of the housing. It has been found that there is a greater level of affordability need in urban areas whereas in remote areas the supply and condition of housing is more critical. Affordability has been identified as a barrier to Indigenous access to public housing in urban areas (SCATSIA 2001:137; Walsh 2003). (Neutze et al 2000; SCATSIA 2001:127; NTDCDSCA 2004:7.)

Another sub-theme is affordability and Indigenous access to the Commonwealth Rent Assistance (CRA) program. There is very low Indigenous access to the CRA particularly in remote areas. Factors affecting access to the CRA include the absence of a private market and rental setting by ICHOs. (NTDCDSCA 2004:5,6; SCATSIA 2001; IHANT 2005:12.)

A further area of research involves comparisons between Indigenous and non-Indigenous rates of affordability deficit. For example one study reports that a smaller proportion of Indigenous low-income households experienced affordability stress in comparison to non-Indigenous low-income households (Neutze et al 2000:488; Trewin & Madden 2003:41; NTDCDSCA 2004:7).

6.11.2 Implications of affordability deficit

A further sub-theme within the literature is the implications of affordability deficit. For example Neutze et al (2000:488) observes that: "Under these circumstances [of affordability] it is not surprising that some Indigenous households prefer traditional housing which is almost costless and others fall into serious arrears in paying their rent, nor that Indigenous housing organizations have difficulty in paying for maintenance of their stocks dwellings at an adequate standard." Haar (2000, 2003) illustrates that self-help housing can make home ownership an affordable option for remote communities.

6.11.3 Affordability & performance

Affordability appears in the literature as a performance indicator. AIHW uses affordability as an indicator in their assessment of the progress of the BBF. They use the ratio approach to measure affordability stress. The ratio approach measures the Indigenous households in the bottom 40% of incomes who are paying 25% or more of their income in rent (AIHW 2005b:34,35). ABS uses a similar method although with a threshold at 30% of income (Trewin & Madden 2003:40,41). AIHW have also measured the performance of SOMIH by using affordability as an indicator and measuring it as the total rent charged as a proportion of total market rent; the RoGS reporting on housing also employs this method (AIHW 2003:11,12, 2005c:12; see SCRGSP 2005b:16.68,16.69; 2006:16.78,16.79).

Indigenous housing affordability, particularly in urban areas, is extremely important yet surprisingly the term 'affordability' does not appear in the Indigenous specific research questions of the AHURI Research Agendas. However various research questions set in the Agendas are associated with affordability including questions concerned with the CRA, home ownership and the sustainability of tenancies.

Affordability appears as a strong research theme in the international Indigenous housing literature. For example recent Canadian research has considered how to develop affordable home ownership for First Nations and Métis people in urban settings (Foss 2004; Hanna 2004; Sutton 2004; SRHBA 2004). An example from the USA is a report on measures to increase access to affordable housing for low income native Hawaiian families, such measures including the provision of more housing, self-help housing, home ownership schemes, and the maintenance and upgrade of existing homes (DHH 2005; see also HUD 1996a). Reports from the US emphasise the need for greater public investment in order to ameliorate affordability problems (HUD 1996a, 1996b). However, the same reports argue that federal assistance alone cannot meet Indigenous housing needs and they emphasise the need for private sector investment in Indigenous housing. A decade later and these same arguments are emerging in Australia. Waldegrave et al (2006:26) report on affordability issues affecting Maori home ownership.

6.12 Indigenous housing accessibility

Around 11% of the post 2000 literature reviewed includes the theme of 'accessibility'. There are three quite different notions of 'access' in the literature. Firstly access is a theme in the literature related to Indigenous people obtaining housing of various tenure types. This theme appears as a strategy of the BBF that being to "improve Indigenous access to mainstream public and community housing programs" and an overarching vision of the BBF was to improve access to affordable and appropriately designed housing (HMAC 2001:4-7). Since 2002 the annually produced Reports on Government Services have used access as one of a number of indicators to measure the performance of governments in providing Indigenous housing. In these reviews

three indicators of access are used (1) the number of low income and special needs households in SOMIH; (2) the proportion of new tenancies allocated to households with special needs (such households “are those that either have a household member with a disability or a principal tenant aged either 24 years or under or 50 years or more” (2003:16.58)) and (3), the priority of access given to those in greatest need. ‘Greatest need households’ are defined as “...low income households that at the time of allocation were either homeless, in housing inappropriate to their needs, in housing that was adversely affecting their health or placing their life and safety at risk, or that had very high rental housing costs”(SCRGSP 2003:16.60). These indicators of access are also used in the AIHW’s assessment of the performance of SOMIH (AIHW 2005a, 2005b). These measures were previously used to measure access to public housing (SCRGSP 2001). It is notable that the BBF vision of access to appropriately designed housing has been largely neglected in the AIHW and RoGS indicators.

Within this first access theme is a small body of literature that examines impediments to Indigenous access to housing. Little’s (2000) autobiographical paper *Two Generations of Housing in the South and Mid-west, Western Australia* provides a unique insight of the housing access experience of an Aboriginal man over a 35 year period. The SCATSIA (2001) inquiry into *The Need of Urban Dwelling Aboriginal and Torres Strait Islander Peoples* reported the following barriers to Indigenous access to public housing, (i) affordability, (ii) suitability of the housing stock (particularly in relation to household size and composition), (iii) overcrowding, (iv) visitors putting tenancies at risk, (v) problems adapting to urban life, and (vi) the need for accommodation options for transients/itinerants.

Victoria’s (2002 iv-v) study of the housing needs of Indigenous youth in Queensland found that the domestic behaviour(s) of Indigenous youth restrict access to housing as they are in conflict with mainstream expectations of tenant behaviour. Such domestic behaviour includes “kin-based mobility, rapid household formation and breakdown, patterns of caring responsibilities and economic expenditure patterns ...” (Victoria 2002 iv-v). More recently Flatau et al reported that very little primary research has considered Indigenous access to mainstream and community housing (Flatau & Cooper 2004). They found a number of forces impede access to such housing including: discrimination; Indigenous cultural and historical factors; cultural mismatch; a lack of appropriate, affordable and available accommodation; poverty; fragmentation in service delivery; spiritual and psychological homelessness, lack of skills in home management and “urban living”, disadvantage and risk factors (Flatau et al 2004:24; Flatau et al 2005:vii-ixi). Flatau et al reiterate that the design of houses can impede access, particularly where there is a poor relationship between design and household size and composition (Flatau et al 2005:xvi-xvi). The relationship between Indigenous housing design and access may well be an emerging research theme.

Another emerging theme is indirect and direct racial discrimination as an access impediment (see SCATSIA 2001; Walsh 2003; Cooper & Morris 2003, 2004; Flatau et al 2005; Flatau & Cooper 2005, 2004). For example Solonec (2000:4) found:

Racist stereotypes place Aboriginal people at disadvantage when seeking accommodation in Western Australia’s private rental market. Existing laws provide some avenue of redress for individuals who have experienced racial discrimination in this context but do little to prevent it from happening.

The second notion of access theme in the Indigenous housing literature is that of physical access requirements including access for people with disabilities. Given that physical access requirements are covered by the provisions of the Building Code of Australia and Australian Standards, and also given the poor health status of the Indigenous population, it is surprising that there is negligible literature concerned with

this theme (AS 1428.1-2001; ABCB 2006). An exception is 'The ACC Disability Housing Project: Community Disability Infrastructure Survey' (Davis 2003). Memmott & Eckermann (2001) argue that there is an urgent need for housing research and housing designs for Indigenous people with special needs including the behaviourally disturbed and dialysis patients. It is noteworthy that physical access does not appear as a theme in the Indigenous environmental health literature, for example the National Indigenous Housing Guide (FaCS 2003) does not cover access requirements.

A third notion of access is concerned with access to housing support services and financial assistance (Victoria 2001; Cooper and Morris 2004). There has been some work on Indigenous access to the Commonwealth Rent Assistance scheme for example IHANT found that their rental policy precluded access to the CRA (see IHANT 2005:4,12-13). The annual Report on Government Services analyses the rate of Indigenous access to the CRA (SCRGSP 2006).

Since 2000 the AHURI Agendas have raised questions concerning housing access and access to the CRA. However no questions were directed at physical access and special needs.

In the international literature Waldegrave et al (2006) report on accessibility issues for Maori especially the difficulties experienced in obtaining rentals in rural areas and discrimination in the rental market.

6.13 Indigenous housing appropriateness

The theme of appropriateness appears in 11% of the publications reviewed. There are five sub-themes of 'appropriateness': (1) climatic appropriateness, (2) appropriate construction, (3) culturally appropriate design, (4) appropriateness and quality of life, and (5) performance and appropriateness. A number of publications discuss housing design in terms of climatic appropriateness. For example Dillon and Savage (2003) discuss the need for appropriate design responses to the desert climate of Central Australia (see also Memmott et al 2000). There are publications that describe the selection of appropriate construction technologies (see Groome & Pholeros 2000a; Myers 2000; Planning SA 2000; THS 2001; Parnell & Seemann 2005). Numerous publications argue for culturally appropriate design (Memmott 2003; Keys 2003; Fantin 2003a; Wigley & Wigley 2003). For example Fantin's (2003b) paper illustrates the implications for housing design of the Yolngu beliefs concerning avoidance behaviour and sorcery. The key argument of this sub-theme is that houses must be designed to support the maintenance of Indigenous cultures including culturally specific domiciliary behaviours. These three sub-themes of appropriateness overlap with the theme of design.

A further sub-theme is research that considers appropriateness in terms of quality of life. For example AIHW argue:

Appropriateness can be defined as the ability of a residential dwelling and situation to permit a reasonable quality of life and reasonable access to work, social contacts and services...There is no work currently underway regarding measurement of this dimension of need....Appropriateness could be measured through asking householders whether they are satisfied with their housing in relation to a number of factors. (AIHW 2005a:66-72.)

The AIHW reports that there are no data sources that collect information on appropriateness. Neutze et al (2000:16) in developing a multi-measure approach to Indigenous housing need, warned that their approach was limited by a poor understanding of need in terms of cultural appropriateness and that many of the indicators of need were drawn from non-Indigenous values which Indigenous people

may not share or aspire to. Research concerning the cultural appropriateness of housing has been conducted since the 1970s so why does such a data gap exist? The answer may lie in the following observation by AIHW (2005:72): "While this dimension [of need] is not required for resource allocation, it is important in the delivery of better housing services to Indigenous people." Assessment of the cultural appropriateness of housing remains as a significant gap in Australian Indigenous housing research and such a gap raises questions about achievements that have been made towards BBF Outcome 1- Better Housing.

Appropriateness also appears in the literature as a measurement of performance. The RoGS have employed the following as indicators of appropriateness: (a) amenity/location, (b) affordability, and (c) match of dwelling to household size. (See SCRGSP 2004, 2005, 2006.)

Appropriateness is a theme in research questions defined in the 2003 and 2006 AHURI Research Agendas.

Appropriateness also appears as a theme in the international literature, see for example Dawson (2003, 2004), Wanhalla (2006), and Hoskins (2002).

6.14 Location and geography of Indigenous housing provision and services

A small number of the 2000-2006 publications consider the location and geography of housing provision and services. CHINS provides data on the location of ICHOs, the distribution of housing by jurisdiction, and the distribution of discrete communities by jurisdiction (ABS 2002). Memmott & Moran (2001) produced a useful categorisation of Indigenous settlements. A small number of publications consider the historical location of Aboriginal housing and settlement (see Rowse 2000; Wells 2000). Memmott et al (2006) investigated Indigenous mobility patterns and considered the implications of such patterns for the location of housing services. They found the need to continue to provide housing services in both regional service centres and in outlying communities. Altman (2006) has argued for the ongoing development of services in small discrete communities. For a number of years amenity/location has been an indicator under the National Performance Indicator Framework, however the first National Housing Survey of State Owned and Managed Indigenous Housing provided the first reporting on Amenity/Location (whether amenity and location was important and met the tenants needs) (SCRGSP 2006:16.77-16.78).

The location and geography of housing provision and services was a theme in the research questions of AHURI Research Agendas (2003, 2006).

The location and geography of housing provision appears as a theme in the international housing literature. For example the significant difference in the distribution of Native Hawaiian households compared to non-native households is reported (DHH 2005).

6.15 Indigenous housing needs

Around 9% of the 2000-2006 literature reviewed considers the research theme of Indigenous housing needs. A sub-theme is assessment of Indigenous housing need as measured by housing backlog or the quantity of additional houses required to meet a housing 'deficit'. For example, in a paper concerned with the history of the Commonwealth Government's Aboriginal housing strategies from the referendum of 1967 until the 1990s, Long (2000) discusses the results of three needs assessments that revealed a housing deficit that was increasing over time; in 1974 there was a backlog of 3,160 houses, a needs survey of 1983 indicated a need of 14,400

additional dwellings, and a 1987 survey indicated a need for 16,179 additional dwellings. Long (2000:115) observed: "It appeared that 'the current programs and funding arrangements were not meeting the needs'."

A theme that dominates the post 2000 literature is multi-measure needs assessments that employ measures and standards of need from mainstream Australia. For example Neutze et al's (2000) *Estimating Indigenous Housing Need for Public Housing Funding Allocation: a Multi-Measure Approach*. This assessment employed "standards of need from the circumstances of the dominant non-Indigenous community in Australia" (Neutze et al 2000:3). Neutze et al (2000:2) identified seven parameters of housing need (1) overcrowding, (2) homelessness, (3) services in the housing, (4) housing condition (5) affordability, (6) cultural appropriateness, and (7) security of tenure- which could be applied to both Indigenous and non-Indigenous housing, Australia-wide. The first four of these are concerned with adequacy of housing. Although the authors identified seven dimensions of need they only used three of these in their analysis, these being homelessness, overcrowding and affordability. Homelessness was measured as the cost of providing housing for those people identified in the census as living in improvised dwellings, hostels, shelters and refuges. Overcrowding was measured by comparing the numbers of occupants of private non-improvised housing with an occupancy standard. Affordability was measured by the income left for housing after other basic needs were met. Similar measures were used by the ABS in an assessment of the health and welfare of Aboriginal and Torres Strait Islander peoples (Trewin & Madden 2003). (Neutze et al 2000:3.)

In 2002 the Housing Ministers endorsed a multi-measure approach to assessing Indigenous housing need that contained five measures: homelessness, overcrowding, affordability, dwelling condition, and connection to services. According to a report by the NT Government (2004:12) this model "...recognises that Indigenous people living in urban and remote areas may experience quite different types of housing need which are not adequately captured in a single national measure."(NT Gov 2004:12, 13.)

A three-part multi-measure needs assessment was adopted for the Northern Territory by IHANT (2004). Housing need was assessed using the measurements of (1) overcrowding (against an occupancy standard), (2) homelessness (measured by the number of improvised dwellings to be replaced), and (3) stock condition- the bedrooms needing to be replaced due to poor condition and the number of bedrooms needing major repair or renovation.

The AIHW recently assessed Indigenous housing need using the five measures of need endorsed by the Housing Ministers: homelessness, overcrowding, affordability, dwelling condition, and connection to services (this included the three dimensions of need used by Neutze et al (2000)). The report also assessed the feasibility of using the remaining two dimensions of need identified by Neutze et al (2000), these being appropriateness of housing, and security of tenure. However, whereas Neutze et al (2000) identified "cultural appropriateness" as a needs measure, the AIHW employs a more limited measure of "appropriateness":

Appropriateness can be defined as the ability of a residential dwelling and situation to permit a reasonable quality of life and reasonable access to work, social contacts and service...Appropriateness could be measured through asking householders whether they are satisfied with their housing in relation to a number of factors. (AIHW 2005a:66-72.)

“Satisfaction” was measured in the 2005 national Social Housing Survey of SOMIH (SCRGSP 2006:16.77-16.78). AIHW argue that the proportion of people who move and the reason for moving can be used as a proxy estimate of appropriateness. However, considering the recent findings on Indigenous mobility this is a very limited approach, as it focuses on access to services and this may have little, if anything, to do with cultural appropriateness (AIHW 2005a:66-72).

A further aspect of the needs theme is research that makes a distinction between current needs and estimates of emerging needs. The NT Indigenous Housing Issues paper argues that emerging need is related to natural growth in the Indigenous population, mobility, itinerancy, increasing Indigenous identification in the census, and ongoing development of the home-lands movement (NT Gov 2004:15,16). On the basis of population growth the report estimates a \$4billion housing deficit over the next twenty years (this does not allow for the need to replace houses) (NT Gov 2004: 16). The AIHW include emerging housing needs in their multi-measure assessment, they analyse such needs as “an estimation of future housing need according to the five dimensions of need utilised” (AIHW 2005a:3, 83).

A particular type of needs assessment published in the post 2000 period is the second Community Housing and Infrastructure Needs Survey. CHINS gathers information on the housing and housing practices of Indigenous housing organizations and discrete Indigenous communities. The survey “provides a basis for the design of future policies and the targeting of programs to areas of identified need” (ABS 2002:v). CHINS provides data concerned with numbers of dwellings, dwelling condition, maintenance expenditure, and improvised dwellings such data forming the basis of needs assessments such as that by the AIHW (2005). CHINS provides significant data that has yet to be incorporated into multi-measure needs assessments however at the same time though it also fails to collect necessary data such as information on appropriateness.

This introduces a sub-theme in the literature which is a requirement for the development of culturally appropriate needs measures and assessments. Walker et al (2003:ii) assert, “...existing evaluation approaches and indicators do not adequately address Indigenous housing needs and aspirations”. Neutze et al (2000:16) identify their use of mainstream standards as one of a number of limitations to their assessment: “Indigenous Australians may not all aspire to these standards or value housing in quite the way implied in them. It is difficult to know what extent differences in housing conditions may be a result of these different aspirations and values, as opposed to differences in opportunity and capacity to pay”. The AIHW also recognises the limitation of using mainstream standards:

[A] distinct problem is that Indigenous people may place cultural values on the dimensions of housing needs that are different from those placed on them by others. Housing need is culturally and socially constructed...Despite the importance of capturing information on Indigenous people in a culturally appropriate way, it is not currently possible to adopt culturally appropriate measures...in this report Indigenous housing needs are treated in the same way as all Australian housing needs are treated. (AIHW 2005a:5.)

Thompson (2004) also argues for culturally appropriate needs assessment:

The conceptualisation of housing need should be seen as a problematically simplistic justification for intervention into Indigenous living conditions. To solve a conceptualised living conditions problem which is hypothesised as an unmet need, need must be defined accurately. A need can be seen as the desired outcome of a culturally determined process, chosen to achieve an

essential satisfaction. Thus Indigenous housing policy must recognise (i) that housing consumption is a European strategy for achieving a number of culturally specific satisfactions, and (ii) that effective social policy assists clients to achieve what they, in their own reality, need. Thus, there must be a culturally sensitive investigation of the Indigenous needs which are seen to be met by housing intervention. (Thompson 2004: 239.)

A further element of the theme of appropriate needs assessment is research arguing that needs assessments must be appropriate to the particular user groups being targeted. For example in examining the housing need of young Indigenous people in Queensland, Victoria questioned the relevance of using standard housing needs measures and argues for the use of qualitative measures of housing need based on 'emic' perceptions. In other words measures of need that are derived from the perceptions of a particular user group. (Victoria 2002:iv-v.)

A sub-theme is literature concerned with measures to address housing need. For example the NT Government outlines three strategies to reduce Indigenous housing need: (1) improve access to mainstream housing and infrastructure programs, (2) an increased focus on housing management, and (3) increase the financial resources available to Indigenous specific housing programs including the attraction of funding from private sector investment. (NTDCDSCA 2004:5.)

The 2003 AHURI Research Agenda defined a research output concerned with "culturally and circumstantially...appropriate dwelling use standards for the measurement of Indigenous housing need."

Needs assessments also appear in the international literature. A Canadian study of housing need amongst North American Indian, Métis and Inuit households measured need with the indicators of adequacy in condition, suitability of size, and affordability (shelter costs are less than 30% of before tax income) (Spurr et al 2002). The Canadian survey of non-Reserve Aboriginal Housing Need used the same indicators (NAHA 2004). A unique Canadian needs assessment reports on the housing needs of Métis Elders (Chenew 2004). A further targeted area of needs assessment reports on the housing needs of Canadian Aboriginal students in urban settings (see Broxbourne 2004; Wallace et al 2004). Burk (2004) reports on a Canadian survey of urban quality of life and housing need. The 2005 Native Hawaiian Housing Plan reports "...housing needs are serious for the native Hawaiian population as a whole, the situation is even more critical for the low- and very low-income native Hawaiian households" (DHH 2005:7; see also HUD 2006a).

6.16 Links between housing and other (non-housing/shelter) services and outcomes

Around 9% of the 2000-2006 Indigenous housing literature reviewed was categorised as including the theme of 'linking housing and other (non-housing/shelter) services and outcomes'. Around half of such literature linked housing with health outcomes (Harris 2000; Runcie & Bailie 2000; Trewin & Madden 2003). The Environmental Health Handbook defined the link between health and housing:

An improvement in the condition of the housing and living areas alone can not guarantee improved health outcomes, but a unified approach which aims to improve the design, construction and maintenance of houses, outdoor living areas and health hardware in the community can enable residents to make and practice healthy life choices....On the other hand if houses and living areas are poorly designed, constructed or maintained, they will contribute to poorer health. (Harris 2000:137.)

RoGS also makes a connection between housing and health outcomes:

The conditions in which people live and work have a significant influence on their health. Environmental health depends, among other things, on the buildings in which people live, the water they drink, the food they eat, the air they breathe, their ability to clean themselves, their clothes and their homes, the safe removal of waste, and control of pests. (SCRGSP 2003:10.1.)

The emergence of a link between health and housing is usually associated with the work of Pholeros, Torzillo and Rainow and their housing for health program that developed out of a project in 1985 with Nganampa Health Council to develop a plan to “stop people getting sick’ or, in Pitjantjatjara language, uwankara palyanku kanyintaku (UPK)” (Pholeros et al 2000; Memmott & Go-Sam 2003:14). However there is a long established link between Indigenous housing and health. In the post-contact period self-built Indigenous camps, particularly those in urban centres, were perceived as unhealthy and this was used as a motive for displacing these campers to settlements (see Wells 2000:66). Briscoe (2000) provides a useful introduction to the historical connection between Indigenous housing and health:

Around the end of the first decade of the twentieth century, ‘public health’ was a concept used primarily by the medical professions, mostly trained at the London-based School of Tropical Medicine. The Queensland government...collaborated to create the Australian Institute of tropical Medicine, which commenced in 1910...(Briscoe 2000:77.)

In early twentieth century Australia, health officials, magistrates, protectors and missionaries worried about the health of Aboriginal populations in regional centres. Government and mission interest in hookworm was well described in the reports of the National Hookworm Campaign. (Briscoe 2000:77.)

The 2003 RoGS (SCRGSP 2003) argues that overcrowding contributes to poor environmental health and that overcrowding has negative impacts on education outcomes and family relationships. The report argues that higher rates of overcrowding⁴² in Indigenous households in comparison to non-Indigenous households is attributable to differences in household types and composition and the influence of climate and culture. The report notes that whereas the occupancy standard places an influence on numbers of bedrooms “the numbers of bathrooms and toilets, and the size of kitchens, bedrooms and other living spaces may be as important as, or more important than, the number of bedrooms” (SCRGSP 2005a:10.2-10.13). Booth and Carroll (2005) examined the relationship between overcrowding and self-assessed health status of Indigenous Australians. In stark contrast to the prevailing understanding, that overcrowding contributes to poor health, they found that overcrowding had little relationship to self-assessed health status. Yet they also noted a trend for better health amongst those living in larger dwellings with fewer adult occupants. The authors found that housing characteristics/variables explained the health gap between remote Indigenous populations and the non-Indigenous population. They found that education and income variables were more significant in explaining the health gap between non-remote Indigenous populations and the non-Indigenous population. They argue for resources to be targeted according to these differences in remote and non-remote Indigenous populations.(Booth & Carroll 2005.)

⁴² The Canadian National Occupancy Standard was used to measure overcrowding in this study.

Environmental health was considered a theme in its own right and around 31% of the literature reviewed included this theme. Thus it could be said that around a third of the literature is concerned with housing and health.

V. Walker & Ireland's (2003) paper, 'Sustainable Housing for Traditional Living Aboriginal People Moving to Adelaide: Malpa – Kutjara', is unique amongst the literature linking health and housing. This paper does not focus on environmental health rather it is concerned with the relationship between access to housing and access to health services for people who migrate from remote communities to major urban areas. Another unique research project is R. Walker et al's (2003) analysis of urban renewal and its impact on Indigenous wellbeing including social wellbeing, cultural wellbeing, physical wellbeing, community involvement and wellbeing, economic wellbeing, and societal/political wellbeing.

Links have also been made between housing and employment outcomes (SCRGSP 2003:3.33; DLGHS 2005). Links have been made between Indigenous rates of home ownership and employment status (Sanders 2005). Publications also highlight the potential for the Indigenous housing industry, particularly in remote and very remote Australia, to provide significant employment and capacity building opportunities for Indigenous people (see Jardine-Orr et al 2004; SGS 2004; AIHW 2005b:75). Memmott et al (2006) identified a relationship between housing and Indigenous access to secondary education in remote and very remote Australia.

The 'non-shelter outcomes of housing' are a research area in the AHURI Research Agendas. The Agendas make a link between housing and health, well-being, education, and employment.

The international literature establishes a link between housing and non-shelter outcomes most notably health outcomes. For example Rankine (2005) reports on housing and health outcomes in Auckland, New Zealand.

6.17 Historical, institutional and political research on Indigenous housing

Around 10% of the Indigenous housing literature considers the historical, institutional and political aspects of housing. Read's (2000) edited book, *Settlement: A History of Australian Indigenous Housing*, provided a major contribution to this theme. Attwood (2000) provides a case study of the mission at Ramahyuck, Victoria. Read (2000b) describes the conditions at an Aboriginal station called Warangesda on the Murrumbidgee River. Wells (2000) describes the history of the Kahlín Aboriginal compound in Darwin. Briscoe (2000) considers Indigenous settlement in the post-contact era and its relationship with disease. Long (2000) traces the history of the Commonwealth Government's Aboriginal housing strategies. Keys (2000) describes the history of housing in Yuendumu. Anderson (2000) gives an account of housing at Redfern. Tripcony (2000) traces the development of urban Aboriginal housing in Victoria. Little (2000) provides the housing history of an Aboriginal family. Eckermann (2000) considers the history of institutional accommodation for Indigenous people. Fantin (2004) provides one of few publications on contemporary institutional settings in her review of new accommodation for the Kalkadoon Aboriginal Sobriety House in Mt Isa.

Other historical accounts of housing include Wigley & Wigley's (2003) overview of the history of Aboriginal housing and its relationship to broader government policies concerned with Indigenous Australia. Thompson (2004) examines the development of the 'housing need' problem. Altman (2006) provides an overview of the historical development of outstations.

The AHURI Research Agendas do not engage with this theme. A significant gap in the AHURI Research Agenda and in the Indigenous housing literature more broadly is research concerned with Indigenous housing in institutional settings such as prisons, asylums, hospitals, and drug and alcohol facilities etc.

On the international scene, some research has considered the history of Indigenous housing programs. For example Walker (2006) traces the development of the Canadian urban native housing program which includes urban native housing corporations and compares it with the Maori urban housing experience in New Zealand. Wanhalla (2006) traces the history of Maori

6.18 Summary

The chapter has examined the broad category of research that examines the macro-issues of Indigenous housing. Sixteen research themes form this category of research these being ownership, funding and costs, sustainability and efficiency, management, policy, planning and decision making about housing, mainstream versus dedicated programs, decentralisation versus centralisation, performance, affordability, accessibility, appropriateness, location and geography of housing provision and services, housing needs, housing and other outcomes, and historical and institutional aspects of housing. Each of these research themes contained sub-themes.

Housing management is the most represented theme in this macro-issues category and it had the second greatest representation in the 2000-2006 body of literature as a whole. In 2000 Memmott (2000:108) argued that very little research had considered macro-issues and that very little research considered such issues across-jurisdictions. However this survey illustrates a significant body of literature concerned with macro-issues in the post 2000 period. A key distinction between the micro and macro-issues categories is that research of the macro-issue themes is conducted and funded in more of an ongoing (in some cases annual), if not systematic basis.

Indigenous housing management is a strong research theme in the literature. The management sub-themes identified were management and governance, evaluation of management, management training, management and delivery, management and tenancy issues and sustainability, management and environmental health, asset management, and economic analysis of management. The international literature suggests the potential to further develop the theme of Indigenous housing management and training in Australia.

Indigenous home ownership is an emerging theme in the Australian Indigenous housing literature. A feature of the home-ownership research reviewed is that much of it is concerned with rates of home ownership. Very little research has considered what Indigenous home ownership aspirations are and any variations in such aspirations across Indigenous Australia. It also seems that negligible research has considered how Indigenous aspirations for home ownership can be facilitated and indeed if it is a viable proposition in all parts of Australia. This gap in the literature is somewhat surprising given the recent push from government to encourage Indigenous home ownership as a means of addressing Indigenous housing need and as a supposed means of creating household wealth. A similar push by government to promote Indigenous home ownership as a means of addressing unmet housing need occurred in North America some time ago. As a result there now seems to be a significantly greater body of North American research that is geared at supporting and promoting Indigenous home ownership.

There appears to be a significant gap in research that examines the sustainability of Indigenous housing. Given the interlinked nature of the themes in the Indigenous

housing literature, research concerned with the application of ecologically sustainable design principles should have a greater presence in the literature. Such principles strive to integrate economic, socio-cultural and environmental considerations in the design of buildings. Thus the macro-theme of funding and costs would be considered in relation to the micro-issues themes of occupation and use, and design, not in isolation from them.

A relatively small volume of literature was concerned with planning, coordination and decision making about Indigenous housing. Yet a strong theme that emerges from this theme is Indigenous control of Indigenous housing provision.

A small amount of 2000-2006 literature investigated the theme of mainstream versus Indigenous programs. What research informs decisions to mainstream Indigenous housing? The authors reiterate Memmott's (2004) warning; to not take cultural needs into consideration may ultimately result in service failure. Unless of course the mainstream is capable of responding to, or being influenced by cultural preferences as was the case in housing provision in New Zealand.

Given the recent questioning of the remote discrete settlements by government it is somewhat surprising to find that very little research examines the theme of decentralisation versus centralisation.

Assessment of Indigenous housing performance is a relatively strong theme in the literature. However, two gaps were identified in the research firstly it seems that there is scope for the development of performance indicators that are specific to Indigenous housing and its particular characteristics. Secondly despite the value that post occupancy evaluations can provide to the assessment and development of housing outcomes there is only a small body of such evaluations in the literature. At a minimum POEs can investigate qualitative performance indicators that are not so easily assessed by national housing surveys including amenity/location, match of dwelling to household size and customer satisfaction.

The theme of affordability is well represented in the literature. Two key findings on affordability being firstly that affordability varies in relation to remoteness category. And secondly the literature suggests that affordability and household size/overcrowding should be examined as closely interrelated themes.

Strength within the theme of accessibility is the small body of literature that has examined Indigenous access to housing in urban settings, particularly mainstream housing in such settings. Such research supports the warning of Memmott mentioned above.

The appropriateness of housing has reasonable representation as a theme in the 2000-2006 literature. However, despite numerous publications that call for culturally appropriate housing, needs assessments are yet to adopt a thorough set of indicators to measure appropriateness.

Very little research examined the location and geography of housing. Where does the Indigenous population aspire to be living in one, five, ten, twenty years time?

The assessment of needs has developed in the 2000-2006 period. However two gaps in the research are culturally appropriate needs measurements and assessments and the use of needs assessments that are appropriate to particular user groups.

The Indigenous housing research links housing to non-shelter outcomes particularly health outcomes. It has recently been argued that Indigenous home ownership in remote areas has the potential for wealth creation. Yet negligible research seems to have tested this argument.

Lastly a number of publications consider the historical, institutional and political aspects of Indigenous housing. A gap in the literature is investigations of Indigenous housing in institutional environments.

7 CONCLUSION

This project has reviewed the literature on Indigenous Housing in Australia with a view to (a) conceptualising the body of knowledge on the subject in theoretically and practically useful ways, and (b) identifying gaps and unresolved research issues that can be applied to the creation and maintenance of a reasonable quality of residential lifestyle for Indigenous people. The literature was analysed according to two periods of research these being 1970-1999 and 2000-2006, with a more in-depth focus on the most recent period during which AHURI has been active in the field of Indigenous housing research. The main findings on these periods of research are drawn together below with reference to the research questions that initiated the project as well as to the seven outcomes being sought for the Building a Better Future (BBF) vision of the Housing Ministers' Advisory Council of Australia. These BBF outcomes are as follows.

[Outcome 1]- better housing: housing that meets agreed standards, is appropriate to the needs of Aboriginal and Torres Strait Islander people, and contributes to their health and well being;

[Outcome 2]- better Housing Services: services that are well managed and sustainable;

[Outcome 3]- more housing: growth in the number of houses to address both the backlog of Indigenous housing need and emerging needs of a growing Indigenous population;

[Outcome 4]- improved partnerships: ensuring Indigenous people are fully involved in the planning, decision making and delivery of services by governments;

[Outcome 5]- greater effectiveness and efficiency: ensuring that assistance is properly directed to meeting objectives, and that resources are being used to best advantage;

[Outcome 6]- improved performance linked to accountability: program performance reporting based on national data collection systems and good information management.

[Outcome 7]- coordination of services: a 'whole of government' approach that ensures greater coordination of housing and housing-related services linked to improved health and wellbeing outcomes. (HMAC 2001:5.)

The questions that guided the research are as follows:

1. How can Indigenous housing research be characterized as a field of research?
2. What is the range of research themes in the Indigenous housing literature?
3. How do these themes compare to the international Indigenous housing literature?
4. What are the strengths of research in Indigenous housing to date?
5. What are the gaps in research in Indigenous housing to date?
6. What does the existing literature tell us in terms of the 10 year, Building a Better Future Statement?
7. Which research gaps are critical to fill, in order to achieve such a Plan?
8. Can a theoretical basis or framework be identified for this research?

The extent to which these research questions were covered in the report varied. Questions one, two, four and five received the greatest coverage. Due to the constraints of the project including the lack of major reviews of the international literature, question three was not investigated as intensely as initially planned. Questions six and seven received minimal coverage throughout the report however attention is refocussed on these questions below. Question eight received minimal coverage under the discussion of disciplinary background of the authors; this question is reconsidered below.

7.1 The characteristics of the Indigenous housing research field

A number of disciplines have contributed to the Australian Indigenous housing research. The authors in the literature reviewed were mostly identified with the disciplines of architecture, anthropology, economics, health, or they were identified as government employees/agencies. The field of Indigenous housing research is inherently multi-disciplinary, and a number of authors have developed cross-disciplinary research approaches for example, in anthropology and architecture, health prevention and architecture, anthropology and environmental psychology, etc. This multi-disciplinary characteristic of the research reflects the complex nature of the topic; Indigenous housing research involves multiple interrelated themes and sub-themes. This picture of Indigenous housing research contrasts with non-Indigenous housing research, which is dominated by sociology, economics, urban geography and planning studies.

In both the 1970-1999 and 2000-2006 periods, Aboriginal people and Torres Strait Islanders have provided significant contributions to the literature as research assistants and as research participants. What is the value of the in-kind support that Indigenous organizations, communities and individuals have contributed to the Indigenous housing literature? Given the magnitude of the empirical research literature, there is obviously an enormous in-kind support received from Indigenous individuals, communities, housing organizations as well as Indigenous personnel in government departments. However whilst Indigenous people may have contributed in this way, relatively few Aboriginal or Torres Strait Islander people were identified as authors of research in the public domain. This relative absence of Indigenous authorship and viewpoint represents a significant gap in the research process and a failure to meet the Building a Better Future (BBF) outcome 4 – ‘improved partnerships’. If this outcome is to be realised then greater encouragement of Indigenous participation in the definition of research questions and in the conduct of research is required. National Indigenous housing research scholarships are likely to assist in this endeavour. However a program of regional or local Indigenous directed housing research could also be developed. This issue, of Indigenous participation and control of research, is part of a broader issue of Indigenous involvement in every aspect of the Indigenous housing sector/industry, including decision making about Indigenous housing. The international literature, especially the Canadian literature, suggests that Indigenous involvement in the housing sector is being explored quite intensively elsewhere.

As this report illustrates, a range of methods are used in Indigenous housing research although the research has tended towards qualitative, practice-based or action research. In many cases this has involved reflection on practice rather than systematic academic research, and the reports on activities or outcomes from such studies often remained unpublished in any formal sense. One method that may have potential for further development is practice-based or action research, which in many

cases involves reflection on practice, rather than systematic research. For example, the Memmott & Chambers (2003) edited publication *Take 2* illustrates the significance of reflection by a collective of architects who have practiced for long periods in the area of Indigenous housing. There is also significant potential for Indigenous autobiographical reflection on housing experiences and perhaps some long-term serving Indigenous leaders in this field should be conscripted for such a contribution. In contrast to the qualitative basis to much of the Indigenous housing literature the non-Indigenous housing research has tended towards quantitative, 'empirical' and 'observational' research, which has largely but not always been formally published or released. These mainstream housing approaches are increasingly being employed in the Indigenous housing literature, particularly as researchers with a background in mainstream housing cross over into Indigenous housing, and as mainstream housing research approaches are applied to the Indigenous housing sector without adequate adjustment in response to the particular circumstances of Indigenous housing.

In the periods 1970-1999 and 2000-2006, the Indigenous housing literature was characterised in one dimension by its consistent geographic focus. In both periods the research has focused on remote and very remote Australia. It has also focussed on discrete settlements. This simultaneously represents a strength and weakness of the research. The weakness lies in the fact that a number of remoteness categories and settlement types do not receive sufficient coverage in the literature. In particular there is a need for increased research activity in urban Indigenous settlements. The current remote and discrete settlement focus holds significant implications for the BBF's outcome 1 – 'better housing', outcome 2 – 'better housing services', and outcome 4 – 'improved partnerships'. Greater attention to the full repertoire of remoteness categories and settlement types is required to create a more balanced field of research findings. In contrast the Australian non-Indigenous housing literature is heavily urban-focussed and there are significant studies of urban Indigenous housing in the international literature.

The Indigenous housing literature has paid insufficient attention to cross-cultural commonalities and differences that exist within Indigenous Australia. The literature has focussed on Aboriginal Australia and the housing needs and circumstances of Torres Strait Islanders have largely been neglected. Within Aboriginal Australia the literature has focussed on Central Australia. An indication of this lack of culturally specific research is the low numbers of language groups mentioned in the literature. There seems to be an assumption that Indigenous Australia is culturally homogeneous. The failure of the literature to be culturally specific has serious implications for BBF outcome 1 – 'better housing', outcome 2 – 'better housing services', and outcome 4 – 'improved partnerships'.

7.2 The themes of the Australian Indigenous housing literature

Numerous research themes and sub-themes appear in the Indigenous housing literature. This project commenced with a list of 26 research themes with 23 of these being clearly represented in the publications that were reviewed. Two broad categories of research were identified amongst these themes (1) research on the micro-issues of Indigenous housing, and (2) research on the macro-issues of Indigenous housing. The scale of the issues addressed in the research distinguishes these categories. Whereas micro-issue research pertains to the scale of individual houses and householders, macro-issue research applies to the scales of regional, state and national analyses. A further key distinction between the micro and macro-issue categories is that research of macro-issue themes has been conducted over the

last six years particularly and funded in a largely ongoing (in some cases annual), and systematic basis. Despite these distinctions there are obvious connections and overlaps between themes in both categories. These categories of research provide information that is critical to achieving the seven outcomes of the Building a Better Future vision. In fact an overarching theme of much of the literature within both categories is that it sets out to inform policy.

It was found that seven of the identified research themes formed the broad category of research that examines micro-issues in Indigenous housing. This category encompasses research directed at the scale of actual living environments. The themes in this category are occupation and use of housing, domiciliary composition and household size, user groups, mobility, design, technology, and home and place. This body of micro-issue research aims to provide the information required to competently provide and design appropriate Indigenous housing. Thus this micro-issues category of research is critical to BBF outcome 1 – ‘better housing’ (HMAC 2001:5). As noted previously, a feature of this micro-issues category is that much of the research is concerned with remote and very remote Australia. If BBF outcome 1 is to be achieved then greater research effort is required that addresses the micro-issues of Indigenous housing in outer and inner regional Australia and the major cities and metropolitan areas. At the same time an ongoing, if not enhanced program of research is still required in remote and very remote Australia. In comparison to the Australian literature research on urban Indigenous housing appears as a strength in the international literature.

Two of the clear research strengths of this category of literature and the Indigenous housing literature as a whole are the research themes of Indigenous housing design and the interrelated theme of occupation and use of housing. These themes emerged as research strengths in the early 1970s. The action research of architects combined with the research of anthropologists has made a significant contribution to these themes and ensured their strong representation in the literature through to the present. The significance of culturally appropriate design and the importance of understanding Indigenous patterns of occupation and use of housing are also emphases that are paralleled in the international Indigenous housing literature. However, despite this research strength there remains significant gaps in the level of engagement with culturally appropriate design. This may be exacerbated by current trends towards mainstreaming service provision in Indigenous Australia.

To achieve BBF outcome 1 – ‘better housing’, further investigation of this micro-issues category of research is required, including investigations of Indigenous household size and household composition preferences, the nature of Indigenous mobility and associated housing implications, and the housing needs of specific Indigenous user groups such as the aged, youth, students and those with health or disability needs.

The second major category of research examined in Chapter 6 was the macro-issues of Indigenous housing. These are research issues or analyses that extend outside of the realm of actual living environments but nonetheless impact on them. Although research in the 1970s and 1980s considered macro-issues, it seems that this focus of research activity has really emerged in the 1990s and matured in the 2000s. Sixteen research themes formed this broad category of research: ownership, funding and costs, sustainability and efficiency, management, policy, planning and decision making about housing, mainstream versus dedicated programs, decentralisation versus centralisation, performance, affordability, accessibility, appropriateness, location and geography of housing provision and services, housing needs, housing and other outcomes, and historical and institutional aspects of housing. This macro-

issues category of Indigenous housing research is critical to achieving the outcomes of the BBF framework.

Housing management is a strong research theme within this category and the Indigenous housing literature as a whole. Such literature is critical to outcome 2 – ‘better housing services’, outcome 4 – ‘improved partnerships’, outcome 5 – ‘improved performance linked to accountability’, and outcome 7 – ‘coordination of services’. The international literature suggests further opportunities to enhance the research concerned with management, for example in the area of Indigenous housing management training and support.

Although the theme of Indigenous home ownership has appeared in the Australian literature for some time, recent emphasis on Indigenous home ownership by Australian governments and others suggests that this is a significant and emerging research theme. Research concerned with home ownership potentially addresses BBF outcome 3 – ‘more housing’. Home ownership is also a significant theme in the international Indigenous housing literature. In North America home-ownership is viewed by government as a way of reducing Indigenous housing need, that is, providing more housing by increasing the rate of private home-ownership and thus reducing the demand on public funds (capital and recurrent) for housing. Australian governments perceive the same benefit. Yet there has been relatively little Australian research in this theme area to date. However if home ownership is to be successful future research must go beyond ‘more housing’ and pay close attention to BBF outcome 1 – ‘better housing’ and associated micro-issues. Furthermore outcome 4 – ‘improved partnerships’, 5 – ‘greater effectiveness and efficiency’, and 6 – ‘improved performance linked to accountability’ are also critical to this research theme. The international literature offers considerable knowledge regarding Indigenous home ownership but the findings of this literature must be adapted to, rather than simply applied to, the Australian context.

The sustainability of Indigenous housing is not a strong research theme in the literature. However development of research in this area is critical to BBF outcome 2 – ‘better housing services’, outcome 3 – ‘more housing’ and outcome 5 – ‘greater effectiveness and efficiency’. The literature illustrates an opportunity to embrace a model of sustainability in which economic, socio-cultural and environmental concerns are considered in an integrated manner. It is the authors’ view that research on economic viability is part of sustainability research but is not in itself sustainability research.

An ongoing theme in the literature is Indigenous control in the process of Indigenous housing provision. This theme is associated with BBF outcome 4 – ‘improved partnerships’ and outcome 7 – ‘coordination of services’. Yet little research has addressed this theme. Similarly little research has examined mainstream versus Indigenous housing programs. However such research is critical to achieving BBF outcome 3 – ‘more housing’, outcome 5 – ‘greater effectiveness and efficiency’, and outcome 7 – ‘coordination of services’. A key issue is what research informs government decisions to mainstream the Indigenous housing programs, and what research is ignored when such decisions are made?

Research that examines the theme of decentralisation versus centralisation is critical to BBF outcome 1 – ‘better housing’, outcome 3 – ‘more housing’, and outcome 5 – ‘greater effectiveness and efficiency’. There is a tension between these outcome areas in terms of decentralisation and centralisation. Altman’s (2006) work suggests that research of decentralisation/centralisation requires an approach that considers these three outcomes in a balanced manner.

Indigenous housing performance is a research strength of the literature and it addresses all of the BBF outcomes with the exception of outcome 1 – ‘better housing’. Indicators are yet to be developed that thoroughly engage with the assessment of performance in terms of housing standards, appropriateness, health outcomes and well-being. An ongoing program of post-occupancy evaluation is fundamental to performance assessment in terms of ‘better housing’. In comparison to many performance indicators that provide a picture of existing circumstances, and that become abstracted from particular houses and settlements, post-occupancy evaluations provide information that can be directly acted on in the development of housing outcomes of particular settlements and particular households. There is a similar gap in needs assessment research where there is an unmet requirement for indicators of cultural appropriateness, again a failure to inform outcome 1 of the BBF. Needs assessments appear in the international literature using many of the same indicators.

Three themes identified by the authors prior to the literature analysis were found to have very little representation in the literature. No research explicitly examines the theme of Indigenous ‘housing pathways’. However an indication of the potential of this theme can be found in Solonec (2000) Walsh (2003) and Little (2000). This theme is relevant to outcomes 1 and 2 – ‘better housing’ and ‘better housing services’. None of the literature reviewed from the 2000-2006 period was categorised under the theme of ‘impacts of cross and inter-generational issues (e.g. demography) on housing’ which is relevant to outcome 3 – ‘more housing’. The literature to date has not directly examined the theme of ‘housing preferences, desires, future visions’ in any meaningful way. This theme is relevant to outcomes 1 and 3 – ‘better housing’ and ‘more housing’. Since 2002 ‘housing futures, needs and aspirations’ has been a theme area within the annual AHURI Research Agendas and a number of publications produced out of this theme area were categorised elsewhere in this analysis, for example Memmott et al (2004, 2006) was categorised under the theme of ‘mobility’. A research question contained in the 2006 AHURI Agenda explicitly introduced the theme of ‘housing aspirations’ for the first time – at the time of writing a project addressing this research question was under way.

In comparison with the non-Indigenous literature these are significant research gaps. These are significant research gaps in the context of generating a better understanding of Indigenous people’s housing intentions and actual patterns of housing consumption, and of what Indigenous housing issues lie on the policy and practice horizon. The importance of these gaps is also accentuated by the likelihood of finding considerable differences between Indigenous and non-Indigenous people’s housing preferences, pathways, and the potential inter-generational impacts of housing in the context of demographic variance. Two further important and connected research gaps arise in the context of the lack of urban housing focus for Indigenous housing, and consequently on the absence of research into private rental market issues (both supply and demand) as they pertain to Indigenous people. Indeed, there is a relative paucity of Indigenous literature which examines private housing issues; rather the focus has been on social or community ownership and management.

A further observation regarding Indigenous and non-Indigenous housing research is that although there may appear to be considerable overlap between the themes covered in the two sets of research work, the main focuses within each is different. Thus, while many of the categories we have used here to distinguish discrete Indigenous housing research themes are also used within the non-Indigenous literature, the historical emphasis on micro-themes highlighted in this report is arguably distinct from the tendency to focus more on the macro-themes in the non-Indigenous (mainstream) housing. Driven by a combination of disciplinary tendencies

and the focus of many Indigenous studies, Indigenous housing research appears to have been interested primarily in how housing has been 'consumed' at the individual household level, and the effects of standards and domiciliary usage on individuals. By contrast, non-Indigenous housing research has commonly, but not exclusively, been concerned with tenure trends, population cohorts and broader policy and assistance issues. This situation may be changing now, with the emergent involvement of mainstream housing researchers in Indigenous studies, and also a greater governmental focus on more collective research into housing needs, dwelling conditions and housing outcomes. One area where Indigenous housing research has been leading the way over the last couple of decades concerns the relationships and connections between housing/shelter and non-housing/shelter outcomes. An example of this is how Indigenous housing research has historically drawn important links into health and well-being.

7.3 Towards a theoretical basis or framework for Indigenous housing research

As noted in Chapter 3, in 1979 Dr Michael Heppell reflected on the very limited extent to which Aboriginal housing provision was informed by research and then proposed a theoretical basis to a program of Indigenous housing research that examined:

...how Aborigines perceive and order their environment, how they organise their camps and the spatial areas within a camp, how a camp supports those social institutions which operate within it, the ways in which a group changes its social institutions to adapt to the changed circumstances of a housing scheme and the stresses experienced by individuals and families...Such research is most pertinent to a government's housing policies for remote Aboriginal people and requires phenomenological studies of some duration in the field. (Heppell 1979:3.)

Those researchers, mostly architects and anthropologists, who have examined and responded to the micro-issues of Indigenous housing, have to a large extent fulfilled Heppell's research vision over the last 25 years. Much of this research is reported without attention to theory but it has a strong action-research basis that is informed by what can be described as phenomenological or ethnographic approaches. Such approaches emphasise the subtleties and complexities of Indigenous interactions with housing. Importantly, such approaches take Indigenous experience and knowledge systems as a central concern. It is through the experience and action of Indigenous people that Indigenous housing is known. Thus, according to a phenomenological approach, the investigator understands the nature of Indigenous housing as it is defined and experienced by Indigenous people. A phenomenological approach is capable of being inclusive of multiple and diverse Indigenous experiences and definitions of housing as well as diverse preferences for housing. (Adapted from Long 2005:87.)

The current authors believe there is a need for an ongoing program of research based on a revitalised version of Heppell's research agenda. Following Heppell (1979:3), housing research should consider how Aboriginal people and Torres Strait Islanders perceive and order their environment, how they organise (and wish to organise) their domiciliary environments and the spatial areas within them, how a domiciliary environment supports those social institutions which operate within it, the ways in which a group changes its social institutions to adapt to the changed circumstances of a housing scheme and the stresses experienced by individuals and families. Such research is pertinent to a government's housing policies for Indigenous people living

in the full range of settlement and remoteness contexts and it requires phenomenological studies of some duration.

Yet the current authors also believe that a theoretical basis to Indigenous housing research requires a balance between micro and macro- scale research. Further macro-scale research is clearly required, but it ought to be driven and informed by an understanding of micro-scale issues, and be cognisant of the relationships and interactions between the two levels of research. The role of macro-issue research is to establish how to achieve successful micro-issue outcomes for householders, tenants and home-owners, in other words how to achieve BBF outcome 1 – ‘better housing’. Too often though there seems to be a reversal whereby the findings of micro-issue research are ignored or subsumed by macro-considerations.

A key to developing a formalised Indigenous research agenda is a shared definition of Indigenous housing that encompasses all of its subtleties and complexities. Indigenous housing encompasses all aspects of the production, management, maintenance and occupation of Indigenous living environments. This includes social, behavioural and physical properties of living environments. It includes camps and ‘houses’. It includes traditional or self-built architecture and it includes buildings and living environments designed and built by others. It includes internal and external living environments. It includes houses owned by Indigenous people and those rented from either the private market, Indigenous community housing organizations, state owned and managed Indigenous housing, and public housing. And it also incorporates a longitudinal understanding of the lifecycles of housing and the changing needs and issues of the users. Indigenous housing exists within a complex set of broader economic, environmental and cultural relationships. Research programmes need to be balanced to address all of these aspects of the Indigenous housing research field.

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9 APPENDICES

Figure 1: Regions of Aboriginal Australia used for classification of data in the Aboriginal Environments Research Centre, Department of Architecture, University of Queensland.

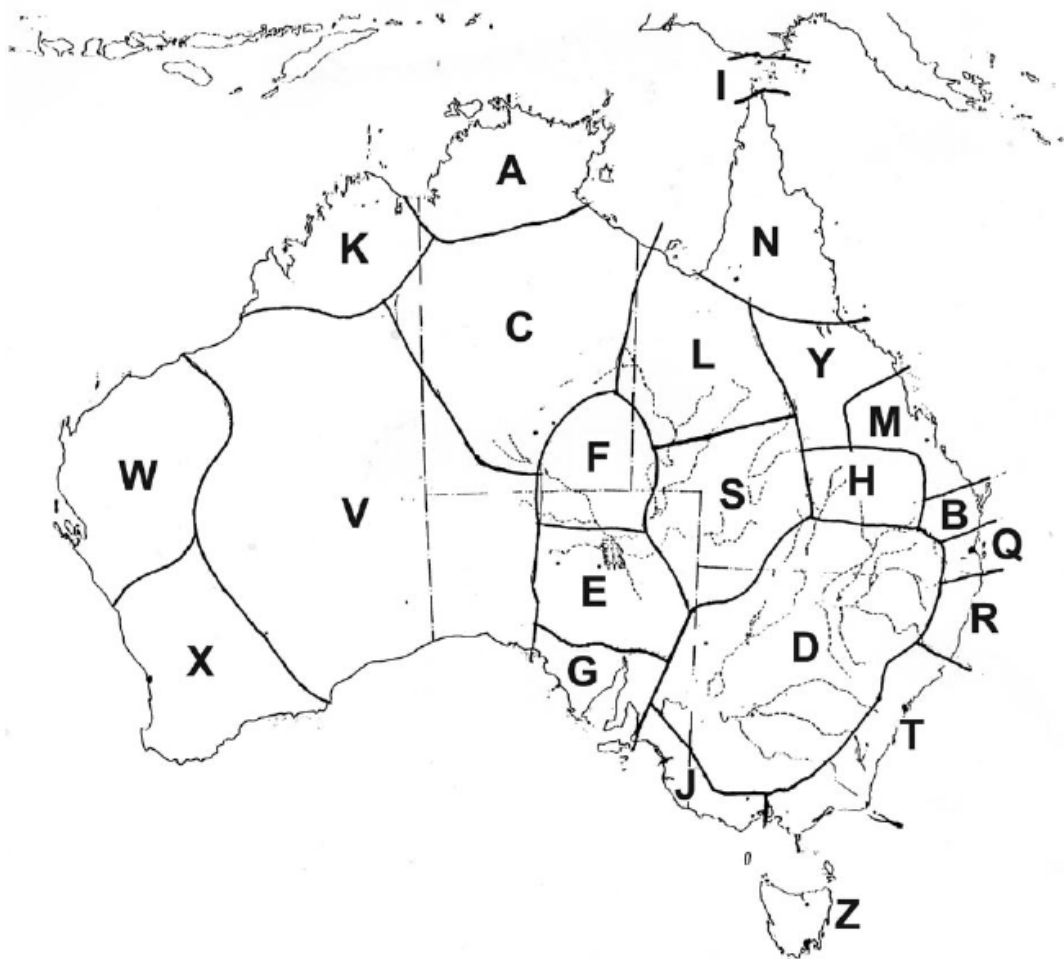


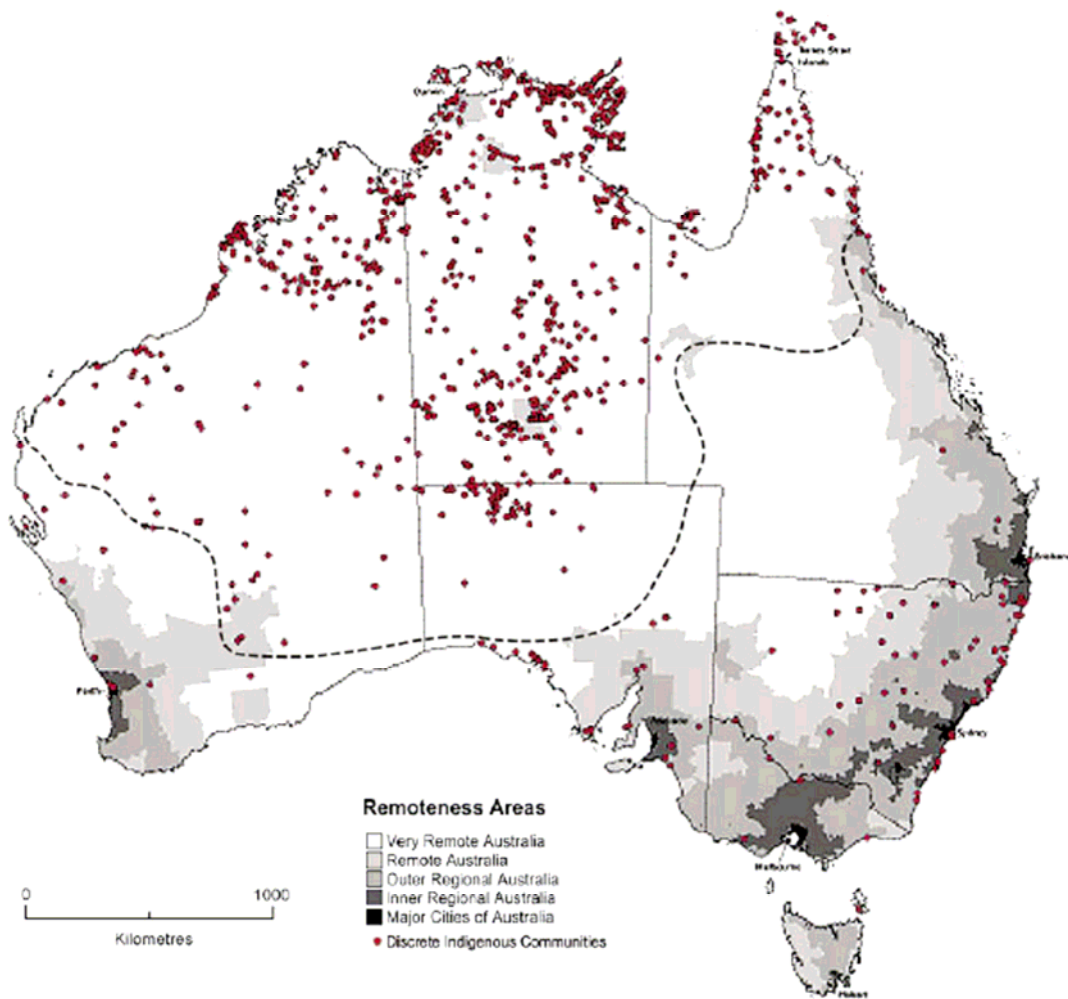
Figure 2: Map of places mentioned in the 2000-2006 Australian Indigenous Housing literature with Rowley's (1972:377) line distinguishing 'colonial' and 'settled' Australia.



Figure 3: Map of places mentioned in *A Black Reality* with Rowley's line distinguishing 'colonial' and 'settled' Australia (Heppell 1979:4).



Figure 4: Discrete Indigenous Communities by Remoteness Areas (ABS 2001:97) with Rowley's (1972:371) line of 'colonial' and 'settled' Australia.



AHURI Research Centres

Queensland Research Centre
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