



*Final Report*

# **Towards a design framework for remote Indigenous housing**

authored by

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## ABBREVIATIONS

ABS	Australian Bureau of Statistics
AHURI	Australian Housing and Urban Research Institute
AIHW	Australian Institute of Health and Welfare
APY	Anangu Pitjantjatjara Yankunytjatjara
ARHP	Aboriginal Rental Housing Programme
ARIA	Australian Remote Indigenous Accommodation (program)
ATSIC	Aboriginal and Torres Strait Islander Commission (defunct)
ATSIS	Aboriginal and Torres Strait Islander Service
BAC	Bawinanga Aboriginal Corporation
BBF	Building a Better Future
BCA	Building Code of Australia
CDEP	Community Development Employment Project
CHIP	Community Housing and Infrastructure Programme
COAG	Council of Australian Governments
CSHA	Commonwealth–State Housing Agreement
DLGHS	Department of Local Government, Housing and Sport (NT)
DOGIT	Deed of Grant in Trust
DPI	Department of Planning and Infrastructure (Northern Territory)
FaCSIA	Commonwealth Department of Families, Community Services and Indigenous Affairs
FHBH	Fixing Houses for Better Health
FIM	Family Income Management (program)
HMAC	Housing Ministers Advisory Committee
IBA	Indigenous Business Australia
ICHO	Indigenous Community Housing Organisation
IHANT	Indigenous Housing Authority of Northern Territory
JPET	Jobs, Education and Training (program)
MPA	Maningrida Progress Association
NAHS	National Aboriginal Health Strategy
NIHG	National Indigenous Housing Guide
NT	Northern Territory
OAH	Office of Aboriginal Housing (South Australia)
PIASC	Palm Island Indigenous Shire Council
POE	Post-Occupancy Evaluation
QBuild	Department of Public Works (Queensland)



Qld	Queensland
SA	South Australia
SCIH	Standing Committee on Indigenous Housing
UNESCO	United Nations Education, Scientific and Cultural Organisation
WA	Western Australia

## EXECUTIVE SUMMARY

Writing of the recommendations of the *Little Children are Sacred* report, the Commissioners, Rex Wild and Pat Anderson, noted:

The recommendations proposed in this report do not spring from 'rocket science'. They are basic concepts and proposals. Nothing is novel or unexpected.<sup>1</sup>

The same is true of the Design Framework and associated recommendations in this report. We make no claim of originality for any individual points. Rather, the originality and significance of this report reside in its policy-orientated synthesis of the disparate contributions to remote Indigenous housing from the design, policy and public health literatures as grounded and tested in fieldwork in three sample communities in different parts of Australia. This integration of primary and secondary research is used to develop a flexible set of guidelines to assist policy makers and built-environment professionals to respond to calls for 'suitable low-cost housing options'<sup>2</sup> for Indigenous housing in remote and very remote regions of Australia.

The terms 'suitable' and 'low-cost' have the following meanings in this report:

- 'Suitable' housing is housing that is appropriate for residents in terms of cultural, social, health and environmental imperatives and the opportunities for social harmony, employment and economic development that can flow from the appropriate investment of funds in the design and construction of housing.
- 'Low-cost' housing is housing that is 'suitable' for residents and that is designed, built and maintained according to principles, processes and systems that would lead to significant cost savings over a specified lifespan of a house.

The three case study communities in this study are located in Queensland (Palm Island), South Australia (Mimili) and the Northern Territory (Maningrida). All three are culturally, historically and environmentally distinct, and home to three very different communities. However, despite these differences, the communities were found to share many housing problems, due to: their common experiences of remoteness; the legacy of chronic under-funding for housing, infrastructure and services; and the lack of local education, training and employment opportunities.

The studies of housing in Mimili, Maningrida and Palm Island identified significant liveability problems related to a lack of concern for core cultural issues, inappropriate settlement planning, the lack of liveability of internal and external spaces, and the ineffective management of the housing process. Most significantly, also, the housing procurement and construction processes in all three communities failed to leave an 'economic footprint' in terms of enhanced livelihoods for residents.

The Design Framework was developed from an analysis of the solutions to these problems suggested in the extensive interviews and workshops we conducted with residents, Councillors and housing officers in the three case study communities, with relevant staff in State/Territory housing agencies, and with design and construction professionals experienced in building houses in remote Indigenous communities.

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<sup>1</sup> Wild, R. and Anderson, P. (2007) *Little Children are Sacred: Report of the Northern Territory Board of Inquiry into the Protection of Aboriginal Children from Sexual Abuse 2007*, Northern Territory Government, Darwin, p. 18.

<sup>2</sup> Brough, M. (2007) *Massive boost for Indigenous NT housing by Federal government*, Media Release, 16 May. Available online at <http://www.facs.gov.au/Internet/Minister3.nsf/content/nt-housing-16may07.htm> (accessed 20 May 2007).

As a result, the Design Framework provides concepts and principles that integrate and extend the focus on safety, health, quality control and sustainability in the *National Indigenous Housing Guide*.<sup>3</sup> It does this in two ways. First, the Design Framework also reflects the ways in which Indigenous people prefer to use their homes to help meet their cultural and social aspirations and needs. Second, the Design Framework addresses many of central housing problems that undermine opportunities for social stability, employment, training and economic development in remote Indigenous communities.

As a result, the Design Framework provides an approach to housing in remote Indigenous communities that is responsive to several key issues:

- *Cultural appropriateness* – so that the design of Indigenous housing responds to core cultural imperatives of customary beliefs, Indigenous domiciliary preferences, and the diverse range of household types, sizes and aspirations.
- *Eco-efficiency* – so that the design of Indigenous housing is climatically responsive in the choice of building styles, siting and orientation, and involves the selection of environmentally appropriate building materials and construction systems and water, energy and waste management systems.
- *Healthy living practices* – so that the design of Indigenous housing follows the HealthHabitat principles in the *National Indigenous Housing Guide* that contribute to quality construction, health and safety and also address the links between health and overcrowding, the spread of infectious diseases, poor nutrition, domestic violence and school truancy.
- *Employment opportunities and economic development* – so that the design of Indigenous housing responds to the significance of housing construction as the major area of infrastructure investment in almost every remote Indigenous settlement in Australia and its resultant potential as a major creator of employment, skills training for workforce development, and the retention and circulation of money in local economies.
- *Life-cycle costing* – so that the design of Indigenous housing reflects the principle of ‘best value’ rather than ‘best price’ and the subsequent use of whole-of-life costing for housing, which integrates the cost of construction with the planned and budgeted lifespan of a house and associated repair and maintenance schedules.
- *Innovation in procurement, ownership and construction systems* – so that the design of Indigenous housing supports the economies of scale and time savings that may be achieved by innovative procurement systems (such as regional alliances), alternative approaches to home tenure (such as lease-purchase, ‘sweat equity’, etc), and the appropriate use of modular construction technologies (such as the off- and on-site fabrication of building components and on-site assembly and certification).

These six factors reflect a ‘triple bottom line’ view of sustainability and, as such, provide an integrated and balanced set of guiding principles for the planning, design, construction and maintenance of remote Indigenous housing. This conception of ‘sustainability’ reflects a key finding from the case studies, namely that these design factors are interdependent and mutually reinforcing.

The Design Framework applies these six aspects of sustainability at each of the key decision points in the housing system:

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<sup>3</sup> Department of Families, Community Services and Indigenous Affairs (2007) *National Indigenous Housing Guide*, 3rd edition, Department of Family and Community Services, Canberra.

- Consultation (throughout the process)
- Settlement design
- Design of the house, including internal and external spaces
- Integration of education and training plan into construction schedule
- Design development, construction and project management
- Post-occupancy management.

Guided by the six principles of sustainability, a set of best practice principles for policy makers and built-environment professionals are provided for each of these decision points or phases. Together, they provide a guide for achieving the goal of 'suitable low-cost housing options' in remote Indigenous communities in Australia. As such, they constitute a flexible framework for both developing and evaluating plans for the design, construction and management of remote Indigenous housing provided each of the best practice principles has been reviewed in light of the physical and cultural environment in which the houses are to be built and, where appropriate, modified or rejected.

As such, the Design Framework complements the conceptual model developed in the report, *Alternative Housing Systems for Indigenous People in Remote Communities*,<sup>4</sup> prepared by SGS Economics and Planning (and others) for the Department of Families, Community Services and Indigenous Affairs, which was released in September 2007, after this report was submitted for review.

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<sup>4</sup> Department of Families, Community Services and Indigenous Affairs (2007) *Alternative Housing Systems for Indigenous People in Remote Communities*. Prepared by SGS Economics and Planning with Paul Pholeros and Merrima Design. Department of Families, Community Services and Indigenous Affairs, Canberra.

# 1 INTRODUCTION

Q: What would your ideal house be like?

A: That is a beautiful question.

- Interview with Maningrida resident,

20 September 2006

## 1.1 Scope and purpose of the research

This report presents a Design Framework for remote Indigenous housing in Australia. The Design Framework provides concepts and principles that integrate and extend the current focus on safety, health, quality control and sustainability<sup>5</sup> in Indigenous housing projects with principles that also reflect the ways in which Indigenous people use their homes and that meet their cultural and social aspirations and needs.

The Positioning Paper for this project used insights from the extensive policy and academic literature, as well as field research in three case study communities in Queensland (Palm Island), South Australia (Mimili) and Northern Territory (Maningrida), to propose a draft Design Framework for remote Indigenous housing.<sup>6</sup> The current report presents a revised Design Framework based upon consequent field research, involving interviews with a wide range of stakeholders in these three communities and associated government housing and Indigenous agencies.<sup>7</sup>

The Design Framework complements and builds upon the platform of the *National Framework for the Design, Construction and Maintenance of Indigenous Housing*<sup>8</sup> and the *National Indigenous Housing Guide*<sup>9</sup> to support the desired outcomes of *Building a Better Future* (BBF).<sup>10</sup> In line with these policies and guides, the Design Framework seeks to redress the housing problems that undermine opportunities for Indigenous employment, good health, social stability and cultural sustainability in remote communities. This is in line with principles laid out in *Building a Better Future*, which emphasise the importance of collaboration and consultation in planning, design, construction and management of Indigenous housing. As a result, the Design Framework extends the principles of quality, health, safety and sustainability in the *National Indigenous Housing Guide* to provide an approach to housing in remote Indigenous communities that is responsive to:

- the overall layout – or settlement planning – of the community;
- Indigenous culture in terms of siting and house plans;

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<sup>5</sup> Department of Families, Community Services and Indigenous Affairs (2007) *op. cit.*

<sup>6</sup> Fien, J., Charlesworth, E., Lee, G., Morris, D., Baker, D. and Grice, T. (2007) *Flexible Guidelines for the Design of Remote Indigenous Community Housing*, AHURI Positioning Paper. Available online at <http://www.ahuri.edu.au/publications/projects/p30354> (accessed 10 August 2007).

<sup>7</sup> See Appendix 1 for a list of the organisations and individuals who contributed to this project.

<sup>8</sup> Commonwealth, State and Territory Housing Ministers' Working Group on Indigenous Housing (1999) *National Framework for the Design, Construction and Maintenance of Indigenous Housing*, Department of Family and Community Services, Canberra. Available online at [http://www.facsia.gov.au/internet/facsinternet.nsf/indigenous/indigenous\\_housing\\_framework.htm](http://www.facsia.gov.au/internet/facsinternet.nsf/indigenous/indigenous_housing_framework.htm) (accessed 4 April 2006).

<sup>9</sup> Department of Families, Community Services and Indigenous Affairs (2007), *op. cit.*

<sup>10</sup> Housing Ministers Advisory Council (2001) *Building a Better Future: Indigenous Housing to 2010, Australian Housing Ministers' Ten Year Statement of New Directions for Indigenous Housing*. Available online at [http://www.facsia.gov.au/internet/facsinternet.nsf/indigenous/indigenous\\_housing\\_2010.htm](http://www.facsia.gov.au/internet/facsinternet.nsf/indigenous/indigenous_housing_2010.htm) (accessed 10 August 2007).

- different and changing family and household patterns and the special needs of people at different life stages;
- eco-efficiency in the choice of materials, design, and water and energy systems;
- life-cycle costing in the design, construction and post-occupancy management cycle;
- the use of appropriate and innovative construction technologies; and
- the promotion of workforce training, employment opportunities and economic development.<sup>11</sup>

As such, the Design Framework meets the definition of ‘adequate housing’ stipulated by Shaw and Bailie as encompassing ‘good-quality services, materials, services and infrastructure; habitability; affordability; accessibility; legal security of tenure; viable location; and cultural suitability’.<sup>12</sup> An emphasis on such ‘responsive’ and ‘adequate’ housing designs is important not only in meeting the need for shelter. It can also facilitate important non-housing outcomes. For example, appropriate housing designs can make a positive contribution to health whilst reducing over-crowding and the impacts of heavy use on the condition of a house, thus circumventing the downward spiral associated with overcrowded and poorly maintained housing. In turn, access to sufficient, appropriate housing can strengthen family stability, enhance familial authority with children, support school attendance, homework and educational performance, and reduce the conditions that often underpin substance abuse, alcoholism and domestic violence.

## 1.2 What is a Design Framework?

Designing for Indigenous housing in remote areas calls for the development of a design system or framework that integrates the multidisciplinary mix of political, geographical, cultural, anthropological, historical, psychological, sociological, health, architectural, engineering, economic, landscaping and legal aspects of Indigenous housing into a trans-disciplinary response to a family or group’s needs for shelter, security, health and well-being. Thus, the process of designing a house – or any structure – is not limited to the act of drawing plans to shape and guide construction. Issues of form and function are important in design, as are responsiveness to the physical environment and local cultural experiences and expectations. As such, design is a complex process that begins with initial discussions about aspirations and their feasibility for a building project, and extends through the various and multiple stages of consultation with clients, drawing and revising concept and detailed plans, responding to quantity surveyors’ reports and cost estimates, specifying materials and fittings, project planning, construction management, developing a maintenance schedule and post-occupancy evaluation.<sup>13</sup>

The concept of design in this study encompasses all these aspects of a design system. As a result, achieving a successful design outcome requires the development of a Design Framework based upon:

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<sup>11</sup> These aspects of the revised Design Framework are detailed in Chapter 6.

<sup>12</sup> Bailie, R. (2007) Housing, in Carson, B., Dunbar, T., Chenhall, R. and Bailie, R. (eds) *Social Determinants of Indigenous Health*, Allen and Unwin, Sydney, Chapter 10; Shaw, M. (2004) Housing and public health, *Annual Review of Public Health*, 25 (8), pp. 1–22.

<sup>13</sup> This extended definition of housing is consistent with the definitions of housing in recent literature on Indigenous housing. See Long, S., Memmott, P. and Seelig, T. (2007) *An Audit and Review of Australian Indigenous Housing Research*, AHURI Final Report No. 102, Chapter 5.2.

- Consultation and site analysis to achieve a clear understanding of the problem(s) to be solved;
- Research investigating similar design solutions in the field or related topics;
- A design brief stating mutually agreed design goals;
- Engagement, coordination and integration of expertise particular to the problem(s) to be solved;
- Production of architectural design options sufficient for client evaluation and selection of a design strategy;
- Development of the agreed architectural design strategy providing sufficient detailed design options for client evaluation of a final design solution;
- Documentation of the final detailed design to guide the building construction process;
- Supervision of the construction process in accordance with the documentation; and
- Development and implementation of a post-occupancy management and maintenance plan, including provision for ongoing post-occupancy evaluation (POE).

The goal of this research is to develop such a Design Framework for housing in remote Indigenous communities. Thus, the research proposes *an essential link between Indigenous culture and appropriate design*. However, the Framework goes beyond a culturally augmented but, nevertheless, fairly typical design process because of the cultural differences that separate the designer and the client.

The Design Framework emphasises three essential principles:

- The need for effective consultation and an anthropological understanding of the particular cultural norms of the client group;
- The importance of house designs to support healthy living practices; and
- The importance of the designer's professional and ethical responsibility to creatively challenge the dominant patterns of housing in ways that go beyond a formulaic response to budgetary limits and client aspirations.

First, it is axiomatic that house designs reflect an understanding of the cultural values and domiciliary behaviours of those who are to live in them and that there be meaningful consultation with communities and future householders on siting, house and yard design, and fixtures and fittings. This does not imply that the design problem can be clarified through client meetings and interviews. Indeed, this cannot be assumed, as many factors can interfere with the communication process in cross-cultural design. These include: unexpressed sensitivities related to cultural taboos, misunderstandings arising from the designer's inability to speak Indigenous languages, the clients' limited experiences of alternative housing design options, and their lack of control over the budget for design and construction.

Second, Indigenous poverty in Australia, which is especially severe in remote communities, where unemployment often exceeds 90 per cent, means that few families and groups have the means to meet their own housing needs at a standard consistent with that expected in mainstream Australia. Additionally, a history of misunderstanding and chronic under-funding has led to inappropriately designed, under-specified and poorly maintained houses that have a significant negative effect on the health and well-being of residents, including overcrowding resulting from inadequate numbers and inappropriate styles of houses.

The Design Framework emphasises the need for house upgrades and new houses to meet the basic standards needed to support safe and healthy living practices. These include ensuring that houses provide the 'health hardware' necessary for washing people, washing clothes and bedding, removing waste safely, improving nutrition, reducing crowding, separating people from animals, reducing dust, controlling temperature and reducing trauma. These environmental and community health standards are integral to the *National Indigenous Housing Guide* and the Fixing Houses for Better Health (FHBH) program.<sup>14</sup> They are also integral to the Design Framework presented in this report.

Third, designers bring professional expertise to a design problem. This is because client aspirations – whether they be mainstream clients or Indigenous clients – are often limited by their personal experiences, a lack of knowledge of design and construction processes and possibilities, and conformity to known and experienced house designs. This is not to suggest that designers should ignore client aspirations or impose a personal 'artistic', cultural or pragmatic preference upon the client. However, designers have a responsibility to both acknowledge and challenge the aspirations of the client by providing numerous and often contrasting design options through regular and appropriate consultation so that some mutual evaluation of those options can be negotiated.

Issues and problems associated with the cultural and environmental appropriateness, quality and durability of much remote Indigenous housing in Australia could be interpreted as a direct result of the failure to incorporate these three principles into the design process. The Design Framework presented in this report provides flexible guidelines for addressing this problem.

## **1.3 Research approach**

### *1.3.1 Purpose and aims*

As indicated above, this project complements and builds on the *National Indigenous Housing Guide* to propose a Design Framework for delivering Indigenous housing that is affordable, liveable and socially sustainable for different family types in remote Australia. This was achieved through an investigation of the following themes and research questions:

Theme 1: Design, aspirations and impact

- How do current housing designs meet the aspirations of different household types such as large and complex extended families, aged persons, single persons and households characterised by high mobility and fluctuating numbers? What impact do current design practices have on household and community wellbeing?

Theme 2: Lessons from good practice

- What lessons from 'good practice' in socially sustainable Indigenous housing can be integrated into the design/maintenance of remote Indigenous housing?

Theme 3: Flexible design framework

- What collaborative, community-derived principles can support the local implementation of the National Indigenous Housing Guide to reflect Indigenous cultural requirements and the complexity of household types in their communities?

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<sup>14</sup> See Department of Families, Community Services and Indigenous Affairs (2007), op. cit.; Pholeris, P., Rainow, S. and Torzillo, P. (1993) *Housing for Health: Towards a Healthy Living Environment for Aboriginal Australia*, HealthHabitat, Newport Beach.



- What do government Indigenous and housing agencies see as opportunities and constraints in the implementation of the design framework and how do they see constraints being overcome?

### 1.3.2 *The research process*

These aims, themes and questions were investigated in a two-step research process. The first step was based upon a review of the relevant policy and academic literature and interviews with State/Territory agencies for Indigenous affairs and housing, with relevant Community Councils where the fieldwork would take place, and with design practitioners experienced in Australian Indigenous housing. This information was synthesised into a Positioning Paper, which focused on:

- The policy context of Indigenous housing in Australia, with a particular focus on policies and practices in Queensland, South Australia and the Northern Territory, where the three case study communities are located;
- The issues that affect the design and construction of remote Indigenous housing; and
- A range of 'best practice' principles for the design and construction of remote Indigenous housing.

The Positioning Paper concluded with a draft Design Framework for a best practice design system for remote Indigenous housing.

The draft Design Framework was then 'tested' through further research in the three case study communities. This was done by identifying a list of the housing patterns and issues across the three communities and using them to guide observations and interviews in later field visits and with interviews with staff in State/Territory Indigenous housing agencies. Written comments on the draft Design Framework were also elicited from some of the experienced designers interviewed previously as a form of validation. It was originally planned to hold a workshop in each community but this was replaced by additional individual and small group interviews at each case study site on the advice of local community council staff. The draft Design Framework was revised after an analysis of this second set of research activities.

Three key principles guided the conduct of this study. These were that the research should be (i) systemic, (ii) culturally responsive, and (iii) consultative.

*Systemic:* The research was 'systemic', i.e. whole-of-system in focus, in two ways. First, it was interdisciplinary and integrated the perspectives of the many relevant disciplines – anthropology, architecture, policy, economics, public health, construction, etc. – that can provide insights into the development of housing that contributes positively to social well-being for remote Indigenous communities. Second, it sought to incorporate the voices of all the stakeholders in Indigenous housing, from families and households in remote communities to local housing and health officers, Indigenous community councils, relevant State/Territory and Commonwealth Government officers, building companies and tradespersons, architects and project managers. The perspectives of these many disciplines and stakeholders are represented in this study.

*Culturally responsive:* The research was based upon protocols for research and consultation with Indigenous communities developed by AHURI<sup>15</sup> and by the

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<sup>15</sup> AHURI (nd) *Ethical Principles and Guidelines for Indigenous Research*. Available online at <http://oltfile.qut.edu.au/download.asp?rNum=603024&pNum=599344&fac=udf&OLTWebSiteID=SUPERVISORSOLUTIONS&dir=gen&CFID=5771096&CFTOKEN=11027522> (accessed 2 July 2006).

Australian Institute for Aboriginal and Torres Strait Islander Studies<sup>16</sup> and as adapted by the University of South Australia<sup>17</sup>, one of the project partners. These include:

- Researchers should meet the needs and aspirations of Indigenous Australians and communities.
- Researchers should involve Indigenous Australians in determining and defining the research.
- Researchers procedures should facilitate input from Indigenous Australian individuals, families, groups and communities.
- Researchers should take account of cultural and personal sensitivities and the right to refuse to participate.
- Researchers should recognise Indigenous Australian community and expertise.
- Researchers should ensure that relevant people receive the results of the research in an accessible and acceptable manner.
- Researchers should ensure benefit to the community and promote employment of local people in research activity.
- Researchers should facilitate collaborative research.
- Researchers should respect Indigenous Australian cultural norms in relation to publication, the use of photographs and identification of individuals.
- Researchers should provide a mechanism to enable the negotiation of issues of ownership and control of research outcomes.<sup>18</sup>

*Consultative:* The practical implications of these protocols have been translated into five principles for best-practice consultation by project partners, Lee and Morris:<sup>19</sup>

- *Engagement:* At the inception of projects, gain negotiated and mutual understanding of client, consultant and provider aspirations and adopt agreed protocols for communication between all parties.
- *Communication:* Arising from agreed consultation protocols, negotiate coordinated project design and implementation processes based upon local conditions and experience.
- *Reciprocation:* Enable participatory and reciprocal relationship building between all parties, based upon mutual awareness of local physical, cultural and environmental conditions and available expertise. Allow sufficient time for communities to reach consensus.
- *Feedback:* Directly involve local clients in the evaluation of their built environments to include information gathering about physical and technical aspects and social and environmental factors.

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<sup>16</sup> Australian Institute for Aboriginal and Torres Strait Islander Studies (2000) *Guidelines for Ethical Research in Indigenous Studies*. Available online at <http://ntru.aiatsis.gov.au/ifamp/practice/pdfs/AIATSISEthicsGuideA4.pdf> (accessed 2 July 2006).

<sup>17</sup> See <http://www.unisa.edu.au/res/ethics/indigenous.asp> (accessed 3 July 2006).

<sup>18</sup> For an elaboration of further protocols for research with Indigenous people, see Walker, R., Ballard, J. and Taylor, C. (2003) *Developing Paradigms and Discourses to Establish More Appropriate Evaluation Frameworks and Indicators for Housing Programmes*, AHURI Final Report No. 24, App 3.

<sup>19</sup> Lee, V. and Morris, D. (2005) *Best Practice Models for Effective Consultation towards Improving Built Environment Outcomes for Remote Indigenous Communities*, AHURI Final Report No. 76.

- *Continuity*: Develop effective communication systems that promote building ongoing cross-cultural and cross-disciplinary relationships, facilitated by well-maintained records and databases.

These principles were integrated into the research design with the research plan being approved by the Research Ethics Committees of the three participating universities, RMIT University (Victoria), University of South Australia, and Queensland University of Technology.

## 1.4 Summary of the Positioning Paper <sup>20</sup>

The Positioning Paper underpinning this study was written to serve a number of purposes. First, it provided an introductory, but detailed, explanation of the scope, purpose and significance of the project (Chapter 1) and an account of the research methods employed (Chapter 2).

Second, in Chapter 3, it provided an overview of the policy context for Indigenous housing in Australia by briefly summarising key policy documents in place to guide Commonwealth and State/Territory governments. These included: the 1999 *National Framework for the Design, Construction and Maintenance of Indigenous Housing*, the 2001 Australian Housing Ministers' 'Ten Year Statement of New Directions for Indigenous Housing', titled *Building a Better Future: Indigenous Housing to 2010*, the National Aboriginal Health Strategy (NAHS) and *The National Indigenous Housing Guide (NIHG)*. Chapter 3 also discussed core shifts in policy making in this area, which have resulted from the abolition of the Aboriginal and Torres Strait Islander Commission (ATSIC) in 2004 and the mainstreaming of its responsibilities across a number of Commonwealth departments under the coordination of the Department of Families, Community Services and Indigenous Affairs (FaCSIA) in 2004/05. This served as a background to a review of the housing policies for the Northern Territory, Queensland and South Australia where the three case study communities of Maningrida, Palm Island and Mimili, respectively, are located.

Third, the Positioning Paper integrated the results of a literature review and interviews into an analysis of the range of factors that have influenced the implementation of Indigenous housing policy in remote areas in recent times (Chapter 4). Five key factors were identified and analysed: socio-demographic issues; culture and design; consultation processes; the costs of remoteness; and procurement and delivery processes and systems. The focus in this chapter was on the implications of these factors for appropriate design for remote Indigenous housing, not on the number or provision of houses, per se. However, the chapter argued that the two cannot be separated, as a key issue affecting design quality is the need to spread available funds broadly in order to build the largest number of houses at the best price – and design is often neglected in the short-term budgeting resulting from this process. The advantages and disadvantages of using standardised house plans for dealing with this conundrum were also analysed.

Finally, the Positioning Paper reviewed the design philosophies and practices characteristic of three broad approaches to improved housing outcomes in remote Indigenous communities (Chapter 5). These were the 'environmental health', 'cultural design' and 'housing as process' approaches. The purpose of this review of 'best practice' approaches was to illustrate ways in which sensitivity to the socio-demographic, cultural, environmental and economic issues discussed in the Chapter 4

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<sup>20</sup> Readers interested in the themes covered in the Positioning Paper are invited to access the Paper at URL <http://www.ahuri.edu.au/publications/projects/p30354>. This material is not repeated in this Final Report.

can lead to effective design practice. The Positioning Paper concluded with a synthesis of the key features of these 'best practice' approaches into a draft Design Framework for remote Indigenous housing. The draft Framework contained ten key processes:

- Establish project protocols
- Integration of cultural issues
- Integration of sustainability issues
- Consult on options for concept design
- Design of internal spaces
- Design of external spaces
- Education and training
- Design development and documentation
- Construction and project management
- Post-occupancy management.

Each of these was amplified with a set of detailed guidelines as set out in Chapter 5 of the Positioning Paper. The elements of the draft Design Framework were then 'tested' in the field through intensive fieldwork in the three case study communities and through interviews with a wide range of staff in State/Territory Indigenous housing agencies and architects and project managers with experience in designing and building homes in remote Indigenous communities. This report presents the revised Design Framework that resulted from finding of this research.

## **1.5 Policy developments since the Positioning Paper**

This project was conducted at an opportune, but rapidly changing, time in the development of policies and programs for Indigenous housing in remote parts of Australia. The three most significant of these were: a review of the Community Housing and Infrastructure Programme (CHIP), the replacement of CHIP by the Australian Remote Indigenous Accommodation (ARIA) program in the 2007 Commonwealth budget, and the 'national emergency' in remote Indigenous communities in the Northern Territory declared by the Australian Government.

### *1.5.1 The CHIP Review*

*Living in a Sunburnt Country*, the report of the CHIP Review, argued that Indigenous Australians in remote areas suffer from many housing-related problems, including overcrowding and associated issues of social breakdown, despite all government and community efforts to address them. This was attributed to recurring problems such as

1. severe shortages in the availability of public housing;
2. the community title system, which meant little or no private rental housing available and little opportunity for private home ownership;
3. public houses being poorly designed, unsuited to the needs of occupants and expensive to build; and
4. lack of maintenance.<sup>21</sup>

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<sup>21</sup> PricewaterhouseCoopers (2007) *Living in the Sunburnt Country - Indigenous Housing: Findings of the Review of the Community Housing and Infrastructure Programme*, Final Report to Department of Family Services and Indigenous Affairs, Canberra, p. 16.

These problems were reported to reflect a range of local community and wider systemic factors. The chief of these included:

1. barriers to expanding housing options because of community title over land and housing, and
2. inefficient use of available housing funds because of the poorly developed capacity of the Indigenous Community Housing Organisation (ICHO) sector.

In *Living in a Sunburnt Country* it was argued that these factors had resulted in a lack of enterprise and innovation in approaches to addressing the problems of housing shortages and overcrowding despite the large amounts of money that had been spent on the problems through CHIP. It was further argued that these failings were compounded by inadequate rent collection systems, which restricted the amount of money available for maintenance and, in turn, caused a downward spiral of housing condition, wastage of funds through high administrative costs and overheads, and poor governance and incidents of alleged financial and operational mismanagement, nepotism and favouritism.<sup>22</sup>

Thus, the CHIP Review concluded that:

The housing needs of Indigenous Australians in remote areas have not been well served and the interests and expectations of taxpayers have not been met. CHIP in its current form contributes to the policy confusion, complex administration and poor outcomes and accountability of government funded housing, infrastructure and municipal services. The Community Housing and Infrastructure Programme should be abolished.<sup>23</sup>

At a meeting of Ministers for Housing and Indigenous Affairs from around Australia in June 2006, it was stated that at least 18,000 homes for Indigenous Australians needed to be built in the next three years, 7,600 of which would be in remote communities, and that an entirely new system for allocating Indigenous housing would be developed.<sup>24</sup> Their outline of such a new system primarily focused on issues of governance and financing with a strong policy role for the Australian Government, including the centralisation of responsibility in State/Territory Governments – away from local community councils and ICHOs – for housing delivery and property management.

The recommendations of the CHIP Review details how these principles were to be applied through a new Commonwealth-supported office, which would:

- Link the provision of all future housing and infrastructure with access to sustainable essential services, including water, power and sewerage, transport, and basic support systems such as law and order, education, training, employment and health. This would entail continuing the shift away from building housing on outstations and homelands due to their relative lack of access to such services.
- Concentrate solely on remote Indigenous communities and 'emerging towns' with a significant Indigenous population, in Western Australia, South Australia,

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<sup>22</sup> *Ibid.*, p. 16.

<sup>23</sup> *Ibid.*, p. 16.

<sup>24</sup> Karvelas, P. and Wilson, A. (2006) Revamp for Aboriginal housing, *The Weekend Australian*, 17-18 June. The source of the figure of 18,000 new homes is not given. However, The Standing Committee on Indigenous Housing (SCIH) has estimated that by 2009, there will be a need for 7,600 homes in remote Australia and 10,400 in urban areas to satisfy Indigenous housing needs, making a total of 18,000. See <http://www.andrewbartlett.com/data/HOUSING-Overview-State-By-State.pdf>.

Queensland and the Northern Territory. This would entail the mainstreaming of Indigenous housing support in other States, Territories, towns and cities.

- Increase the quantity and standard of available housing through a three-year program of targeted repairs and maintenance 'blitz' of the existing stock.
- Implement a case management approach in remote communities with major housing needs via direct consultation with each community to:
  - define the needs for housing and related services and infrastructure and set target outcomes;
  - contract directly to provide housing and infrastructure such that houses are livable on completion, and with an enforceable warranty on fittings and workmanship; and
  - ensure sustainable municipal services and infrastructure that is operational.
- Contract State and Territory Governments that are able to provide such services to deliver specific housing and related services and infrastructure.
- Foster individual home ownership on community and freehold land through:
  - changes in community title and related arrangements such as 'Deeds of Grants in Trust' (DOGIT), and
  - mortgages from an expanded Indigenous Business Australia (IBA) program.
- Assist new tenants and home owners to maintain (and retain) their homes through training in home living skills and financial management.<sup>25</sup>

The Department of Families, Community Services and Indigenous Affairs (FaCSIA) conducted consultations on these recommendations, which had been applauded by Commonwealth Minister Brough, who had already initiated a range of similar policies. For example, in 2006 the Australian Government began using its constitutional powers in the Northern Territory to negotiate arrangements with community councils for leasehold title in order to increase private ownership of housing on community lands.<sup>26</sup>

While negotiations with councils in the Northern Territory have been slow, the Australian Government also instituted a small rent-to-buy or lease-purchase scheme in the Northern Territory based upon a form of leasehold tenure in two small outstations with the agreement of traditional owners.<sup>27</sup> This scheme provides new houses for families who will be eligible to purchase the property after two years if their rental record remains unblemished and their children attend school regularly. At the ceremony to hand over the keys to the new homes to the first four families, Minister Brough indicated the values and assumptions underpinning the scheme when he said that the lease-purchase scheme 'would replace overcrowded, poorly maintained public housing by encouraging private home owners to take care of their properties'.<sup>28</sup>

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<sup>25</sup> PricewaterhouseCoopers (2007) *op. cit.*, pp. 79-80.

<sup>26</sup> The Australian government also expressed confidence that states such as Queensland, South Australia and Western Australia that have large numbers of remote settlements would agree to enact similar arrangements. By late 2007, the Australian government had effected agreements with the communities of Tennant Creek, Nguiu (Tiwi Islands) and Groote Eylandt in the Northern Territory, and with Yarrabah and Palm Island in Queensland (dependent upon the Queensland Government amending legislation to provide for home ownership opportunities).

<sup>27</sup> Wilson, A. (2007) The great Australian dream time, *The Australian*, 4 May, pp. 1,6.

<sup>28</sup> *Ibid.*, p. 1.

### 1.5.2 The 2007 Commonwealth Budget

Neither the results of public consultations on the recommendations of the CHIP review nor the Commonwealth's response to the consultation process has been publicly released yet. However, several factors indicate that the review recommendations have been accepted almost in their entirety, including: the initiatives being taken towards changing tenure arrangements; support for private home ownership on community title lands; and the announcement of new mechanisms for improving the delivery and quality of remote Indigenous housing in the May 2007 Commonwealth Budget.

The Budget statement by Minister Brough argues that:

Overcrowded housing in Indigenous communities is a major contributor to social problems, poor health and low school attendance. Despite massive spending on the Community Housing and Infrastructure Programme (CHIP) by ATSIC, little progress was made. CHIP is inefficient and wasteful. It will be scrapped in July 2008 and replaced by the Australian Remote Indigenous Accommodation (ARIA) Programme with additional funding focused on land tenure reform, mainstream public housing, private home ownership and better value for money.<sup>29</sup>

The Budget also provided a significant increase of \$293.6 million over four years to the current amount of \$380 million a year being spent by the Australian Government on Indigenous housing: in all, a total of \$1.6 billion over four years. Minister Brough said that the purpose of this increase was to enable the ARIA scheme to 'kickstart a major reform strategy aimed at reducing overcrowding in remote Indigenous communities'.<sup>30</sup> Funding agreements with the Northern Territory and Western Australian governments had been signed to implement the recommendations of the CHIP Review within two weeks of these budget announcements, with an emphasis on:

- remote communities with the most severe housing problems;
- upgrades to community infrastructure and housing to address overcrowding in priority communities;
- increased provision of essential services to remote communities; and
- State/Territory management of the funds and of the implementation of projects (removing the responsibility from local communities, councils and ICHOs).<sup>31</sup>

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<sup>29</sup> Brough, M. (2007) Budget backs a better future for Indigenous Australians. Media release, 8 May, p. 1. Available online at [http://www.facsia.gov.au/internet/minister3.nsf/content/budget07\\_better\\_future\\_indigenous\\_australians8may07.htm](http://www.facsia.gov.au/internet/minister3.nsf/content/budget07_better_future_indigenous_australians8may07.htm) (accessed on 17 May 2007).

<sup>30</sup> *Ibid.*, p. 7.

<sup>31</sup> See Ministerial Media Releases by Mr Brough on 15, 16 and 17 May, 2007. Available online at <http://www.facsia.gov.au/internet/minister3.nsf/ViewForm?ReadForm&view=Media+Centre&Start=1&Content=10&cat=Media+releases&layout=views> (accessed 20 May 2007). An agreement with South Australia was announced on 3 August 2007.



Although still a long way short of the amount of funding needed to redress the enormity of Indigenous housing problems recognised by all stakeholders<sup>32</sup>, the scale of the additional funding for housing is welcome and a flexible approach to local implementation is being offered.<sup>33</sup> These agreements also include:

1. the integration of the housing packages with health and education and training programs,
2. an emphasis on using housing construction, repair and maintenance to support local employment growth, and
3. the insistence on 'effective asset management and tenancy systems ... to help ensure longer life for houses and a healthier environment for tenants.'<sup>34</sup>

However, these agreements also are predicated upon a belief that the unit cost of delivering appropriate Indigenous housing can be reduced considerably. For example, on 16 May 2007, the Minister said, 'The Government aims to reduce the cost of construction in remote communities. Indigenous Business Australia will be involved and is working with private companies to develop *suitable low cost housing options*' (emphasis added).<sup>35</sup>

Parallel with these policy and management developments at the national level, the Cape York Institute<sup>36</sup> has been leading an action research process aimed at similar, but broader, outcomes in Indigenous communities in northern Queensland. This process is being supported by both the Australian and Queensland governments and is grounded in a desire to increase local responsibility for community well-being by replacing a 'culture of welfare' with employment opportunities through local economic development. To this end, the Queensland Government has negotiated agreements for 99-year leases with individuals and housing bodies on native title land in 15 far north Queensland Indigenous communities. Thirty and 99-year leases will be available for commercial developments.<sup>37</sup>

Under a new 'Indigenous Partnership Agreement', this reform of land tenure will see the Queensland Government increase funding for education, policing, housing and infrastructure in return for undertakings about school attendance and improved care of the housing stock. New funding for 2007 to 2010 includes: \$86.3 million for maintenance and new and upgraded houses, \$35.9 million for the Aboriginal and Torres Strait Islander Housing Rental Programme, \$17.4 million for new residential

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<sup>32</sup> Although welcome, these increases in the budget for remote area housing remain inadequate to address the scale of the housing crisis in remote Indigenous communities. Indeed, the budget has been criticized for its failure to increase Indigenous spending at the same rate as other areas. Altman writes: 'Billions are being spent in the 2007-08 Budget on areas like higher education, on tax cuts, on the elderly, but such expenditures are inherently biased against indigenous people who are under-represented in universities, in employment and among older age cohorts.' Altman, J. (2007) 'Budgeting for all Australians, except the indigenous ones'. Available online at <http://www.australiansall.com.au/budgeting-for-all-australians-except-the-indigenous-ones> (accessed 4 July 2007).

<sup>33</sup> For example, Minister Brough has described the Western Australia agreement in these words, 'This is not a one-size-fits-all approach, but one that will require the agreement of both Governments, the Indigenous communities involved, native title interests and local governments.' Source: FaCSIA Ministerial Media Releases by Mr Brough, 15 May, 2007.

<sup>34</sup> *Ibid.*, 16 May, 2007.

<sup>35</sup> *Ibid.*, 16 May, 2007.

<sup>36</sup> See <http://www.cyi.org.au/>

<sup>37</sup> Beattie, P. (2007) Premier and Indigenous Mayors sign historic partnership agreement in Yarrabah. Media Statement, 23 July. Available online at <http://statements.cabinet.qld.gov.au/MMS/StatementDisplaySingle.aspx?id=53104> (accessed 26 July 2007). See also Murphy, P. and Karvelas, P. (2007) Beattie deal for homes on Cape, *The Australian*, 24 July, p. 6.



centres for children at risk, and \$9 million for vocational training and skills development for Indigenous adults in regional and remote communities.<sup>38</sup> There is significant scope for training, employment, economic development and improved housing in this.

These developments in Queensland are significant as they reflect the policy frameworks and directions recommended in the CHIP Review and being implemented by the Commonwealth under the 'National Emergency' in the Northern Territory.

### 1.5.3 The 'National Emergency'

A few weeks after the Australian Government released the 2007 Budget, the Northern Territory Government released the *Little Children are Sacred* report on child abuse in Indigenous communities. Following similar reports in Western Australia (2002), Queensland (2004), Victoria (2004) and New South Wales (2006), *Little Children are Sacred* detailed distressing levels of family and sexual violence, especially in relation to children.<sup>39</sup> Believing the Northern Territory Government to be too slow in its response to the urgent calls for action in the report, the Commonwealth Government used its constitutional powers over the Northern Territory to assume control over Indigenous affairs in the Northern Territory on 21 June 2007, including the direct management of over seventy remote Indigenous communities.<sup>40</sup>

A two-phase process has been established. The first, to last for six months, is a 'stabilisation' phase that focuses on law and order issues through increased policing, bans on alcohol and pornography, medical examinations of all children under the age of sixteen, and making social security payments dependent upon parents ensuring school attendance by their children. This phase is also seeing the replacement of Indigenous community councils by administrators from outside the communities, generally Commonwealth public servants. The period of direct administration will last for five years from 2007. During this longer 'normalisation' period, a major program of action to improve health, education, employment opportunities, housing, and infrastructure such as roads, water supply and treatment facilities has been foreshadowed. Indigenous communities will have the choice after this period to resume community title (with the Northern Territory Government managing housing as part of its total housing stock) or to allow the land to become leasehold, thus allowing homes to be purchased privately.

There has been significant public debate over the costs, motivations, timing and impact of these measures.<sup>41</sup> While this report on flexible design practices for housing in remote community communities is not the place to canvas these, the *Little Children*

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<sup>38</sup> *Ibid.*

<sup>39</sup> Wild and Anderson (2007) *op. cit.*

<sup>40</sup> See Ministerial Media Release on 21 June, 2007. Available online at [http://www.facsia.gov.au/Internet/Minister3.nsf/content/emergency\\_21june07.htm](http://www.facsia.gov.au/Internet/Minister3.nsf/content/emergency_21june07.htm) (accessed 29 June 2007).

<sup>41</sup> For example, in relation to the cost of the intervention, the Prime Minister and Minister for Finance at first estimated the cost at 'tens of millions of dollars' for the stabilisation phase. However, this was reported to have increased to \$587 million for 2007/08. However, the likely costs of improvements to housing, health, education and employment during the normalisation phase have been estimated to be from \$3 billion to \$5 billion. See, for example: Altman, J. (2007) Stabilise, normalise and exit = \$4 billion; Cheap at the price? *Topical Issues*, No. 8/2007, Centre for Aboriginal Economic Policy Research, ANU. Available online at <http://www.anu.edu.au/caepr/> (accessed 2 July 2007); Barker, A. (2007) Indigenous Plan to Cost \$5b: Researcher. Interview with John Altman, *The World Today*, ABC Radio, 27 June; Karvelas, P. and Wilson, A. (2007) Howard's indigenous plan to cost up to half a billion, *The Australian*, 6 August, p. 1; Symonds, A. and Crowe, D. (2007) PM Defends cost of NT intervention, *The Australian Financial Review*, 8 August, p. 12.

are *Sacred* report and the 'national emergency' interventions do have three implications for this research. These include:

1. a recognition of the place of housing problems and other structural factors in causing family and sexual violence;
2. the consequent need for more, and more culturally responsive, housing in remote Indigenous communities; and
3. a recognition that success in all such endeavours depends upon respect for Indigenous culture and the role of elders and full and open consultation with communities.

First, the *Little Children are Sacred* report found that 'as all the inquiries before us and the experts in the field already knew – that the incidence of child sexual abuse, whether in Aboriginal or so-called mainstream communities, is often directly related to other breakdowns in society'.<sup>42</sup> Thus, in relation to the role of housing shortages and overcrowding as a factor underpinning child abuse, the report emphasises that:

A lack of housing or inadequate overcrowded housing; families relegated to a single room in a house shared with several other families; toilets and showers not working due to excessive use; security issues; children being exposed to adult sexual behaviour and/or and via their employment (e.g. child care worker, teacher), or by participating in volunteer activities involving to pornographic magazines, videos and television; and vulnerable children living in close proximity to adults who are often intoxicated, violent or both, were all risks identified in consultations and in submissions received by the Inquiry.<sup>43</sup>

Second, and as a result of this conclusion, *Little Children are Sacred* endorsed the CHIP Review recommendation (and Budget 2007 provision) for improvements in the quantity and standard of available housing and a targeted repairs and maintenance 'blitz' of the existing stock.<sup>44</sup> Specifically, Recommendation 84 states:

Given the extent of overcrowding in houses in Aboriginal communities and the fact this has a direct impact on family and sexual violence, the Inquiry strongly endorses the government's reform strategy of critical mass construction in targeted communities, and recommends the government take steps to expand the number of communities on the target list for both new housing and essential repairs and maintenance in light of the fact that every community needs better housing urgently.<sup>45</sup>

The report also recommended that culturally based housing needs should be accommodated. This would include alternatives to Western-style three- and four-bedroom homes, such as:

1. 'cluster housing in communities to accommodate extended family groupings as a culturally functional living arrangement', and

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<sup>42</sup> Wild and Anderson (2007) *op. cit.*, p. 8.

<sup>43</sup> *Ibid.*, p. 229. Similar findings were made in a 2004 Inquiry into Indigenous access to public housing in Western Australia. For example, Recommendation 48 called for urgent support for people in 'overcrowded extended family situations ... (which) often increase the risk of sexual abuse of children.' Equal Opportunities Commission of Western Australia (2004) *Finding a Place*. Available online at <http://www.equalopportunity.wa.gov.au/pdf/findingaplace.pdf> (accessed 2 July 2007). Also see Laurie, V. (2007) Crowded houses lead to sex abuse, *The Australian*, 19 July, p. 7.

<sup>44</sup> See summary of PricewaterhouseCoopers (2007) in Footnote 15.

<sup>45</sup> Wild and Anderson (2007) *op. cit.*, Recommendation 84, p. 31.

2. 'flexible accommodation options for single men, single women and older people where this concept is needed and desired by communities'.<sup>46</sup>

Both of these recommendations reflect findings reported in the preliminary phase of the three case studies upon which this research is based and which were integrated in the draft Design Framework described in the Positioning Paper.<sup>47</sup>

*Little Children are Sacred* also recognised the value of using employment in the building industry – and increased training for employment in the construction, repair and maintenance of houses – as a way of addressing the two related issues of the need for more community housing and the need for employment programs to address what it described as 'the existing dysfunction'.<sup>48</sup>

Third, the report argued strongly that solutions to 'the existing dysfunction' depend upon 'genuine consultation with Aboriginal people in designing initiatives for Aboriginal communities'. The first recommendation of the *Little Children are Sacred* report states that:

It is critical that both governments [Commonwealth and Northern Territory] commit to genuine consultation with Aboriginal people in designing initiatives for Aboriginal communities.<sup>49</sup>

Indeed, the report states that the thrust of all its recommendations, which are designed to 'help support communities to effectively prevent and tackle child sexual abuse, is for there to be consultation with, and ownership by the communities, of those solutions'.<sup>50</sup>

Recommendations 84–86 on housing, therefore, need to be grounded in a respect for, and responsiveness to, intercultural understanding and meaningful consultation. As a result, almost universally, the major criticisms of the 'intervention' have focused upon the lack of consultation with Indigenous people and the rapidity with which action was initiated and legislation was put before parliament. Indeed, Pat Anderson, one of the two authors of the *Little Children are Sacred* report described the lack of consultation over the 'intervention' as 'an affront to basic human rights' which 'had been introduced with unseemly haste'.<sup>51</sup>

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<sup>46</sup> *Ibid.*, Recommendation 86, p. 32.

<sup>47</sup> See Fien et al (2007) *op. cit.* This recognition led to one of our case studies being conducted through community consultations on the need, location and design of single men's quarters in Mimiili.

<sup>48</sup> Wild and Anderson (2007) *op. cit.*, Recommendation 85, pp. 31-32.

<sup>49</sup> *Ibid.*, Recommendation 1, pp 21-22.

<sup>50</sup> *Ibid.*

<sup>51</sup> Karvelas, P. and Wilson, A. (2007) *op. cit.* The other key criticisms focus on the need for sensitivity in the medical examination of children, the unproven efficacy of the quarantining of social security payments, the ending of the permit entry system to Indigenous communities, and fears that the resumption of community title during the 5-year normalization period and strong advocacy of 99-year leases could mean an end of native title to land. The Australian government has argued that the need for urgent action to protect children from abuse outweighs all such concerns, and has been supported in this by the Federal Opposition, which agreed to the passage of the enabling legislation. However, in a report for Oxfam, Altman argues that 'there is no evidence of any direct link between the compulsory acquisition of five year leases over prescribed townships and the problems of child abuse and dysfunction in Aboriginal communities in the Northern Territory. Furthermore the Government has provided no evidence that this measure will assist in addressing overcrowding and other housing problem that have been associated with child abuse.' See Altman, J. (2007) '*National Emergency*' and *Land Rights Reform: Separating Fact from Fiction*. Briefing paper for Oxfam Australia. Available online at <http://www.oxfam.org.au/campaigns/indigenous/docs/land-rights-altman.pdf?PHPSESSID=74bd248d506fd7d7d080974ea03a4bd2> (accessed 8 August 2007).

## 1.6 Policy significance

The three points in *Little Children are Sacred* about the relationship between housing problems and social dysfunction, the need for culturally responsive housing, and the housing industry as a driver of employment opportunities and community renewal, need to be interpreted within the context of the CHIP review findings and related 2007 budget decisions on remote Indigenous housing.

The emphasis in both reports on the need to reduce the costs involved in the delivery of housing in remote Indigenous communities is a significant policy context in this regard.<sup>52</sup> The desire to respond to Minister Brough's call for 'suitable low cost housing options'<sup>53</sup> makes our report particularly timely and potentially very significant in the development of house design guidelines and standards that would achieve the two, not necessarily contradictory, goals of:

1. making housing options 'suitable', and
2. recommending construction technologies and processes that would lead to desired cost savings.

The Design Framework we propose in the concluding chapter of this report has the same two goals, and there is significant potential to achieve them. This is especially so, given the large increases in funding for the ARIA scheme (coming from direct budget increases and potentially also from the diversion of funds to housing provision in remote communities from the former Aboriginal Rental Housing Programme (ARHP) that served Indigenous residents of towns and cities). The Australian Government's five-year commitment under the stabilisation phase of the 'national emergency' seems to be providing not only additional resources but also a strengthening of resolve to overcome the root causes, including the place of housing problems within them, of poverty, disillusionment and family and social instability in remote Indigenous communities. In fact, in a statement about the allocation of the \$1.6 billion (over four years) allocated to remote indigenous housing in the 2007 budget, Minister Brough is quoted as confirming that 'thousands of houses will be required and that he had a commitment from Cabinet to provide more money if necessary'.<sup>54</sup>

The significance of this report is also found in the way it probes the meanings of traditional conceptions of key 'problems' in Indigenous housing and many proffered solutions. For example: Is 'overcrowding' a matter of numbers per house or does it have cultural and experiential dimensions? What are the many different aspirations for housing and the domiciliary use of space? What do 'suitable' and 'low-cost' mean in relation to the goal of 'suitable low-cost housing options'? Who decides what the 'options' actually are? And who decides which 'option' will be built and rented or purchased?

These questions are not merely philosophical ones. They are very practical and have major social and economic implications. For example, will private ownership of homes

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<sup>52</sup> See Footnote 26.

<sup>53</sup> *Ibid.*

<sup>54</sup> Kearney, S. (2007) 'Rehousing work will take years', *The Weekend Australian*, 14-15 July 2007. In line with a key recommendation of the CHIP review and the 2007 Budget initiatives on Indigenous housing (see Footnotes 16 and 23), Kearney quotes the Minister as stating that 'he expected the houses to be privately owned or managed by the Territory's public housing department on the same conditions as normal public tenancy agreements, with maintenance requirements and market rents ... I want these houses not to last seven or eight years but 30 or 40 years' (p. 11). The last part of this sentence repeats the Minister's earlier explanation of his belief that home ownership will create the circumstances in which people look after their houses better than they do at present (see Footnote 19).

affect family and kinship responsibilities? What does private ownership mean for family budgeting for repairs and maintenance, which would presumably now be a private responsibility, not a communal one?

This point is also related to the goal of 'low-cost' housing. Does 'low-cost' refer to the initial design and construction cost of a house or to its whole-of-life cost, including possible interest payments and the cost of regular maintenance, repairs and improvements? This is a key question given that the Positioning Paper reported FHBH surveys as indicating that cost savings at the construction stage (e.g. through under-specification of materials and fittings, poor workmanship, and consequent breakages and increased need for maintenance) were responsible for over 90 per cent of all FHBH 'fix work' between 1999 and 2005.<sup>55</sup> Depending upon the financial and social costs of the poor quality of housing that has resulted, is it possible for a higher initial price to actually prove to be less expensive over a period of years? An analysis of a wide range of questions and issues such as these underpins the Design Framework presented in this report.

## 1.7 Overview

The structure of this report is relatively simple. This introductory chapter has provided a review of the goals of this research, a summary of the Positioning Paper and draft Design framework, and an analysis of the implications for design practice in remote Indigenous communities of the CHIP Review, the 2007 Commonwealth Budget, and the 'national emergency' in Northern Territory communities declared by the Commonwealth.

Chapters 2, 3 and 4 provide case studies of housing issues in Maningrida, Mimili and Palm Island. These are very different townships, geographically, historically and culturally. They are, therefore, home to three very different communities and, thus, represent something of the diversity of housing experiences and issues to be found in remote Indigenous Australia – at least in as wide a way as the budget and time for this study allowed. Our fieldwork emphasised this diversity – and also made the task of developing a flexible Design Framework extremely difficult. Despite their diversity, Maningrida, Mimili and Palm Island share many housing problems due to their common experiences of remoteness, lack of local education, training and employment opportunities, and a legacy of chronic under-funding of infrastructure and services.

While essentially ethnographic in character, the three case studies were not undertaken to provide the rich description and interpretation of life in Maningrida, Mimili and Palm Island that is the goal of ethnography (although we hope some of the rich life in these communities shines through). The focus, instead, was on examining primary and secondary data on housing issues in the three communities in order to 'test' the draft Design Framework and modify it the light of community and household aspirations and prevailing policy contexts. As a result, the case studies are based upon the examination of historical, policy and statistical information, intensive field observations, and interviews with a very wide range of community members and other stakeholders, including householders, different community groups/sectors (e.g. single young men), elected officers, managers and housing and health officers in the three Indigenous councils, relevant State/Territory and Commonwealth Government officers, as well as building companies and tradespersons, architects and project managers highly experienced in the design and construction of remote Indigenous housing.

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<sup>55</sup> McPeake, T. and Pholeros, P. (2005) *Fixing Houses for Better Health in Remote Communities*. Paper to National Housing Conference, pp. 6-7.

Chapter 5 presents a synthesis of the case studies. Once again, the intention here is not ethnographic, but an attempt to identify and explain the housing issues common to the three case study communities in the light of what these mean in terms of the suitability of the draft Design Framework. These issues are then analysed in terms of the three principles that underpinned the draft Design Framework: responsiveness to cultural traditions and community aspirations; adherence to design and construction standards that support healthy living practices; and the designer's professional and ethical responsibilities for meaningful consultation.

This synthesis and analysis of issues is used to review and revise the draft Design Framework in Chapter 6. The revised Design Framework contains all the ten elements and principles of the draft Framework. However, these are clarified, expanded and re-organised in order to respond to the case study data and to present a set of Best Practice Principles for design practice that may prove a valuable guide to policy makers, architects and builders. A series of policy implications for, and reflections on, achieving this goal concludes this report in Chapter 7.

## 2 CASE STUDY 1: MANINGRIDA, NORTHERN TERRITORY

Esther Charlesworth and John Fien

### **Why Maningrida?**

Maningrida was selected as a case study because the town and its surrounding region characterise two distinct modes of housing provision in remote Indigenous communities - housing in town camps and on outstations. Two other factors influenced the selection of Maningrida:

- *Maningrida is a large coastal community*, where the tropical and cyclonic climatic conditions pose particular challenges in the delivery and design of appropriate housing for remote Indigenous communities.
- *Maningrida is growing regional centre*, where there have been increases in health and education services but where acute housing needs still remain due to shortage of houses and a rapidly expanding population.

## 2.1 Introduction

### 2.1.1 Location

Maningrida is located on the North Central Arnhem Land coast of the Arafura Sea at the mouth of the Liverpool River. It is 500 km east of Darwin and 300 km north-east of Jabiru. The name 'Maningrida' is a version of the Kunibidji name, *Manayingkarirra*, and is derived from the phrase, *Mane djang karirra*, which means 'the place where the dreaming changed shape'. The Kunibidji people are the traditional owners of this country. The other main groups who live in the area are Kunbarlang, Nakkara, Burarra, Gun-nartpa, Gurrongi, Rembarrnga, Eastern Kunwinjku, Djinang, Wurlaki and Gupapuyngu. Thus, the Maningrida region is linguistically and culturally diverse, with more than 13 distinct languages, in addition to Aboriginal English, still in everyday use in the region. Indeed, north central Arnhem Land is said to be, per capita, the most linguistically diverse region in the world. It is also a very culturally rich area, with a wide variety of religious ceremonies, music and dance actively practised, and its own distinctive forms of bark and pole painting and weaving.<sup>56</sup>

Over ten thousand square kilometers in area, the Maningrida region consists of coastal region, extensive floodplains, undulating lowland plains and a rugged sandstone plateau. The wider landscape of Maningrida has a tropical monsoon climate influenced by its proximity to the coast and characterised by hot, wet, humid summers and dry, warm winters. The wet season, which is characterised by high atmospheric instability, thunderstorms, tropical depressions and occasional tropical cyclones, occurs between November and March when the north-west monsoons deliver much of the area's rainfall of 800 mm to 1600 mm. The median maximum temperature of the wet season is 33°C. The dry season occurs between April and October with the onset of prevailing south-easterly trade winds. The dry season sees minimum temperatures of 15°C to 21°C in July. This dramatic seasonal variation in climate has a great impact on the delivery and ongoing maintenance of housing and infrastructure in the town and surrounding outstations, particularly during the wet season, when outstation residents tend to return to the township of Maningrida and conditions in town housing become considerably more crowded.

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<sup>56</sup> Sales by Maningrida Arts and Culture exceeded \$2 million in 2005-2006.

### 2.1.2 History and governance

The township of Maningrida was established after World War II when Welfare Branch officers were sent by the Northern Territory Government to establish a trading post in the original missionary settlement. From 1957, the NT Government allocated funds for the development of Maningrida as a central base around which to consolidate the local population. Maningrida is now the largest Aboriginal community in the Northern Territory, with the 2006 Census reporting around 2000 people living in the town and around 800 in the outstations. With the establishment of the Bawinanga Aboriginal Corporation (BAC) in 1979, many families and small groups returned to live in traditional homelands with minimal financial or infrastructure support from government.

Five key organisations are involved in community governance in Maningrida: the Maningrida Council, the Bawinanga Aboriginal Corporation (BAC), the Jobs, Education and Training (JET) Centre, the Maningrida Health Board, and the Maningrida Progress Association (MPA). Each organisation has a governing board, variously elected or nominated, with board members often sitting on a number of other local boards. The Maningrida Council and the BAC carry the responsibility for delivering and maintaining houses in the town and the broader region, respectively.

Residents of the local community elect the Maningrida Council annually. Nominations are called for and the whole community is encouraged to vote. There are 15 elected councillors, who choose a chairman and executive committee. The council operates under the *Local Government Act (NT)*<sup>57</sup> and receives its core housing and infrastructure funding from the NT Government.

The Maningrida Council is specifically responsible for community housing, roads, the supply of power, water, sewerage and waste management services, the airport, barge landing operations, and sports and recreation. The council also constructs most new houses and produces construction concrete for sale to outside organisations and for use in local buildings. In addition to housing, in the 2005/06 financial year, the council also constructed a new aged care centre, and upgraded sporting facilities including a new, covered basketball court. A new swimming pool was also completed in 2006.

The BAC was established as a support agency for Aboriginal people who chose to reside on their traditional clan estates in north central Arnhem Land rather than in the community centre of Maningrida. In 1979 Bawinanga was incorporated under the *Aboriginal Councils and Associations Act (Cth)*<sup>58</sup> as an outstation resource centre. The BAC provides outstation residents with housing, solar power, water supplies, radio communications equipment, a mobile food and clothing shop, the construction of airstrips and roads, an art-purchasing facility, a mechanical workshop, a mud-brick factory, and support for ceremonial and cultural activities. It also manages Community Development Employment Project grants, with which it employs over 550 people, including 200 in 'caring for country' and around 350 in Maningrida.<sup>59</sup>

The future of governance in the Maningrida area is uncertain, at the time of writing. The NT Government has initiated a process of community consultation to introduce a Shire government system from 1 July 2008. This may see another town, such as Jabiru, appointed as the shire centre for the Western Arnhem Land region. The Maningrida Council and the BAC may become local contractors to the new shire council under this arrangement.

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<sup>57</sup> See: [http://www.austlii.edu.au/au/legis/nt/consol\\_act/lga182/](http://www.austlii.edu.au/au/legis/nt/consol_act/lga182/) (accessed 5 March 2007).

<sup>58</sup> See: [http://www.austlii.edu.au/au/legis/cth/num\\_act/acaaa1976335/](http://www.austlii.edu.au/au/legis/cth/num_act/acaaa1976335/) (accessed 5 March 2007).

<sup>59</sup> See: <http://www.maningrida.com/mac/bac.php> (accessed 5 March 2007).



The review of the CHIP and the new ARIA system under which the new 2008–2010 Commonwealth–State Housing Agreement (CSHA) with the Australian Government will be negotiated will bring another significant change, as Territory Housing will take responsibility from the Maningrida Council and the BAC for the delivery and management of public housing. Further, the Australian Government’s five-year leases under the normalisation phase of the ‘national emergency’ may also see agreements with traditional owners for 99-year leases and the possibility of private home ownership in Maningrida.

The ending of Community Development Employment Projects (CDEP) funding will also see significantly increased unemployment and economic instability, which may bring the existence of some of the BAC-supported outstations into question.<sup>60</sup>

### 2.1.3 *Demography and socio-economic characteristics*

The 2006 Census reported a population of around 2,000 people in Maningrida and 800 on the outstations. However, the CEOs of both the Maningrida Council and the BAC argue that the August dry season timing of the Census led to under-counting. Both place the population of Maningrida at approximately 2,600 people and the outstations at 800.<sup>61</sup> Because of seasonal mobility, the town population can expand to 3,000 in the wet season as residents from outstations move into town to avoid being cut off for several months. Despite variations in official and unofficial counts, the population has increased dramatically in recent years from the 2001 Census count of 1,645. This surge in population is due to the town increasingly becoming a regional service hub in the larger Western Arnhem Land area.

Maningrida has a very young population profile. In 2001, the town had roughly equal proportions of men and women, with over 50 per cent aged under 24 years.<sup>62</sup> The largest age groupings are in the 5–9, 10–14 and 20–24 age groups, with very few adults living beyond age of 60 years. The proportion of married to single residents between 20 and 29 years is similar, although there is almost no current or planned single person’s housing in Maningrida.

The 2001 Census data also indicated a comparatively high level of ‘visitors’ in each house. This places severe pressure on already overcrowded houses and is said to be a major factor behind high levels of domestic violence and school avoidance in the Maningrida community. A high percentage of children are registered as not going to school at all. As a result, school completion rates are very low, with the largest grouping of Maningrida residents not completing Year 8 schooling. Early school leavers have few employment prospects in the town, and few opportunities for further training. The consequent use of drugs and alcohol by teenagers is seen as a significant and increasing problem that, in its turn adds to pressure in already overcrowded houses.<sup>63</sup>

### 2.1.4 *Health*

While a large health network exists within the Maningrida community and outstations (including acute and primary health care services, men’s health services and an outstation ‘Medicine Run’), the link between overcrowded housing and poor health is very evident in the township. Thus, the people of Maningrida experience the wide range of chronic health issues such as rheumatic heart disease and diabetes

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<sup>60</sup> See Tingle, L. (2007) Pre-poll folly turns to Top End madness, *The Australian Financial Review*, 3 August, p. 83.

<sup>61</sup> Interviews, Maningrida, 31 July 2007.

<sup>62</sup> An analysis of the 2006 Census was not available at the time of writing.

<sup>63</sup> All information from interviews, Maningrida, July, November 2006.

prevalent in many remote Indigenous communities in the 'Top-End'. Indeed, Maningrida is reported to have the highest level of rheumatic heart disease in Australia and the highest level of scabies in the world.

The FHBH program also works with Council's housing maintenance team to survey every house in the community on a regular basis and undertake basic repairs and maintenance at the same time.<sup>64</sup> The surveys consist of a set list of questions about electrical, plumbing and structural safety issues, as well as questions about provision for healthy living practices such as waste disposal, washing and food hygiene. Any items that fail (for example, if a toilet or shower does not work) are repaired immediately or, in the case of major work, a council tradesperson is sent to repair the item, usually on the same day. As such, the Fixing Houses for Better Health is a major contributor to primary health care in the community.

## 2.2 Settlement and housing patterns

The town of Maningrida is spread over a wide, flat dusty plain that quickly turns to mud in the long wet season. Most roads are unsurfaced and there are no sealed footpaths. There is a central core of services and offices around which housing is divided into five major districts: Top Camp, Bottom Camp, Side Camps 1 and 2, and Coconut Grove. The Territory Department of Planning and Infrastructure has been responsible for development planning and has established a basic land use structure and grid arrangement of streets and housing blocks in each district.

However, an Indigenous-controlled architectural firm, NBC Consultants, has worked with Maningrida Council for over a decade as its principal housing advisor and designer. Staff in the firm have extensive knowledge of local cultural and family patterns and have consulted widely to ensure that these are included in the allocation of housing. As a result, the residents of the five housing districts reflect traditional language and family groupings, or what one council officer referred to as 'subdivisions controlled by skin'.<sup>65</sup> These districts tend to be on the sides of town nearest the traditional country of their residents.

In recent years, however, the severe shortage of housing and long waiting lists have led to an increasing mix of residents, especially in newer housing. Thus, a new housing estate beside the airport, which is currently under construction and planned to have at least fifty houses within two to three years, is also expected to have houses allocated according to need rather than family or kin relationships.

There were 160 homes in Maningrida in mid-2007. These have been built with Commonwealth, Territory and local funding and are owned and managed primarily by Maningrida Council, with the BAC, the Maningrida Progress Association and the Territory Government departments of health and education also owning a small number of houses for the use their staff.

The average number of people on the waiting list for housing in Maningrida is approximately 230. Many have been on the waiting since 1994. Some of these have left the town but stayed on the waiting list, and have now returned to Maningrida seeking housing. The high numbers on the waiting list are particularly striking, given that there are only 160 available houses in the town. As a result, the average household size is 15 people during the dry season, swelling to 20–30 people during the wet season. According to interviews with Maningrida Council and town residents,

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<sup>64</sup> See: [http://www.maningrida.nt.gov.au/home/about\\_us/housing\\_for\\_health\\_programme](http://www.maningrida.nt.gov.au/home/about_us/housing_for_health_programme) (accessed 5 March 2007).

<sup>65</sup> Interview, Maningrida, 3 November 2006.

there have sometimes been more than 10 people per bedroom, which places enormous stress on individual health and inter-family relations, the capacity for young children to do homework and attend school, and the security of personal possessions.

The Maningrida Council has its own construction and housing maintenance team working under the supervision of an operations manager, with design and project management undertaken by NBC consultants. Sub-contractors provide external labour, especially for block laying, when needed. The construction team was building seven new community houses in 2007 as well as undertaking major renovations on a range of dilapidated houses under its annual funding allocation from Territory Housing. All new houses are being built in concrete-block with Colourbond roofing, although a small number of low-set steel frame houses have also been built. House types and sizes in Maningrida range from two-, three- and four-bedroom concrete block houses to newer 'demonstration houses' constructed with stud wall frames, to larger four-bedroom timber- or Zinalum-clad 'Queenslander-style' houses built on tall stumps. However, the latter are generally used for staff accommodation.

## **2.3 Housing in Maningrida**

The condition of homes visited in Maningrida during site visits in 2006 and 2007 varied in their condition, from new 3-bedroom houses with large verandahs on at least two sides, carefully located toilets and outdoor cooking possibilities to older houses in a very bad state of disrepair. These had toilets falling through rotted wooden floors, broken doors and windows, and bathrooms and kitchens with sinks and taps dislodged from walls. Several explanations for such conditions were given by council staff, including: inappropriate specifications for the construction of older houses (e.g. wooden not concrete floors in wet areas), faulty original workmanship, lack of maintenance skills among residents, shortage of council funds and staff for regular repair and maintenance schedules or for emergency repairs, and, sometimes, wilful damage.<sup>66</sup> The houses also appeared to lack functionality, with residents not using spaces as the architects had originally intended. For example, overcrowding meant that each 9–12 square metre bedroom in a three-bedroom house designed for a nuclear family had become the primary living, cooking and 'retreat' space for a variety of sub-units of an extended family of four to six people, while verandahs and living rooms were being used for general storage and more sleeping spaces.

### *2.3.1 Policy and funding environment*

The key agency for the funding and delivery of housing in the Northern Territory is the Department of Local Government, Housing and Sport (DLGHS) through an office called Territory Housing.<sup>67</sup> Until 2006, a complex mix of funding sources was available for Indigenous housing. This included Commonwealth funding from ATSIC and the Department of Family and Community Services (as it was then called) through the NAHS and CHIP programs. Much of this funding went directly to ICHOs. The NT Government also received a funding allocation under the CSHA and the Aboriginal Housing Programme. However, ICHOs would have to bid for the different funds separately. This caused delays and uncertainties and often meant that housing funds were unable to be spent within the period allocated.

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<sup>66</sup> The 2004 Fixing Houses for Better Health survey in Maningrida revealed that only 7 per cent were caused by tenant damage. See [http://www.maningrida.nt.gov.au/home/about\\_us/housing\\_for\\_health\\_programme](http://www.maningrida.nt.gov.au/home/about_us/housing_for_health_programme) (accessed 2 February 2007).

<sup>67</sup> The Indigenous Housing Authority of the Northern Territory (IHANT) was formerly responsible for Indigenous housing.

From July 2006, a Commonwealth–Territory bilateral housing agreement combined the funding streams for remote indigenous housing and channelled them through Territory Housing. Thus, Territory Housing is now responsible for assessing housing needs across all remote communities and dividing housing funds across them accordingly. This position has been reinforced under the new Australian Remote Indigenous Accommodation (ARIA) program, which will see all community housing managed as public housing by Territory Housing.

The Indigenous Economic Development Strategy of the Northern Territory Government encourages participation in local jobs and economic development in remote communities. With housing being the major financial investment in most communities, special provisions have been made to facilitate Indigenous involvement in the procurement and construction of housing. Councils that pass certain tests can become 'CAL credited' (Contract through Accreditation Limited), thereby receiving a certificate of exemption from normal government tender processes. Maningrida Council is CAL credited and, thus, handles all its own construction work. Despite this, as in all remote Indigenous communities, the relative cost of building houses in remote townships such as Maningrida is very high. As of November 2006, the average cost of a two-bedroom house in Maningrida was \$200,000, with a three-bedroom house costing \$270,000–\$300,000 and a four-bedroom one around \$380,000.

### *2.3.2 Design consultation*

NBC Consultants developed a range of house designs in Maningrida under the IHANT and NAHS programs over the past decade. These were applied to the design of 60 new houses, and renovations/extensions on another 60 houses. While NBC Consultants have a good reputation for consulting on house location and orientation, especially to the 'country' of residents, residents were critical of the level of consultation on the design of their houses. There was a strong consensus among the residents interviewed that there had been little discussion of user needs before houses were designed or allocated.

However, when asked about the importance of consultation at a later time, NBC Consultants responded that, 'On all IHANT and NAHS projects there was consultation with the tenants about their house design and orientation of their house to determine family relationships, clan groups, whether there are any old people who may need some quiet/ privacy area or disabled facilities, how children will allocate bedrooms and who they would share with'.<sup>68</sup> The comment from NBC Consultants also included the statement that: 'We always explained to tenants that consultations were not a 'wish list' as we always had to work to a budget for a house and generally all houses had 3/4 bedrooms, kitchen, 2 wet areas and 2 verandahs. The main issue was how the bedrooms relate to each other and relate to the living area. We always discuss with the tenant what family members would be living permanently in the finished house.'<sup>69</sup>

Despite this, one officer in Territory Housing said that consultation with residents regarding the future design of their house was often seen as too difficult. Similarly, in relation to post-occupancy evaluation, he said: 'We attempted to collect client satisfaction information, but the interviewers said that after a little while it was too hard, so the survey fell down. No reliable information was gained from this survey.'<sup>70</sup>

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<sup>68</sup> Email correspondence, 11 April 2007.

<sup>69</sup> Email correspondence, 11 April 2007.

<sup>70</sup> Interview, Darwin, 12 June 2006.

### 2.3.3 Housing construction

A limited range of construction methods is used in Maningrida, with an increasing preference for concrete block construction in the township. This preference is based on a perceived (rather than tested) economic justification that concrete (versus timber, steel or mud brick) housing is more solid and cyclone resistant and easier to maintain. Thus, the council's operations manager argued that:

Stud wall framing is not appropriate for Maningrida. Look at all the houses still standing in England after centuries and they are all solid masonry. We are not concerned about design; the technical issues are the biggest problem.<sup>71</sup>

This view was supported by staff of Territory Housing in Darwin as well as residents who, following Cyclone Monica in April 2006, which was the largest cyclone ever to cross the Australian coast, expressed a strong preference for the safety of concrete-block houses. One resident said that a block house would be safer in a cyclone as 'other houses will blow away and there is no insurance for that'.<sup>72</sup> A strong view also expressed by local residents was that having a masonry house was about 'people keeping up with the Joneses'. This was expressed by one resident as: 'I want a block house like my cousin in Darwin ... I want a house like a whitefella'.<sup>73</sup>

Other arguments against using pre-fabricated steel-framed housing systems included concerns about possible leakages in wet areas and increased likelihood of damage caused by throwing things (for example, 'A spear will go through a sheet wall. It won't through a block one'). Prefabricated steel houses were also described as having only a medium-term life, due to rust, while stud wall frames with timber cladding were described as inadequate in their ability to withstand 'kicking by residents' and to be fully cyclone-proof. The BAC operates a mud brick factory in Maningrida and has used these bricks for all its outstation housing, staff housing and offices, and art warehouse in Maningrida. However, these were described by two senior Maningrida Council officers as not being durable. Finally, it was argued that it is easier to add rooms to or renovate a concrete block house than a steel-framed house.<sup>74</sup>

There is little scientific evidence to support these views apart from the potential risk of rust to steel frames in the maritime climate of Maningrida's location on the Arafura coast – although even this is disputed by BlueScope Steel through its involvement in remote Indigenous housing projects in Queensland and the Northern Territory.<sup>75</sup> The BAC also expressed concern about the criticisms of its mud bricks and has commissioned engineering tests and design specifications to ensure that mud bricks are as durable and cost-efficient as concrete blocks.<sup>76</sup>

There is little available local skilled building labour in Maningrida and no fully qualified Indigenous tradesperson in the town. This adds greatly to the overall cost of bringing skilled labour from Darwin and elsewhere in Australia. Neither the JET Centre nor Batchelor College campus teaches basic Certificate 1 or 2 courses in building and maintenance skills, and the Council building team claims that the shortened building season (due to the long wet season) and urgency of getting houses built precludes their involvement in training. Members of the team also said that training future

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<sup>71</sup> Interview, Maningrida, 19 September 2006.

<sup>72</sup> Interview, Maningrida, 20 September 2006.

<sup>73</sup> Interview, Maningrida, 20 September 2006.

<sup>74</sup> Interviews, Maningrida, 19 September 2006 and 31 July 2007.

<sup>75</sup> See <http://www.bluescopesteel.com.au/index.cfm/objectID.340D3BB5-903B-B9AE-3F73A0EE3B80627D> (accessed 24 November 2006).

<sup>76</sup> Interview, Maningrida, 20 September 2006.

builders was also problematic as the construction system was changing all the time as a result of budget constraints and changing building materials.

#### *2.3.4 Outstation housing*

The BAC has constructed 34 houses on outstations through IHANT, CHIP, NAHS and its own funding. However, it is predicted that few houses will be built over the coming years due to a general reduction in Australian Government funding and support for the outstation or 'homeland' movement.

Housing on the Maningrida outstations has been designed and built on a fundamentally different basis to that of housing in Maningrida, especially given their small size and remote, often inaccessible, locations. The BAC has operated an open process of design consultation for outstation residents, who sometimes choose a house design already in existence, but usually request designs according to specific living arrangements and family needs. Most of this design work has been undertaken by Build Up Design in Darwin and has involved extensive on-site consultation with future occupants. Following this, several design options are presented for consideration, generally in the form of models, and, working 'room' by 'room', a preferred floor plan is created in three dimensions. However, the houses are basically a 'shell' for sleeping and storage and with extensive verandah and other outdoor spaces for outdoor living and cooking. Toilet, shower and laundry blocks are also mostly outside the house, with services provided by solar power, bore water and pit toilets.

The BAC has made effective use of Aboriginal people in its construction work, with much of its building team comprising local residents from the wider Maningrida region. Materials such as mud bricks, steel-framed wall and roof sections, and crim-mesh for window and door security are prefabricated in Maningrida and transported to the building site for assembly. This creates employment, provides training in skills appropriate to local needs, and saves money through prefabrication and minimisation of costly external labour. BAC also supervises the construction of school buildings in remote areas and a 'Homelands Schools' program through Education Department visiting teachers. The BAC also liaises with the Northern Territory Department of Health in the provision of a mobile clinic and an environmental health program.

Although no new outstation housing has been built in the past three years, the BAC continues to employ 15 people in the mud brick factory and sells the bricks to surrounding communities (except Maningrida Council). The BAC is now considering reactivating its building operations and plans to tender for housing projects in Maningrida and elsewhere in the region following the rapid expansion of housing work planned by Territory Housing and the Commonwealth from 2008.

The outstations have a large impact on the town of Maningrida during the wet season when rain is so heavy that access to most of the outstations is cut, forcing residents to move into the town and creating a strong population surge. As a result, a housing officer in Maningrida argued that the issue of appropriate house design is critical: 'People just have to cope with it. So you aren't just talking about houses as a living space, but also as emergency shelters that people have to live in for four or five months'.<sup>77</sup>

There are valuable lessons for housing design and construction in the outstations for Maningrida and other remote communities. These are considered below. However, due to the comparative size of Maningrida and its rapid rate of population increase, the rest of this case study focuses on housing issues in the town.

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<sup>77</sup> Interview, Maningrida, 19 September 2006.

## 2.4 The housing experience in Maningrida

A wide range of issues was raised by Maningrida residents and Council officers during interviews in September and November 2006, and again in July 2007. The interviews sought to ascertain how individuals and family groups were currently using their houses, their perceptions and experiences of living in them, their aspirations for present and future housing, and their views on practical measures to improve their immediate living conditions.

Four issues dominated these discussions:

1. overcrowding and the inflexibility of current housing designs in coping with large numbers of visitors;
2. the siting and orientation of houses;
3. the inability of current housing design to cope with non-nuclear family groupings such as single people, seniors, young couples and single mothers; and
4. the lack of attention to the design of external space, such as outdoor cooking, verandah and bathroom areas and the lack of a perimeter fence.

### 2.4.1 *Overcrowding and visitors*

As explained in Section 2.2, the severe shortage of houses in Maningrida means that overcrowding is an acute problem and leads to most bedrooms being used as a 'house within a house' for sub-units of extended families. Thus, bedrooms were used for many purposes beyond sleeping, including cooking, watching TV, storage and security. Locks were a feature on all bedroom doors.

The small sizes of the bedrooms in most Maningrida houses also added to the general problems of overcrowding, domestic violence and general health of householders. Several residents said that bedrooms needed to have external and well as internal doors for safety and privacy of access as well as to facilitate rapid escape in case of fire. Internal doors opening only onto narrow corridors were not just unsafe in an emergency, but were also seen as posing access difficulties for people in avoidance relationships.

The residents also mentioned problems with the lack of toilets and showers and small kitchens that were unsuitable for multiple family sub-units. Indeed, one resident suggested that up to four toilets were needed in an average house, two inside and two outside. There was also an important cultural issue regarding avoidance behaviour in wet spaces due to the fact that 'brothers don't share bathrooms with sisters'.<sup>78</sup> Indeed, it is considered inappropriate that a brother could see his sister entering or exiting a wet space. Therefore, there was a very strong request that women's bathroom etiquette of remaining inconspicuous whilst entering a toilet or bathroom be respected in all house designs.

The problem of housing shortages was exacerbated by Cyclone Monica when it crossed the northern Australian coast just 35 km west of Maningrida as a Category 5 cyclone on 24 April 2006. The Council and people of Maningrida responded to cyclone warnings in previous days, and their preparation, including the clearing of loose materials, reduced the damage. Nevertheless, several houses were destroyed, while around 75 per cent of all buildings suffered some form of damage, ranging from losing their roofs to damage caused by falling trees or branches. Meanwhile, the problem of overcrowding intensified, with several families still living in temporary tent shelters and 'transportables'.

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<sup>78</sup> Interview, Maningrida, 21 September 2006.

The large number of visitors to Maningrida, from both the outstations and other remote towns in the Northern Territory, also intensifies overcrowding in most households. One resident reported that normally there were '13 of us: four kids, my wife and me ... then there is a boys' room and a girls' room; three boys also sleep in the kitchen and living room.' He described numbers up to 25 people 'when there is a ceremony or a funeral, which creates a lot of humbug and problems'.<sup>79</sup> Another resident commented: 'We put a tent inside the house when there are too many people, and some visitors are too difficult to live with'<sup>80</sup>. It was also remarked that 'one spare bedroom was not enough for 30 people', while another said that her eldest daughter was 'still sleeping outside the house' due to the overcrowding<sup>81</sup>.

Clearly, the issue of visitors was not just one of numbers and the functionality of houses but also one of family stability and the peaceful liveability of a house, particularly as most visitation was unplanned and unannounced and, hence, unable to be planned for within daily family routines. Noise, 'humbug' and drinking were described as major problems, as 'some visitors are very difficult to live with and ... still introducing themselves into the community'.<sup>82</sup>

While concrete block houses were seen as an effective way to obtain sound insulation, the small size and close proximity of bedroom spaces meant that noise was a constant source of nuisance and annoyance. Some residents asked the council for a two-bedroom house or duplex as a way of discouraging visitors, especially in order to allow children to do their homework and sleep at night.

To help cope with these visitors, temporary shelters, known as 'chicken coops' have been constructed with wire mesh and corrugated iron on the edge of Maningrida. However, these shelters have become de facto homes for several families at different times as they wait to be assigned more permanent accommodation in the town.

#### *2.4.2 Siting and orientation of houses*

Many residents raised house siting as an important issue that was often overlooked in the original design and delivery of their houses. Being close to family, friends and shops, but away from town noise and 'humbug' are of key importance to all residents who were interviewed. Indeed, the location and siting of the house (i.e. what and whom the house is looking out towards) were often seen as a larger priority than its internal configuration. As a resident of Bottom Camp commented, 'Yes we are happy where we are, the sea breeze coming in and house is close to family and friends, shops. I and my wife can see the kids play on the beach.'<sup>83</sup> Few residents remarked on the need to block out either heat or light in their houses as 'light and sunshine inside the house are not so important because we prefer to be outside the house and pitch our tents there'<sup>84</sup>. Another resident commented, 'We need more windows as it is important to look in all directions'.<sup>85</sup>

#### *2.4.3 Suitability of housing for different household types*

The layout of the three- and four-bedroom houses in Maningrida is designed for a nuclear family, comprising two adults with two or three children. The unsuitability of

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<sup>79</sup> Interview, Maningrida, 19 September 2006.

<sup>80</sup> Interview, Maningrida, 19 September 2006.

<sup>81</sup> Interview, Maningrida, 20 September 2006.

<sup>82</sup> Interview, Maningrida, 19 September 2006.

<sup>83</sup> Interview, Maningrida, 20 September 2006.

<sup>84</sup> Interview, Maningrida, 20 September 2006.

<sup>85</sup> Interview, Maningrida, 20 September 2006.



such designs for large extended families was discussed in Section 2.4.1. However, the urgent need to build as many new houses (and bedrooms) as funds allow means that no housing is being designed and built for single people, young couples or single mothers with young children. There are no traditional single men's quarters away from the town and only limited housing for elderly residents. Temporary or respite accommodation is available at the recently built Mala'la Aged Care Centre, which has rooms and beds for up to 10 people. Both council officers and residents said that a much greater range of small houses is required for single mothers and elderly residents.

However, there was mixed opinion as to whether the small size of such dwellings would discourage visitors (and thereby maintain the house for a longer period of time) or whether constructing smaller housing units, perhaps grouped as flats, would actually encourage visitors and 'humbug'. A compromise was offered by one resident who said: 'I would prefer it if all houses were two-bedroom units with a linked space in between. For me, that way I could have more doors and a lot more space and my own kitchen and bedroom as a grandma'.<sup>86</sup>

#### *2.4.4 External living spaces, kitchens and fences*

New houses at Maningrida are being built with sealed and covered verandahs at least 3,500 mm deep in order to make the verandah an effective living space. However, many residents still live in houses that lack verandah spaces. All interviewees commented on the need for more and wider verandah spaces. One said that her verandah roof 'is not wide enough to stop rain. This is bad as two families are now sleeping on our verandah. My mother-in-law got sick and died from being on a wet verandah'.<sup>87</sup>

External cooking spaces were also seen as very important, given the amount of time that families spend living outside the main confines of their houses. Several householders commented that they did not use the internal kitchen because it was too small for the large number of family sub-units in the house and because the design of stoves and ovens was inappropriate for what people wanted to cook. 'Every family needs a sink and a stove to cook their own damper,' said one resident.<sup>88</sup> Another said that she does not use the kitchen because 'we can't see what is happening outside'.<sup>89</sup> As a result, a council officer said, 'The kitchens are just abandoned. They are not anything and become somewhere just to get water'.<sup>90</sup>

As most cooking was done in either the bedroom or the backyard, it was suggested that the allocated kitchen spaces were often too big or unnecessary, except in the wet season when the option to eat outside became less feasible. Two residents also argued that two kitchens were needed to deal with the influx of visitors during the wet season. There was also a strong sense among householders that every 'family is its own unit' and that just because your cousin or your cousin's family visited you in Maningrida, you were not at all responsible for cooking, cleaning or generally looking after them.

Steel mesh storage units are provided as a standard item in all houses in Maningrida. However, all residents commented on the need for security of their possessions through the provision of more storage facilities and lockable cupboards. Larger

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<sup>86</sup> Interview, Maningrida, 21 September 2006.

<sup>87</sup> Interview, Maningrida, 20 September 2006.

<sup>88</sup> Interview, Maningrida, 4 November 2006.

<sup>89</sup> Interview, Maningrida, 20 September 2006.

<sup>90</sup> Interview, Maningrida, 21 September 2006.

storage facilities were also sought in bedrooms to secure food and belongings. It was also argued that walk-in storage room was better than external cupboards, and that the currently provided 'steel shelves are too dangerous'.<sup>91</sup>

There was also a large concern for the security of the backyards of houses, especially to prevent children from wandering into town: 'We need a big front yard for kids to play as well as a fence to keep rubbish in our own yards and keep out dogs'.<sup>92</sup> It was also commented that 'putting a fence up will make our houses more secure, keep out 'humbug', stop other people's litter and dogs on our own back or front yards, and provide a barrier to visitors who often park their cars all around the entry to the house'.<sup>93</sup> However, until recently, fences were not provided as a standard item around new houses in Maningrida and, thus, cost residents from \$4,000 to \$7,000 should they want one built.

## **2.5 Future issues**

Several initiatives mentioned by council officers and residents could improve housing conditions in Maningrida almost immediately. These include basic initiatives in relation to improved consultation, management databases and training in household living skills and minor repairs and maintenance. However, there was a lack of readiness to consider innovative construction systems or standardised house designs on the part of council officers because of concerns about the skill sets needed.

### *2.5.1 Consultation*

Residents believed that housing in Maningrida, as in other remote communities, was the product of an unsatisfactory consultation process. A detailed design consultation process, such as that used by BAC for outstation housing, would be ideal, but was not seen by Maningrida Council officers as necessary for town housing due to the similarity of design issues they face and the existing range of available designs.

NBC Consultants has developed the range of housing designs and has responded to tenant and council feedback to revise them continuously. As a result, while the houses being built in 2007 are still standard three- and four-bedroom concrete block houses, they do have large covered verandahs, external food preparation and cooking facilities, two sets of toilets and showers with suitably sited access points, floor-level windows to allow sight-lines for people who may be seated on the floor of a room due to lack of furnishings, secure storage, disability ramp access, landscaping and fences. Significantly, all bedrooms are the same size as the master bedrooms, thus recognising the variety of uses they have to serve.

Many houses in Maningrida are old and in need of major refurbishment. It is here where householders said that consultation was really necessary. They said that their hope was to have the same large bedroom sizes, verandahs and outdoor spaces, storage, multiple toilets and showers and fences as the new house being built – but with all these located according to family preferences and orientation to 'country'.

### *2.5.2 Housing databases and asset management systems*

There is a strong need to establish efficient databases for tenant lists, rent collection, repair and maintenance schedules, and emergency repairs. The relatively high turnover of staff in the housing offices of Indigenous Councils meant that housing records were often lost, leading to a substantial lack of data documenting existing

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<sup>91</sup> Interview, Maningrida, 21 September 2006.

<sup>92</sup> Interview, Maningrida, 21 September 2006.

<sup>93</sup> Interview, Maningrida, 21 September 2006.

housing conditions in the town. The Maningrida Council has rectified this and now has an accurate and up-to-date record system. All repairs are costed and calculations can now begin to be made about the relative costs of capital and concurrent expenditures. This may allow trade-offs to be made between the cost of a higher standard of specification for fixtures and fittings in initial design and construction and potential cost reductions from reductions in repairs and maintenance.

### 2.5.3 *Household living and maintenance skills*

Other than the FHBH program, there has been no comprehensive training in how to properly maintain a safe and clean household for residents moving into new houses in Maningrida. This includes giving local residents an understanding of environmental health issues, the care of whitegoods, and the use, maintenance and repair of electrical and plumbing fittings.

Tenants, for example, needed to be advised on how electric hot water boosters work on the solar hot water, how smoke alarms work, the operation of door locks, the importance of keeping houses clean, and how to store food safely. Such training prior to the handover of a new house, and the establishment of an ongoing advice and support service, were seen as important and low-cost initiatives, as were providing basic cleaning kits (e.g. mops, brooms, hoses, etc) and communal toolkits that could be borrowed for minor repairs.

### 2.5.4 *Innovative construction systems*

Maningrida Council officers believed that they were currently building houses in the way best suited to their remote location and available materials, labour and skills sets. They also said that their methods of building were best suited to the funds available in relation to the relatively low number of houses being built at any one time. Thus, they thought that the culturally responsive standardised house designs developed by Territory Housing in recent years were not appropriate in Maningrida, and believed that the standardised or 'limited portfolio' design approach<sup>94</sup> would not deliver more houses for less cost as Territory Housing had hoped when the designs were commissioned. They also argued that 'shipping in' prefabricated components would deprive local builders of the incentives that come from choosing their own construction materials and styles.<sup>95</sup>

Some officers in Territory Housing agreed with these views about the costs of the standardised designs, as they have proved to be higher than expected. However, they said that they are 'not wedded to these designs' as a new 'alliance' model for housing procurement, involving communities, major construction companies and Territory Housing, would bring the desired economies of scale and cost reductions. The 'alliance' model has been designed to encourage regional rather than community-scale housing procurement, factory manufacture of housing components, modularisation and related innovations in construction technologies. This new approach has been made possible by the transfer of responsibility for the construction and management of all remote Indigenous housing from ICHOs to Territory Housing under the bilateral housing agreement and the new ARIA scheme, and a planned six-fold increase in housing funds for remote Indigenous communities in the Northern Territory from 2008. As a result, it is planned to build 50 new houses in Maningrida in the next two years and at least 500 new ones in the next 20 years.<sup>96</sup> These

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<sup>94</sup> See Fien et al (2007) *op. cit.* for details of this approach.

<sup>95</sup> Interviews, Maningrida, 3 November 2006 and 31 July 2007.

<sup>96</sup> All information from interviews, Darwin and Maningrida, 30 July to 1 August 2007.

developments will radically change the nature of the construction process in Maningrida.

## **2.6 Conclusion**

Other than dealing with the need to radically increase the number of houses in Maningrida, the range of initiatives suggested by residents, council officers and staff in Territory Housing are reasonably simple to accommodate, given a sufficient budget and administration, and long-term planning process to schedule improvements.

With adequate client–tenant consultation processes in place, development of household skills programs, and particular attention given to the specific needs of local Maningrida residents, such as the provision of fences, larger verandahs and additional external bathroom and cooking facilities for visitors, the quality and quantity of housing for tenants in Maningrida could be significantly improved. If such planning and design features were integrated into the initial planning stages and appropriate whole-of-life-costing models used, it seems likely that the huge recurrent costs of both maintaining existing housing and producing new housing that lasts only 10–15 years (c.f. 30–40 years) could be significantly improved.

## 3 CASE STUDY 2: PALM ISLAND, QUEENSLAND

Tammy Grice and Doug Baker

### *Why Palm Island?*

Palm Island was selected as a case study because, like Maningrida, it is a large Indigenous settlement and faces the same challenges of providing infrastructure and housing for a rapidly growing population and the barriers of remoteness, lack of available materials and skilled labour in the design and construction of appropriate housing. However, it is a much older settlement and has developed under very different cultural, historical and political conditions than Maningrida. As a result, a case study of housing needs and issues on Palm Island provides an opportunity to analyse the particularities and possible similarities in housing issues in two of the largest remote Indigenous settlements in Australia.

### 3.1 Introduction

... inadequate and inappropriate housing is a major factor in all the social problems here. Fixing housing is central to solving our problems.

... toilet blocks up because the pipes are too old and small, or murri goonah too much (ha ha ha) and there's nobody who can fix it, day after day, week after week. What good is that house? Nothing! You can't live in it! It is just firewood.<sup>97</sup>

#### 3.1.1 Location and size

Palm Island, and the surrounding group of 16 islands, is the traditional country of the Malanbarra and Bwgcolman people. Just over 60 square kilometres in area, it is situated approximately 65 kilometres north-east of Townsville off the coast of north-eastern Queensland. Palm Island is sometimes described as a classic 'tropical paradise' with its many natural endowments. However, it is 'one of the poorest communities in Australia, despite being a resource rich island with an economically viable population'.<sup>98</sup>

The many social and other problems that affect the community have a significant impact on the quality of life of its residents. In particular, there is a crucial need for housing to address the critical shortage of housing on the island and the impact that this shortage has on the community.<sup>99</sup>

#### 3.1.2 History of settlement

Palm Island is the traditional country of the Malanbarra and Bwgcolman people. While Malanbarra are the traditional owners of the Islands, the Bwgcolman (Bukaman) are the descendents of the approximately 42 language groups<sup>100</sup> of Indigenous Australians who were re-settled on Palm Island in order to remove them from land that was desired for pastoral holdings. The Bwgcolman have been welcomed as guests to Malanbarra country and live under Malanbarra law.

<sup>97</sup> Kalkadoon.org (2006) Palm Island Housing Report. Available online at <http://www.kalkadoon.org/index.php/palm-island-housing-report/> (accessed 8 August 2006).

<sup>98</sup> Bartlett, A., (2006) Palm Island – some fragments of history. Available online at [www.andrewbarlett.com/fax.php?id=14&category=4](http://www.andrewbarlett.com/fax.php?id=14&category=4) (accessed 5 February 2007).

<sup>99</sup> Queensland Parliament (2005) Palm Island Select Committee Report. Available online at <http://www.parliament.qld.gov.au/PISC/view/committees/documents/PISC/reports/report.pdf> (accessed 5 February 2007).

<sup>100</sup> Bwgcolman Future Inc. (n.d.) Housing. Available online at [www.bwcolmacoms.eq.edu.au/pff/housing.htm](http://www.bwcolmacoms.eq.edu.au/pff/housing.htm) (accessed 10 August 2006).

Palm Island was established in 1918 under the *Aboriginals Protection and Restriction of the Sale of Opium Act 1897 (Queensland)* as a penal settlement to which Indigenous individuals and groups were sent from throughout the State. As such, it was a replacement for the Hull River Mission, which was destroyed by a cyclone in 1918.<sup>101</sup> During the 'Protection Era'<sup>102</sup> when even the most mundane aspects of the daily lives of Indigenous people were controlled by government officers, Palm Island became an island of exile and punishment for Aboriginal people who did not comply with government policies and supervisors' rules.<sup>103</sup> As a result, since the 1920s, Palm Island has grown to be the largest of the government Aboriginal settlements. It has also housed a training centre and an old people's home, while nearby Fantome Island (part of the Palm Island group) was an infectious diseases hospital and a regional holding centre for the mentally ill.

Until the 1980s, the State government acted as guardian to the Palm Islander community, controlling many aspects of their lives and property. A Deed of Grant in Trust (DOGIT) was established in October 1986, giving the community increased self-determination through an elected Aboriginal council, which was established to manage the affairs of the community. The years of government control and the forcible relocation of discrete cultural groups to the Palm group of islands have left a legacy of entrenched social issues. High unemployment, overcrowded and inadequate housing, disproportionate food costs, poor diets and health, and a prevalence of alcohol abuse and associated violence are major concerns.

### 3.1.3 Demography and socio-economic characteristics

The 2001 Census stated that Palm Island had 2,147 residents,<sup>104</sup> with an overwhelming majority (90.8 per cent) of Indigenous origin.<sup>105</sup> However, there are conflicting local estimates of the population size, with varying figures ranging from 3000 to 5000 residents, depending on activities and events occurring on the island.<sup>106</sup> Compared with other parts of Australia, but similarly to other remote Indigenous communities, the Palm Island population is comparatively young, with over half of the population under the age of 25 years. Twenty per cent of the Palm Island population aged 15 or over had completed years 11 and 12 of secondary school but more than 72 per cent of the Indigenous working-age population of Palm Island was not in employment.<sup>107</sup> However, the Palm Island Aboriginal Council indicates that a more realistic figure is 93 per cent unemployed.<sup>108</sup>

### 3.1.4 Health

The average life expectancy of an Aboriginal or Torres Strait Islander person on Palm Island is commonly cited as 50 years, although this cannot be verified by ABS data.<sup>109</sup>

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<sup>101</sup> Wyvill, L. F. (1991) *Royal Commission into Aboriginal Deaths in Custody: Palm Island*. Available online at [http://www.austlii.edu.au/au/special/rsjproject/rsjlibrary/rciadic/individual/brm\\_vrr/4.html](http://www.austlii.edu.au/au/special/rsjproject/rsjlibrary/rciadic/individual/brm_vrr/4.html) (accessed 11 August 2006).

<sup>102</sup> Gulbarra, N. (2001) Stories from Palm island. Available online at <http://www.abc.net.au/message/radio/awaye/stories/s285174.htm> (accessed 27 July 2006).

<sup>103</sup> Wyvill, L. F. (1991) *op. cit.*

<sup>104</sup> Australian Bureau of Statistics (2002) *2001 Census Community Profile Series: Palm Island (Indigenous Area)*. Available online at <http://www8.abs.gov.au/censusoutput/abs@CPP.nsf/DetailsPage/IARE160102001?OpenDocument&tabname=Details&prodno=IARE16010&issue=2001&num=&view=&> (accessed 5 February, 2007).

<sup>105</sup> *Ibid.*

<sup>106</sup> 2006 Census data not available at time of writing.

<sup>107</sup> Queensland Parliament (2005) *op. cit.*

<sup>108</sup> Interview, Palm Island, October 2006.

<sup>109</sup> Interview, Palm Island, October 2006.

One local resident stated that ‘there are only two doctors on the island – both white males – and diabetes and heart disease remain problems’.<sup>110</sup> Palm Island is serviced by the Joyce Palmer Health Service at the Palm Island Hospital. The hospital provides emergency services, general management of medical and aged patients, minor surgical procedures, outpatient clinics, basic radiography, pathology collection, and obstetric management for low-risk mothers. There is also a community Mental Health Team based at the hospital. Critical patients are transferred to Townsville Hospital by the Royal Flying Doctor Service or Air Sea Rescue. However, some residents are concerned about whether these services are culturally appropriate, whether local people are adequately involved in the provision of health services, and whether the service appropriately addresses the community’s preventative health requirements.<sup>111</sup>

Improving health outcomes on Palm Island depends heavily on addressing the range of social problems within the island’s community.<sup>112</sup> As one resident argued:

People continue to be incarcerated, continue to have serious health problems, and continue to be poor, and we all live with that every day.<sup>113</sup>

The Palm Island Aboriginal Council sees improved housing, beginning with housing maintenance, as a key to better living conditions and improved well-being in the Palm Island community.

## **3.2 Settlement and housing patterns**

### *3.2.1 Settlement layout*

Palm Island consists of three main settlement areas:

- the Central Town Area, which includes the Top End, the Bottom End, and Reservoir Ridge;
- Butler Bay; and
- The Farm, which includes Cooktown, Chook City and Francis Creek/Long Beach.

According to the Palm Island Sustainability Land Use Plan, Butler Bay is predominantly a residential area. The Farm contains a mixture of residential, sporting, industrial and other uses, including the island’s two dams, water and sewerage treatment facilities, and power station. The Central Town Area is the largest development area and contains the following services:

- Council chambers and government offices;
- Education establishments, comprising two schools and a TAFE college;
- Community facilities including a new community and youth centre;
- Hospital and ambulance station;
- Aged care centre;
- Retail outlets and a supermarket;
- Post office and bank agency;
- Canteen, service station, motel and other commercial enterprises;

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<sup>110</sup> -- (2004) Tropic of Despair, Sydney Morning Herald, 3 December

<sup>111</sup> Queensland Parliament (2005) *op. cit.*

<sup>112</sup> *Ibid.*

<sup>113</sup> Kyle, E. (2005) Support for Palm Island. Available online at [http://www.ncca.org.au/natsiec/issues/palm\\_island](http://www.ncca.org.au/natsiec/issues/palm_island) (accessed 5 February 2007).

- Police station and courthouse, and
- An SES and fire brigade base.

Each of these three main districts is distinctive in its geography and housing stock.

### **Central Town Area**

With over 160 houses, Top and Bottom End contains the largest number of houses and flats on Palm Island. This area consists of the main Mission area and the housing along Main Street, Dormitory Drive and Mango Avenue. The stock consists of a diversity of house types that characterise the building history of Palm Island, with church houses remaining from the 1930s, block houses from the late 1960s, wood frame houses from the 1970s, frame houses from the mid-1980s, and post-1997 wood frame houses.

Approximately 60 per cent of the housing stock was built from cement block by Braddock Contractors over a 30-year period from the late 1960s. These houses display a variety of designs and sizes, from two-bedroom units to larger five-bedroom houses. Another common style of house in the Top End was built from the mid-1980s with wooden frame, fibro cladding and metal roof. Most of these are on metal stumps at varying elevations. In 2001, the Australian Army constructed 25 duplex houses at Reservoir Ridge. These were prefabricated, wood frame houses built on metal stumps at different elevations.

### **Butler Bay**

The 57 houses at Butler Bay display a variety of housing types. The Braddock block home dominates the area. In addition, two blocks of units were built in Butler Bay by Braddock: the first has six two-bedroom units and the second has six one-bedroom units. A variety of timber frame styles, built over the past 20 years, can also be found throughout this district. Mud brick houses were built in the 1970s as a prototype experiment. The mud bricks were manufactured in Butler Bay and several houses and a block of flats were constructed. Four houses and two small flats are still in use.<sup>114</sup> Two more prototypes were developed in Butler Bay: a Styro-con home and a Force 10 home. These homes were completed in May 2007 and families have taken up occupancy.

### **The Farm**

The 40 houses in this district are also dominated by the Braddock block house, with approximately 80 per cent of the houses being constructed from blocks, although there are some post-1997 wood frame houses in various states of repair. In the nearby Solomon Subdivision, 15 houses have been built since 2000, with a wood frame construction with metal cladding, and sometimes fibro sheeting, on the outside walls. These houses are all built on metal stumps and are elevated.

### **Family camps**

Family camps are 'those areas where families have been going for many years, and are widely acknowledged by others as defined places to visit or to have some kind of structures'.<sup>115</sup> Many of these camps are located away from main development areas and service infrastructure. Some of the family camps are formal, with lease agreements in place, and others are acknowledged and used on a less formal basis.

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<sup>114</sup> However, the mud brick plant was abandoned in the mid-1970s, and the site is now overgrown with vegetation.

<sup>115</sup> Interview, Palm Island, October 2006.



A comprehensive survey of family camp areas has not been conducted to date but they are seen to represent havens of great value to the family members concerned.<sup>116</sup>

### 3.2.2 *Housing condition*

The condition of the houses observed on Palm Island during site visits in 2006 varied but most appeared old, dysfunctional and in need of urgent repair. 'Windows are broken, roofs leak and plumbing is inadequate' is how one observer described them.<sup>117</sup> Most houses are home to 10 or more people, and overcrowding, along with the high unemployment rate, has contributed to a lack of care in maintaining houses in a liveable condition.

All new housing has been designed for the standard nuclear family, but the floor area is larger than that in houses from earlier periods. Some new houses have very practical elements, such as up to 6 metres of kitchen bench, solar hot water systems and large verandahs. They also have larger bedrooms and kitchens in order to sleep more people. However, according to the Kalkadoon Palm Island Housing Report, 'This development has resulted in institutionalising large groups of people living in one house'.<sup>118</sup>

### 3.2.3 *Current and past policy and funding allocations affecting housing*

Funds for housing in DOGIT communities in Queensland, such as Palm Island, are currently provided at two levels. The Commonwealth provides funding for housing in Indigenous communities through a bilateral housing agreement with the State. The Queensland Government then contributes funds from its budget through the Queensland Department of Housing, which then allocates funds to particular communities on a needs-based model. Since the Riot in 2004, the Palm Island Aboriginal Council has been lobbying the government for more housing funds.

In 2004, the council reallocated its housing grant back to the State Department of Public Works, and Project Services in a contract to expend the remaining 2003/04 budget for housing and the 2004/05 budget. According to the Palm Island Select Committee Report the Palm Island Council in April 2005 had \$4.7 million available for its capital works program.<sup>119</sup> The committee was advised that closer scrutiny of the 2004/05 housing projections for Palm Island would result in the Department of Public Works delivering houses at approximately \$300,000, which was significantly less than the previous average cost of construction per house.<sup>120</sup> However, the cost of the same house in Townsville would be only \$140,000.<sup>121</sup>

For 2007, the allocation of funds from the State government will be based on rental returns, with capital funding to be at the rate of \$1 for every \$1 collected in rent return (gross return).<sup>122</sup> This is seen as a response to the huge problem of arrears, with residents owing overdue rent for many years, some for as long as 10 years. The Palm Island Aboriginal Council is thus seeking to recover past rental monies in order to increase current housing funds.

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<sup>116</sup> Interview, Palm Island, October 2006.

<sup>117</sup> Lehman, S. (2005) Lessons from Palm Island, Brisbane Institute. Available online at [http://www.brisinst.org.au/resources/brisbane\\_institute\\_lessons\\_palmisland.html](http://www.brisinst.org.au/resources/brisbane_institute_lessons_palmisland.html) (accessed 3 May 2007).

<sup>118</sup> Kalkadoon.org (2006) *op. cit.*

<sup>119</sup> *Ibid.*

<sup>120</sup> *Ibid.*

<sup>121</sup> Interview, Townsville, October 2006. No other figures are available to establish the median cost of a 2-, 3- or 4-bedroom house.

<sup>122</sup> Interview, Palm Island, December 2006.

### 3.3 Design, procurement and construction

#### 3.3.1 Housing design

The Queensland Government's Project Services Department provides most designs for housing on Palm Island, with very little on-site consultation. For example, all residents interviewed stated that issues of culture and individual family requirements are not being considered.<sup>123</sup> This view was also confirmed by staff in QBuild and Project Services, who stated that the housing crisis on Palm Island is so acute that government needs to provide a 'quick fix' solution.<sup>124</sup> One Project Services officer sat that he believes that needs assessment and consultation would unduly complicate the design of houses, and not necessarily lead to suitable and adaptable housing.<sup>125</sup> However, the Kalkadoon Palm Island Housing Report states that:

... it has been perhaps the loudest point of consensus on the Island that state agencies are neither listening to the will of the democratically elected shire council and grass roots community, nor are they delivering meaningful housing solutions to a desperate housing shortage. There is a very clear obstacle to positive developments in housing in the culture and institutional relationships between the three levels of government and their service delivery.<sup>126</sup>

Department of Project Services staff in Townsville outlined the design process in the following way: first, they meet with the stakeholders to determine budgets and the scope of work possible develop a brief; second, the building site is determined and plans completed; and third, plans are costed. Consultation with the Palm Island Aboriginal Council also takes place to ascertain the potential for training and employment opportunities in the construction. QBuild is then informed, lets tenders to Townsville firms such ARC and Richardsons, and project manages the construction.<sup>127</sup>

Due to the slow and costly process of building new houses, the State government is prioritising the maintenance and upgrading of existing housing.<sup>128</sup> However, QBuild staff identified a number of barriers to this. For example, they stated that they believed that the older block homes, built before the 1980s, are too small for families and are not balanced in their design. They also said that replacing the fibro cement sheeting on some of the new modular houses will be very difficult. Finally, they were very concerned that future maintenance requirements are not being considered in the design of buildings.<sup>129</sup>

#### 3.3.2 Housing construction

As noted above, QBuild tenders to two companies, ARC and Richardsons. ARC has been providing prefabricated houses to Palm Island for several years. Housing modules are built in a factory, packed into separate components, transported, and reinstalled on the site. Construction takes 2–3 weeks, compared with the several months normally taken for timber construction. However, the prefabrication, transportation and construction is very expensive, with a average three-bedroom home costing \$330,000. QBuild believe that prefabricated houses have both

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<sup>123</sup> Interviews, Palm Island, October/December 2006.

<sup>124</sup> Interviews, Townsville, October 2006.

<sup>125</sup> Interview, Townsville, October 2006.

<sup>126</sup> Kalkadoon.org (2006) *op. cit.*

<sup>127</sup> Interview, Townsville, October 2006.

<sup>128</sup> Interview, Townsville, October 2006.

<sup>129</sup> Interview, Palm Island, October 2006.

advantages and disadvantages: they are the most effective solution in the short term but limit local employment in the construction phase.

QBuild also employs several people from various trades, including four Indigenous tradespeople and five apprentices employed through the Palm Island Aboriginal Council. In 2007, QBuild started three additional school-based apprentices, a carpenter, a plumber and a painter. QBuild is currently working towards employing at least 30 people from the Palm Island community for construction and maintenance of homes, with a goal of Indigenous people taking control of construction and maintenance of housing in the future.

There are no post-occupancy evaluations on Palm Island at present. However, recent collaboration between the Queensland Department of Housing and the Palm Island Aboriginal Council has seen the development of a housing inventory and a system for rental arrears collection.

### *3.3.3 Housing maintenance*

QBuild provides a repair and maintenance service for Palm Island housing. The maintenance process is as follows:

- Residents are provided with a 1300 number to telephone the Department of Housing in Townsville.
- Once a request is made, a QBuild foreman inspects the problem to verify the need and urgency of the job required.
- QBuild generates a Works Order number and the job is delegated to the relevant trade.
- The maintenance works are then completed on an hourly rate, and processed back to the Department of Housing in Townsville for payment.

A plan maintenance program has recently commenced, to inspect houses in blocks of twenty for painting and upgrade requirements. An upgrades program has also started, to provide new kitchens and bathrooms on a needs basis. Major upgrades are also under way, with some homes requiring reframing and re-cladding.<sup>130</sup>

## **3.4 The housing experience on Palm Island**

### *3.4.1 Overcrowding and waiting lists*

All residents, council members, stakeholders and Housing Department employees who were interviewed stated that overcrowding was the main housing issue for housing on Palm Island.<sup>131</sup> While the average household size varies from 5 to 15 people, mostly living in a three-bedroom residences, this number can expand during holiday season, funerals and other events to about 20–25 people inhabiting a three-bedroom dwelling.

According to the Palm Island Housing Department there are approximately 500 people on the waiting list for housing, with no available houses.<sup>132</sup> The average waiting list period is 20+ years.<sup>133</sup> Thus, the five houses being built in late 2006 will only alleviate a small part of this severe problem. With Palm Island suffering from such serious overcrowding, many Indigenous people reside on the mainland, particularly in Townsville, and traverse between their two homes. However, this still

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<sup>130</sup> Interview, Palm Island, October 2006.

<sup>131</sup> Interviews, Palm Island, October/December 2006.

<sup>132</sup> Interview, Palm Island December 2006.

<sup>133</sup> Interview, Palm Island December 2006.

adds to the overcrowding issue, as they require accommodation when visiting family and friends on Palm Island. As some residents said:

More bedrooms are needed so that we can cater for our family when they visit from the mainland.

There is not enough room when my daughter and her family come to stay. She usually has to stay somewhere else where there is room. I would like six bedrooms with a verandah all the way around to sleep all the visitors and family members.

We need a house that is about three times the size, with a bigger verandah, everything bigger, to help when we get our visitors.

Would like a nice big verandah as that helps when we have visitors.

We need an extra bedroom so that we aren't cramped when we have people come stay.

Would like a granny flat or smaller room set up for visitors.

I would like an extra bedroom for guests or when the relatives come to visit.<sup>134</sup>

These statements highlight the problem of the design of most housing not catering for visitors. Rooms are small and already being used to hold too many residents. In addition, the verandahs on even the most recent housing designs are small and not ideally located to assist with outdoor sleeping, eating or entertaining. Interviewees agreed that larger homes with separate dining and lounge rooms, along with an extra bathroom and a larger verandah, would help reduce overcrowding and improve the ability to provide for visitors.<sup>135</sup>

### *3.4.2 Suitability of siting and construction for noise, heat and light*

The design of homes on Palm Island does not always cater for noise, heat or light control.<sup>136</sup> Some of the homes have been positioned correctly on the site to take advantage of views and a northern aspect. However, the majority of even the newer homes have not had the same consideration. Prefabricated homes are being built very close to neighbours and provide no noise barrier for noise control. Some of the Reservoir Ridge homes built by the Army are also said to be so badly constructed that stabilisation is urgently required.<sup>137</sup> Tropical design does not appear to have been taken into consideration, particularly for the climate of Palm Island. As the Kalkadoon Palm Island Housing Report states, 'These concrete boxes don't belong on an island in a hot place.'<sup>138</sup>

### *3.4.3 Suitability of cooking facilities/arrangements*

Standard kitchens and indoor stoves are provided in all houses, but most require regular maintenance as they are not suitable for the volume of people living in Palm Island houses and cultural cooking practices. Kitchens are tiny, with most homes not providing a dining room or space to place a dining table, forcing residents to eat meals on their laps in the small lounge. Kitchen cupboards are limited and often do not have

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<sup>134</sup> Interviews, Palm Island, October/December 2006.

<sup>135</sup> Interviews, Palm Island, October/December 2006.

<sup>136</sup> Interviews, Palm Island, October/December 2006.

<sup>137</sup> Interviews, Palm Island, October/December 2006.

<sup>138</sup> Kalkadoon.org (2006) *op. cit.*

doors. Interviewees stated that this was a dangerous problem as children often pulled things out.<sup>139</sup>

#### 3.4.4 *Suitability of external spaces*

Culturally responsive outdoor cooking and socialising spaces are not provided, yet residents regularly said that:

It's important that all houses have front and back verandahs. It's also important to have both inside and outside cooking spaces. No room at present for landscaping and we would like that. Mostly we need space for the kids to play. It needs to be family friendly.

Need cooking space outside, particularly a BBQ for family gatherings.

We eat on the verandah now as there isn't a dining room and the lounge room is too small. We need somewhere to cook outside, and a larger verandah.

Would like outdoor cooking space – a BBQ or patio cooking area.

We don't have a very big kitchen at the moment and we have no dining area. We have to eat in the lounge or on the verandah. We would like to cook outside at times.<sup>140</sup>

Older homes on Palm Island have been provided with a surrounding fence, although most are not in good repair. Fences are valued as they provide protection from vandalism, brumbies and stray dogs, protect children from wandering, and provide a defined and secure space in which to plant a garden, have a BBQ and entertain outdoors.<sup>141</sup>

All houses built since 2001 have yards, fences and, sometimes, provision for suitable external socialising and cooking space. However, children mostly play on roads as there is a lack of parks and playgrounds, and friends and neighbourhoods are often far apart.<sup>142</sup>

#### 3.4.5 *Suitability of bathroom/wet spaces*

Despite the lack of urgent maintenance, most bathrooms appeared basic but functional. Interviewees explained that the bathrooms were not designed to cater for the overcrowding issue, and most would prefer an extra toilet or en suite to help cater for this problem. As residents repeatedly stated:

With so many people in our house there is no privacy at all. This is something that we need.

Need two bathrooms and two toilets so that we can have some privacy.

Would like two toilets and an en suite so that we don't all have to share the same bathroom.

We only need one bathroom but need a separate shower, bathtub and separate toilet.

With the amount of people we have we need two bathrooms and two toilets. One time we had 21 people staying in the house. We needed more privacy.

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<sup>139</sup> Interviews, Palm Island, October/December 2006.

<sup>140</sup> Interviews, Palm Island, October/December 2006.

<sup>141</sup> Interviews, Palm Island, October/December 2006.

<sup>142</sup> Interviews, Palm Island, October/December 2006.

We think two toilets are better, particularly when we have visitors – one for boys and one for girls.<sup>143</sup>

Reservoir Ridge residents had a particular complaint that the toilets provided when the Army built their houses were stainless steel, not properly bolted to the floor, and did not have plastic lids, making them most uncomfortable to sit on.<sup>144</sup>

Laundries are located either under the house or in bathrooms. Most residents stated that the laundries were adequate. However, the laundries are not located close to clotheslines, which creates an unnecessary long walk for the residents.<sup>145</sup>

### *3.4.6 Suitability of storage facilities*

All residents complained that storage facilities were a huge problem. Most homes only provided limited cupboard space in the kitchen, with no cupboard doors. Some houses only have a couple of shelves on the wall, while most bedrooms only have a very small cupboard, again without a door. Linen, bathroom or pantry storage facilities are not provided. As residents complained, these most basic facilities for household storage were missing in house designs:

Desperately need storage in both the kitchen and bedrooms. We always complain about it to the government. We also need storage in the carport for tools, lawn mower etc.

Our linen cupboard needs shelves as does the pantry cupboard. We need storage in the bedrooms and outside as well – for drums and shoes.

Need storage in the laundry. It only has one long thing now and we need more in the bedrooms and kitchen.

Storage is needed on the verandah and it needs to be lockable. We don't have any drawers in the kitchen or bedroom, and we need them. They need to be lockable so the baby doesn't get into them or the cupboard.

We need a hall cupboard for storage and kitchen cupboards with safety locks, and built-ins in the bedrooms with a mirror.<sup>146</sup>

### *3.4.7 Noise*

Quite noticeably, several 'party houses' on Palm Island generate a considerable amount of stereo noise throughout the night and into the morning. We noticed this on every occasion we visited the island. This is mostly initiated by the younger generation and there is a lack of noise control policies to manage this complex problem. Overcrowding, according to many of the residents, creates another noise issue, and as this is caused by the number of people living within the dwelling, it can be difficult to control.<sup>147</sup> This in turn brings about a higher rate of vandalism and damage to housing properties.

The issues stemming from excessive noise from these houses is at least part of the motivation for some community members to call for larger house sites and more spread-out housing. However, spreading out houses is not compatible with the scarcity of land. Work is required to develop a co-operative noise management plan

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<sup>143</sup> Interviews, Palm Island, October/December 2006.

<sup>144</sup> Interviews, Palm Island, October/December 2006.

<sup>145</sup> Interviews, Palm Island, October/December 2006.

<sup>146</sup> Interviews, Palm Island, October/December 2006.

<sup>147</sup> Interviews, Palm Island, October/December 2006.

with residents of the 'party houses'. The allocation of houses should include due consideration of the different generations and their individual requirements.

### **3.5 Barriers to improved housing**

#### *3.5.1 A sense of despair*

With the serious problem of too many residents, not enough housing, and a current waiting list of 20+ years, the impact of dwelling functionality on household and community well-being is acute. Lack of communication and negotiation offers the local Indigenous community little sense of hope for improvement. Indeed, most of the people interviewed believed that there has been 'too much talk, too much research, too much promised, but not a suitable result'.<sup>148</sup> They said that they have lost faith in the government, in the Department of Housing, and in the council. Previous management of housing has reinforced this belief.

With the overcrowding issue and with many of the Palm Island homes in urgent need of repair, and some that have been built with 'jail cell' finishes, it is no wonder that the Indigenous residents believe that there is little prospect of a brighter, healthier future for their children.

#### *3.5.2 Housing costs*

One of the biggest barriers to alleviating the overcrowding on Palm Island is the high cost of building new homes in a remote location. The remoteness is a major problem adding to the cost of housing stock, particularly with labour and transportation from Townsville. The rugged terrain of Palm Island also adds to the cost – for example, with sand and gravel having to be imported and concrete costing \$400 per cubic metre, site levelling and stabilising is expensive. Isolation, the lack of accommodation and facilities provide little incentive for labourers and contractors. Indeed, according to an officer in Project Services, the interest of the construction industry in building on Palm Island is seriously lacking.<sup>149</sup>

#### *3.5.3 Lack of infrastructure*

Lack of infrastructure is the major barrier to the improvement of the Palm Island physical environment and housing stock. All residents interviewed believed that exterior space design urgently requires attention, with a community plan as a starting point. They emphasised the need for parks, children's playgrounds, a tennis court, a swimming pool, an appropriately designed mall, and better roads and paths.<sup>150</sup> These are what most Australians would class as essential for the well-being of their community; however, Palm Island has little to offer in the way of built landscape infrastructure for its people. The development of a land use plan for the island seems to be critical in determining where future housing should be located and how it should be serviced.<sup>151</sup> As the council CEO noted, 'You don't build for a family; you build a home and allocate a family'.<sup>152</sup> However, a State Community Renewal officer stated that he believed that the capacity of the Palm Island Aboriginal Council to do this effectively, indeed, its whole understanding of planning and design, was limited. He also cautioned that council members often act as 'gatekeepers' of information and

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<sup>148</sup> Interviews, Palm Island, October/December 2006.

<sup>149</sup> Interview, Townsville, October 2006.

<sup>150</sup> Interview, Townsville, October 2006.

<sup>151</sup> Queensland Parliament (2005) *op. cit.*

<sup>152</sup> *Ibid.*

need to be more willing to discuss and share ideas from and with the Indigenous community.<sup>153</sup>

Project Services staff in Townsville stated that they have identified future subdivisions, but with limited infrastructure, future housing will prove costly. The Palm Island Select Committee further acknowledged that construction of housing is hampered, to some extent, by land planning issues. There are limitations on the opportunities to build on the island due to the nature of the terrain, and supporting infrastructure such as water and sewerage is needed to service potential housing sites. As a result, there needs to be a better integration of state and local planning to deal with housing issues within a comprehensive land use plan.

#### *3.5.4 Lack of innovation*

The *Kalkadoon – Palm Island Housing Report* states that ‘for the purpose of stimulating public service cultural change and facilitating innovation and better value for money for all stakeholders, we recommend that private sector housing suppliers should be explored for more appropriate, cost efficient and innovative housing options to compete in the market place with government agencies’.<sup>154</sup> As discussed earlier, the two new prototype designs (Styro-con and Force 10) were recently completed. However a QBuild officer said that he believes that these are not long-term solutions because future maintenance will be a costly and ongoing issue.<sup>155</sup>

Unfortunately, public housing on Palm Island has been, and is still being, designed for nuclear families. Innovative design should consider Indigenous culture and extended families – for example, positioning homes in relationship to each other with covered walkways and/or breezeways between them.

### **3.6 Towards solutions**

Palm Island has a unique opportunity to be a global innovator in culturally appropriate safe, healthy and sustainable housing design. The challenge for the people of Palm Island, through the Palm Island Council, is to make long-term plans for housing and town planning. To this end, the council and the State government have actively pursued prefabricated designs that might work on the island. However, these are yet to be evaluated and much more is believed necessary.

#### *3.6.1 Housing database/asset management system*

The Palm Island CEO explained that there was a problem with the housing management, particularly tenancy management and housing allocation, prior to 2005.<sup>156</sup> However, the council is seeking to gain a clearer understanding of the housing situation and has two staff members assigned to compiling a data base on the housing stock and tenants. The Department of Housing has recently gained the council’s approval to collect data on the current housing stock and condition, and demographic data specifically relating to housing.<sup>157</sup>

#### *3.6.2 Household skills program*

No household skills programs are currently running on Palm Island. However, the Department of Housing is proposing three new programs to address this: ‘Palm Island Tenant Participation Groups’, a ‘Sustainable Tenancies Project’ and a ‘Palm Island

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<sup>153</sup> Interview Townsville, December 2006.

<sup>154</sup> Kalkadoon.org (2006) *op. cit.*

<sup>155</sup> Interview, Palm Island, October 2006.

<sup>156</sup> Interview, Palm Island, December 2006.

<sup>157</sup> Queensland Parliament (2005) *op. cit.*



Tenancy Support Project'. These projects are being initiated to build stronger bridges between the State government, the Palm Island Council and the local Indigenous community in ongoing planning and management of housing on Palm Island.

### 3.7 Conclusion

The *Palm Island: Future Directions* report states that development on Palm Island to date has been on an *ad hoc* basis without adequate planning for the location of residential areas and government services. In the past two years, considerable work has gone into the preparation of a Sustainable Land Use Plan to guide decision making.<sup>158</sup> However, it is not yet at an operational stage and needs to be fleshed out through further consultation with residents, and consideration of areas of cultural and ecological significance. In terms of housing, it also requires consideration of culturally responsive design and better design criteria for settlement layout, the siting and orientation of houses, and provision for the specific needs of particular families, if it is to have community support.

*Palm Island: Future Directions* also provides suggestions for a fresh approach to the governance and management of housing. It notes, for example, that 'There are compelling grounds for transferring responsibility for housing to a specialist housing entity that has the confidence of the community and transparent and accountable decision-making processes'.<sup>159</sup>

However, there are many issues that urgently require attention on Palm Island, and although housing is not the only one, finding solutions to the issues of health, employment, education and community planning, additional and appropriately designed housing is vital if Palm Island residents are to have a positive future.

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<sup>158</sup> McDougall, S. (2006) *Palm Island: Future Directions*, Resource Officer's Report. Available online at [www.datsip.qld.gov.au/resources/publications/palm-island-future-directions-report.cf](http://www.datsip.qld.gov.au/resources/publications/palm-island-future-directions-report.cf) (accessed 5 February 2007).

<sup>159</sup> *Ibid.*

## 4 CASE STUDY 3: MIMILI, ANANGU PITJANTJATJARA LANDS, CENTRAL AUSTRALIA

Gini Lee and David Morris

### **Why Mimili?**

Mimili was selected as a case study because the town is quite different from Maningrida and Palm Island. Mimili is a small town of around 300 people in the very remote and arid Anangu Pitjantjatjara Yankunytjatjara (APY) Lands.

Mimili is a settlement where the case study authors had an ongoing relationship from previous research on community engagement in designing and constructing housing and built environment projects. In line with the 'no survey without service' approach in research,<sup>160</sup> the case study provided an opportunity to engage the Mimili community in the design and (planned) construction of housing for single men, a need that was identified in earlier research.<sup>161</sup> As such, the project embraces methods that promote research and consultation into the cultural relationships, environmental considerations and community planning arrangements that affect the design of housing and built environments as well as implementation processes. This approach has been recognised by funding agencies and community leaders as a prototype for potential new housing models across the APY Lands. In particular, it seeks to expand the normative approach to shelter provision which, to date, has been constrained by a very narrow focus on standard three-bedroom houses.

### **4.1 Introduction**

#### *4.1.1 Location*

Mimili is an Anangu community on the Anangu Pitjantjatjara Yankunytjatjara (APY) Lands in the north-west of South Australia, located at E132 42 and S27 02. The settlement sits just beside the major east/west unsealed access road that connects many of the communities in the APY Lands and is nestled in the Everard Ranges, 70 km west of the Stuart Highway, 380 km south of Alice Springs and approximately 1200 km north of Adelaide.

The Mimili community area occupies 1.4 sq km of the broader APY Lands territory of 102,650 sq km, which is some 10 per cent of the land area of South Australia. However, the community is also linked to a number of associated homelands and outstations in the area, which supplement the living arrangements of Mimili's residents either permanently or at various times of the year.

Mimili occupies a landscape of great beauty framed by the Everard Ranges, an inselberg rising to 400 metres from the surrounding plains. The red-brown granite domes of the ranges are rounded and weathered and exhibit a complex landscape<sup>162</sup> rich in their diversity of habitat and vegetation types on plains that are crossed by numerous short and broad low-banked ephemeral creeks.

The APY Lands is situated in what is regarded as the Australian arid zone, where extremely dry climatic conditions result in very hot summers, short cool to cold winters and scarce rainfall or permanent groundwater supplies. Climatic records suggest a summer rainfall pattern, but there have been a series of drought (*ailuru* in

<sup>160</sup> Lee and Morris (2004) *op. cit.*

<sup>161</sup> See the report above – interviews with the Municipal Services Officer at Mimili in the APY Lands, the Aboriginal Housing Authority and Anangu Pitjantjatjara Services in 2002 and 2006. The need for this type of accommodation has been supported by recent and ongoing discussions with APY Services and Aboriginal Asset Services of the Department of Families and Communities, SA.

<sup>162</sup> Robinson, A.C. Copley, P.B. Canty, P.D. Baker, L.M. and Nesbitt, B.J. , (2003) *A Biological Survey of the Anangu Pitjantjatjara Lands South Australia 1991-2001*, Department of Environment and Heritage, South Australia.

Pitjantjatjara) years interspersed with short periods of very heavy rainfall. Water affects the lives of people who live in such arid environments. In prolonged droughts this unpredictability of water supply has traditionally resulted in the need for Anangu to move in relation to accessible food and water.

Together with extreme conditions during the height of summer ('for two months over summer it doesn't cool at night')<sup>163</sup> and in the depths of winter, the prevailing winds rush through the site from east to west, bringing with them dust storms causing many health problems. The people recognise the relationship between wind, and social and environmental issues, and they describe the winds accordingly: the hot north-westerlies are the crazy winds, the westerlies are the good winds that bring the storms, and the cold southerlies are regarded as mostly bad and to be sheltered from.

In the late 1980s the Mimili community made their interest known in participating in a biological survey for the area, one that included recording traditional knowledge of the area alongside the scientific study. In 1991 the site survey process in Mimili occurred with community involvement including extensive and appropriately managed consultation that recognised the responsibility and ownership of site selection, access and database residing with the Anangu. The study found that, in comparison with other areas in South Australia and the Northern Territory, the vegetation on the APY Lands is highly diverse and relatively intact, and the depth of traditional ecological knowledge is invaluable for the future conservation and management of the biological diversity of the area.<sup>164</sup>

The traditional owners have identified significant heritage sites in Mimili and these have recently been confirmed through an anthropological survey of the area.<sup>165</sup> The heritage sites include most of the rocky areas in and around the town, including: all areas in the centre of town, a small rock group behind the office and art centre, an area to the left of the road at the far western end of Mimili and all the rock areas to the north of the town. These topographical and cultural features include emu dreaming to the south and lizard dreaming along the northern ridge<sup>166</sup> and have influenced the planning and siting of the community. The town plan clearly reveals an organic growth pattern as a response to cultural issues such as spatial avoidance, relative proximity to sensitive areas and defined routes through the community. Additionally, there are a number of sites identified for cultural meetings around the town perimeter, such as 'sorry business' campsites near the football oval and to the south of town. It was confirmed that the availability of these sites for building may be open for negotiation as such meeting places can be sited in alternative locations.

In summary, the extant conditions suggest the following general implications for design in remote desert environments.

- Distance from materials supply, building skills, infrastructure resources and maintenance schedules will influence design decisions regarding construction methods, materials selection, robust detailing, fittings and fixtures.
- As all building materials and infrastructure systems are transported in and there are no supplies on site, construction methods rely heavily on prefabricated housing solutions.
- Opportunities exist for developing local expertise and general skills training for small scale fabrication to be built in to projects.

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<sup>163</sup> Told in discussions with single men, Mimili, November 2006.

<sup>164</sup> Robinson et al (2003) *op. cit.*, pp. 14, 59.

<sup>165</sup> Pers comm. Anthropologist, forthcoming report, 2007.

<sup>166</sup> Conversation with Mimili elder, November 2006.

- Traditional desert knowledge regarding the specifics of climate, orientation, important sites and cultural matters is readily available in the community and appropriate consultation will elicit local know-how to enable manipulation of building elements for greatest amenity and comfort.
- Appropriate consultation is known to reduce unsuccessful building project and poor siting outcomes.
- Knowledge of local climatic conditions over time and seasons is necessary to design responsive and flexible building and landscaping systems to alleviate issues regarding heat, cold, dust and irregular water supply and discharge management.
- Cultural and climatic considerations significantly influence design, siting and building schedules.
- There is a requirement for qualified anthropologists to consult widely throughout APY communities to ascertain heritage and avoidance sites where building should not occur, and to identify cultural sites that may be open for negotiation.

#### 4.1.2 History and governance

Traditionally, Mimili is the site of the *maku* or witchetty grub dreaming. Community members have kinship ties over a large area of Central Australia, and many people have ownership status to specific areas of land in the region around Mimili.<sup>167</sup> However, the first permanent settlement came about through speculative encroachment from pastoralists, surveyors and prospectors leading to the establishment of pastoralism at Everard Park in the 1920s and 1930s.<sup>168</sup> Building commenced with the Everard Park station house and associated camps where the Anangu were employed as stockmen and domestic help. The road networks were established during the 1950s and 1960s for the establishment of weather forecasting stations for atomic testing programs. Extreme drought conditions forced many people to move to pastoral stations and missions, where they were offered a reliable water supply, food and employment. This subsequently caused a permanent change in lifestyle patterns.<sup>169</sup>

The land was returned to the traditional owners in 1972, and the name reverted to the original name for the country in this area, Mimili, and by 1973 Everard Park was incorporated into the APY Lands with assistance from the Aboriginal Lands Trust Commission. This transfer of title to the Anangu by the State government occurred prior to the Pitjantjatjara Land Rights Act of 1981.<sup>170</sup> The first tin houses specifically built for Anangu commenced in 1971.

Mimili is jointly managed by the Mimili Community Council and the APY Council, comprising representatives from the Pitjantjatjara, Yankunytjatjara and Ngaanyatjarra people, who are the traditional owners of the APY Lands. A network of communities cross the Lands, with major settlements at Amata, Fregon, Indulkana, Mimili, Pipalyatjara, Kalka, Watarru and Pukatja (Ernabella). APY Council, on behalf of the traditional owners, oversees the management, use and control of the Lands. As well as administering the activities of the various constituent groups that serve the needs of the people, APY also helps shape policies regarding economic, environmental and social development.

<sup>167</sup> <http://www.waru.org/communities/mimili/> (accessed 18 August 2006).

<sup>168</sup> Robinson (2003) op. cit., p. 46.

<sup>169</sup> Last, M. Unpublished text provided to researchers, March 2007.

<sup>170</sup> Pers comm. John Tregenza, January 2007.

Mimili is widely regarded as a well-run community employing good governance systems, although there are typically frequent changes in local council membership, chairpersons, and Municipal Services Officers (MSO) who administer the day-to-day running of the community on behalf of the council. Consequently, some corporate knowledge is lost in these transitions. Retaining knowledge and continuity in planning, building allocation and management is critical to the delivery of appropriately conceived and sited housing and infrastructure. It must also be recognised that there is an experienced group of people living in the community who continue to have visible roles in the strategic management of the community and its built environment.

Two particular issues are pertinent for planning and design.

- When formulating housing and infrastructure projects, consultation and negotiation is necessary across a number of management levels throughout the APY Lands in order to achieve effective decision making in line with Anangu kinship relationships, management structures and cultural traditions.
- 'On the ground' research and understanding of the evolution of settlement planning, external and cultural influences, family groupings and their locations in the community is vital to effective housing design and development.

#### *4.1.3 Demography and socio-economic characteristics*

Based upon 2001 Australian Census records, Mimili is characterised as a small community of Pitjantjatjara and Yankunytjatjara people, with a population that ranges between 250 and 300 people, equally divided between males and females.<sup>171</sup> As evidenced by a high proportion reportedly living in the same house for more five years, Mimili has a relatively stable and culturally homogenous population with strong ties to country and kin. The Census details an average of 10 people living in each of the 35 houses.<sup>172</sup> However, in such a small population, with the non-Aboriginal managers, teachers and health workers occupying roughly one-fifth of the houses (and depending upon the cultural and seasonal conditions on Census night), official demographic surveys may not objectively reflect the range and diversity of household numbers. For this reason, Anangu organisations undertake regular surveys on behalf of the community that are managed through local health services and housing programs.

Mimili has a very young population, with a median age of 21, and 20 per cent of the population is under 15, including a high proportion of young single men and young women with children. There are also significant numbers of never-married men aged between 15 and 54 years. While married middle-aged people form a small proportion of Mimili's population, a number of very elderly people still live in town. More than 80 per cent speak Aboriginal languages at home, a third follow Australian Aboriginal traditional religion, and the remainder are Christians.

All people live in rented, detached houses, where it appears that funding systems for rent and income tend to support overcrowding due to household incomes increasing when higher proportions of families live in the same house. Most men and women earn less than \$200 per week, but family incomes double to between \$300 and \$399 and household incomes can rise to more than \$2,000 weekly. Employment is more often registered as part time, or not in the labour force. Most women work in health and education, while men are generally labourers, including a small number registered as construction workers.

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<sup>171</sup> On census night, 264 Aboriginal people of whom 15 were visitors and 12 were of a non-Indigenous background

<sup>172</sup> Mimili site visit, November 2006

Several demographic factors are likely to influence design outcomes. These include:

- the need for much greater flexibility in community site planning to allow for new housing models for extended family groups and alternative accommodation for different social groups including single men and single (young) women with children;
- the opportunity for temporary housing and camps including raised and sheltered spaces and outside ablutions and cooking areas; and
- the opportunity to develop a range of prototype houses, such as the 'cluster' model based on a range of house and/or room sizes on enlarged blocks, as possible solutions to accommodate extended families according to preferences for cultural and age separation and to alleviate overcrowding.

## 4.2 Settlement and housing patterns

While Mimili comprises the community settlement and its associated homelands, most recorded information is focused on the town and its services. Its settlement pattern is influenced by the predominant Everard Ranges, which rise from the flat desert plane to form a rocky topography within which Mimili is formed. To a significant extent the Everard Ranges shelter the community from the north-westerly hot winds while allowing in the westerly storm bearing winds, and the problematic cold winter southerlies. This topographic differentiation is also a culturally significant boundary where the hills and rocks and their environs are described as 'no go' zones for development.<sup>173</sup> The overall planning is based on a crescent shape, where community facilities – church, store, office, school, health centre and pool – are sited upon the inner radius and around which arcs housing for the community and service staff. A new TAFE facility and bush tucker garden are at the south-eastern perimeter, and there is a plan for a Rural Transaction Centre (an office and communication centre) adjacent to the store.

An ephemeral watercourse flows through the town from north-west to south-east, and the Mimili precinct is bounded by the main Indulkana–Fregon (east–west) dirt road. The internal roads are generally bituminised to reduce dust and connect housing to facilities and generator and circumscribe the existing town boundary. Future planning proposes new housing development beyond these boundary roads. A popular football oval is located to the north-east just outside the existing serviced town areas, and to the oval's south-east, the new Community Structure Plan has designated a future single men's housing site.<sup>174</sup> This plan also defines key planning criteria, including a 400-metre Walkability Radius from the community centre, which will encourage a reduction in the use of cars and thus noise and dust, and buffers from water bores, sewers and drainage lines. Transient cultural uses of places also need to be mapped in consideration of future development. For example, an area near the football oval site has been used for sorry camp, but in consultation the community confirmed three alternative sites for sorry business, to enable development in this area to be considered.

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<sup>173</sup> Mimili Community Structure Plan No.1, Taylor Burrell Barnett Town Planning and Design in association with Arup, April 2007.

<sup>174</sup> This site has in-principle support from the community subject to further consultation. Source: planning meetings undertaken by Lee and Morris in September and November 2006.

**Figure 4.1: Aerial view of Mimili taken around 2002**



Note: Picture does not show the installation of eight new houses and the new swimming pool.

Source: Community Structure Plan, Taylor Burrell Barnett, 2007

The first houses built at Mimili after 1971 were single room, fibro- or ply-sheeted, steel frame construction with partial concrete block walls, and installed on suspended framed floors. These were located at the extreme westerly end of what is now the community settlement, far from the station house and sheltered by the surrounding hills. Referred to as transitional houses<sup>175</sup>, they were provided by a central funding agency who typically assigned building and planning responsibility to those who had some, often extremely limited, remote area experience. Thus, knowledge and expertise in building and planning in remote and arid conditions was lacking in much early and ongoing development. Subsequent development during the 1980s and 1990s was steel frame and steel clad construction on concrete slab; this was superseded by standardised three-bedroom houses incorporating improvements such as wider peripheral verandahs, cement sheet interior lining, larger bedrooms and evaporative cooling systems.

Mimili today has 35 houses occupied by Anangu and seven houses occupied by non-Aboriginal service personnel. The 2007 Community Structure Plan<sup>176</sup> designates seven new or proposed house allotments as well as future housing development zones on the outer fringes of the community to the south and west, closer to the main road and at the margins of the sheltering hills. The provision of new houses is often conditional upon the removal of earlier single room 'fibro' or asbestos cement sheet houses to improve the overall condition of housing stock in the community. New housing is planned along existing standardised layouts, although new cluster planning models are being investigated.<sup>177</sup>

Limitations placed on planning are influenced by infrastructure considerations such as *ad hoc* planning in the past and the location of existing power and water reticulation grid lines, where proposed development 'off the grid' is discouraged due to cost considerations.

<sup>175</sup> Transitional houses were an attempt to provide a transition from nomadic to mainstream culture.

<sup>176</sup> Mimili Community Structure Plan, Taylor Burrell Barnett, 2007.

<sup>177</sup> Personal communication, architect with AAS, February 2007.



General implications for planning and housing design include the following:

- Prior to any new development, the history of development needs to be taken into account, to ensure that past mistakes are not repeated and that decisions are made in relation to future limits to resources and opportunities for expansion.
- Expanded development to areas outside existing topographical and environmental shelter belts requires the increased ability of housing to respond to harsh desert situations, including a combination of architectural devices and landscape treatments to mitigate such adverse conditions.
- Family associations need to be confirmed in relation to the community layout to ensure that cultural and kin relationships are provided for in housing allocation and space planning,
- Alternative power and water delivery systems need to be developed, to promote an ecological systems approach to minimise infrastructure costs and effectively reduce everyday usage in houses.
- Transient cultural sites in and around the community need to be confirmed, along with other community concerns, such as family relationships, that may affect the negotiation of new development.

## **4.3 Housing in Mimili**

### *4.3.1 Policy and funding environment*

In 2007, the main agency responsible for housing funding allocation is the South Australian State Government Department of Families and Communities (DFC) through the Aboriginal Asset Services (AAS) section of Housing SA. The process for determining housing need in Mimili is undertaken by the community through the formulation of annual priorities submitted to the central APY Council for prioritisation of need assessed against the other communities in the APY Lands. New houses, and repairs to and maintenance of existing housing, have in the past been provided through the previous State government Aboriginal Housing Authority (AHA) and also through the former federally funded NAHS and CHIP schemes, often managed by external project managers. Specialised housing for educational and health services staff is usually funded through individual communities, government departments or Anangu organisations applying for federal grants for housing and community buildings.

Since 2003, Mimili has been provided with funding for 13 houses through AHA and NAHS funding, which saw the completion of these houses over 2004, 2005 and 2006. Since 2004, however, there has been no new allocation of housing funds. Each three-bedroom house is budgeted to cost approximately \$280,000 including minimal site works to enable connection to services and yard fencing. However, it was suggested by knowledgeable contractors that the real cost per house is now more in the region of \$400,000 to \$450,000 due to increased labour costs and high demand for housing in a market with few experienced builders, trades shortages and high fuel prices. No two- or four-bedroom houses have been constructed in Mimili over the past five years.<sup>178</sup> The rationale for building only three-bedroom houses despite a range of housing requirements for the elderly and for larger families remains unclear.

The APY Council officially manages housing provision and, once completed, own the houses on the APY Lands. The service provider for planning and services for all

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<sup>178</sup> Personal communication, architects with AP Services, September 2006, May 2007.



housing is AP Services (based at Umuwa), which is managed by people with architectural and 'on-the-ground' expertise.

#### *4.3.2 Design approaches*

Recent and current design approaches to Aboriginal housing at Mimili, and on the APY Lands in general, have been developed and managed by AHA and AAS through Housing SA acting as principal designers. On the other hand, non-Indigenous housing provision for Nganampa Health and TAFE and DAIS educational facilities have involved purpose-built architectural design by a number of locally experienced architectural practitioners and researchers such as Paul Pholeros, Troppo and Grieve Gillett. Housing development on the APY Lands for staff and services personnel includes new planning and prefabrication construction methods, innovative architectural detailing and integrated transportation methods, but to date these innovations have not been extended to Aboriginal housing. Where project management has been required it has been provided either in-house by AAS or through external consultants Parsons Brinckerhoff for NAHS projects.

Development and planning on the APY Lands is now managed by APY Services, who evaluate proposals against a series of guidelines for development applications published by the State government. These guidelines require extensive consultation with a number of agencies and the community, and any proposals are checked against agreed community needs. In the early days, houses were located in a variety of places according to cultural and or environmental issues, usually influenced by early settlement patterns. Currently, services reticulation and town planning regimes have become the siting determinants. Such planning economy often results in the inappropriate siting of houses and facilities contrary to Aboriginal cultural preferences, contributing to social problems and resulting housing dysfunction.

As housing plans come from a stock of standardised 'designs' that have been developed as variations of a standard three-bedroom layout, many on the APY Lands consider that design processes aimed at culturally determined housing are non-existent. Budgets are calculated on bedroom numbers, so the imperative is to provide a maximum/optimal number of bedrooms under one roof. Recent design alterations to existing internal planning are evident in response to observations of multiple families living in houses intended for nuclear families, with trends towards larger bedrooms, minimum corridor space (achieved through using living areas as corridors) and separated bathrooms (in accordance with the National Indigenous Housing Guide), all enclosed in the same basic footprint.

Until recently, the most common new house types were supplied following a government tender process, by the prefabrication building company Nomadic Industries, whose kit houses were assembled on site by local building companies. Currently, standardised AHA/AAS house design and documentation projects have been custom-built by local contractors such as Pimba Building Contractors and Chapman's Building Industries, who are awarded a tender for a package of houses based on cyclical State government tender processes. Because of cost constraints, alternative design options in response to remote area and arid requirements – such as heavy-duty fittings, insulating materials and details, and quality fixtures – are regarded as extra cost and precluded from tender, with the result that the houses are becoming less robust and susceptible to higher ongoing maintenance costs. Currently houses are modular, prefabricated, steel-framed construction on concrete slab, with fibre cement sheet interior walls replacing steel interior cladding.

Anangu have little direct involvement in current (and past) consultation and planning processes,<sup>179</sup> and housing agencies have had difficulty in ascertaining the desires and needs of housing recipients due to limited and poorly focused consultation over the years. Despite the availability of clearly defined consultation methods for determining housing needs, in reality such methods are rarely employed due to a range of issues including:

- availability or representation of all parties;
- timelines and budget schedules precluding sufficient time for onsite meetings; and
- cultural and language differences.

The identified housing priorities include, in order:

- people with no housing and identified as awaiting housing;
- length of the time on the waiting list;
- house usage and condition;
- (for homelands) the need for casual, semi-permanent or permanent occupation; and
- (for upgrades on existing houses) the extent of work required based on schedules for refitting, room additions, or wet area improvements.

Recent AAS tender packages have included a requirement that builders employ local labour. Supported by allowances through CDEP, the aim is improved education and skills training, so younger men can stay and work in the community. This is challenging for builders working on tight profit margins, due to small numbers of locals, an unsustainable supply of projects and the cultural and social priorities of young men. However, the 'solution' of housing prefabrication and the transportation to site of already complete houses provides little opportunity for community involvement in the construction process, or for the community to learn skills. With the recent completion of a TAFE facility in Mimili, a training program for household repairs and maintenance and general carpentry will enable local skills to be made available for future building projects. However, building licensing regulations are very restrictive in providing licensed employment for simple building projects that require the input of semi-skilled labour.

The essential need in remote area housing is to specify appropriate and robust materials and hardware. However, standardised materials and fittings are selected usually for cost effectiveness and ease of maintenance. Maintenance coordinators confirm that housing needs to be 'bullet proof' or very solidly built. They recommend a simple observation-based post-occupancy evaluation of the suitability of hardware, materials and services in houses informed by an understanding of particular cultural living requirements.<sup>180</sup> In many instances, houses and fixtures have failed because they have been poorly designed, specified and built. Anangu encounter difficulties with an inappropriate product with one outcome being that houses appear poorly maintained. Although a Fixing Houses for Better Health project is scheduled for Mimili in 2007, repairs and maintenance and tenancy agreements on the APY lands have operated under a housing management system for the past 10 years. This system promotes a regional concept for maintenance dealing with the principle of economies of scale through using contract plumbers/electricians in a cycle of 21-day shifts across the APY Lands. The system is managed through a combination of paper-based job

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<sup>179</sup> Lee, G and Morris, D (2005) *op. cit.*

<sup>180</sup> Interview with APY Lands housing maintenance coordinator, January 2007

sheets for each house that can be manually updated more effectively in the field than computer-based systems. This information is then recorded in a database for the APY Lands.

The recent publication of the Mimili Community Structure Plan No 1 is the latest framework under which the managed development of Mimili will proceed over the next 5 to 10 years. Released in April 2007, the Plan provides a detailed summary of existing physical conditions and sets out the strategic direction of development control for Mimili. Although an important document for the community, it also enshrines certain past practices such as recommended setbacks for houses on blocks, which implies a continuation of the status quo.<sup>181</sup>

Aspects influencing new housing design outcomes include the following:

- Opportunities for new architectural housing models for Aboriginal people may be sourced from schemes currently developed for services personnel, which enables more design input into the formulation and procurement of new housing types.
- Alternative housing design options need to be modelled, preferably at full scale as prototypes in situ before both Anangu and project managers can effectively evaluate alternative proposals.
- A range of housing options linked to development planning procedures informed by community consultation is required to meet the cultural needs of various family and gender groups.
- Development of innovative and architecturally designed prefabricated building systems will allow unskilled or generally skilled local involvement to meet Anangu community development aspirations.
- The development of a database, based on essential post-occupancy evaluation reporting, to inform future planning, design, detailing, materials and construction techniques for remote area arid environments could usefully supplement the NIHG and the APY Lands maintenance database.
- It is essential for housing design outcomes to facilitate both asset management and health services requirements.

## **4.4 The housing experience in Mimili**

### *4.4.1 The cultural context*

In discussions with community members and housing providers working on the APY Lands it is apparent that there is general support from Anangu to develop alternative design models to existing housing that are culturally and environmentally responsive. What has been missing from recent development in Mimili is research into family groupings, social structures and modes of living that affect how people use dwelling spaces. Pitjantjatjara and Yankunytjatjara societies, like all other traditional Aboriginal societies in Australia, are structured and divided into sections, or moieties, and sub-sections of moieties. All cultural activities are performed with reference to these moieties. While the structure and relationships between these groups are diverse and complex, there is a major and basic division of society by generational groups. This has great relevance to the design of Aboriginal living environments.

There are basically two generational groups within what is traditionally a family-centric culture, and loyalties are primarily to family members and not to a community structure. Within those extended families, generational divisions separate one part of

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<sup>181</sup> Taylor Burrell Barnett Town Planning and Design (2007) *op. cit.*, p. 31

the social and physical family fabric from another. These divisions pervade all relationships between extended family members. All members of Anangu society belong to one or other of these generational groups, with members of one's own group consisting of self, brothers, brothers-in-law, grandfathers and grandsons, while the other group consists of fathers, fathers-in-law, sons, sons-in-law uncles, and nephews.<sup>182</sup> This also applies equally to female relationships.

These fundamental divisions apply to all facets of community and family living environments and inform cultural and spatial relationships that traditionally structure all dwelling, ceremonial, community and camp arrangements. This structure determines avoidance laws, which are culturally prescribed rules governing behavioural relations among kin, which when broken can create stress and conflict. In existing housing design, these important divisions are not facilitated by existing planning arrangements of closely sited houses or closely sited bedrooms with the consequential outcome of a contribution to family disruption.

#### *4.4.2 Overcrowding*

Family relationships extend across the APY Lands and into Western Australia and the Northern Territory, resulting in a mobile population driven by seasonal and cultural events and extended kin responsibilities. Based upon 2001 Census records, Mimili averages 10 Anangu living in each of the 35 houses, yet informal interviews with community members reveal many more people in some houses. Community surveys confirm that influxes of people come to Mimili for cultural and social business, particularly football, and that the number of people per Anangu house may rise to between 13 and 23.

With regard to issues of overcrowding in standardised housing, experienced housing and maintenance providers suggest that it is essential not to focus on generalised numbers but rather to consider family groups who need a house with particular qualities. Their advice is to look beyond the number of people to be accommodated, and focus on important cultural issues such as moiety, age and gender relationships. For example, discrete sleeping areas and individual lock-up spaces should be planned in conjunction with an understanding of avoidance and security issues.

#### *4.4.3 Settlement planning and siting of houses*

Our research has identified a number of points that inform design planning:

- In general, while Anangu will pragmatically adapt to what is provided, good design for remote arid areas should aim to: keep people out of the rain, wind and heat; provide areas for ablutions and cooking and extended visitor groups; and promote healthy living practices.
- As purpose-built facilities may be taken over by other needs and community agendas beyond what is nominally planned, they must be designed to flexibly accommodate changing uses. For example, as the proposed single men's housing may be used for other purposes at some time, it is important to identify all possible uses during the planning process.
- Anangu are interested in a diversity of house types even though in public they request big houses with many bedrooms and a large fenced yard. In reality, a smaller house is often preferred (especially by the women) as increased responsibilities come with bigger houses. For example, if more people are

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<sup>182</sup> Tregenza, J., Day, A. and Pholeros. P. (2005) *Feasibility of a Low Level Security Correctional Facility for Traditional Aboriginal Offenders - APY Lands*, Report for the Department for Correctional Services SA.

accommodated, then household expenses rise, as food must be shared by all. Smaller houses are also easier to clean. Yards designed in relation to egress from rooms maximise usable outdoor areas to assist in managing large family groups and temporary inhabitants.

- Providing large roof areas enables larger verandahs and outside living spaces that accommodate more people than implied by standard house size and internal space planning. However, desert design principles suggest that minimising roof area and sun exposure reduces heat loading, and that clustering buildings and providing summer shading and winter sun to walls creates microclimates that alleviate temperature extremes. New housing requires design solutions that mediate technical and social requirements through innovative planning, siting and detailing.
- Every community has one or two extremely large families. The cluster concept is a design option where separate family groupings can be accommodated on the same block but in different buildings. Such groupings include separate living spaces for grandparents, mother and father, young man/wife and children, very young children with very young (single) parents, and groups of young men and girls.

#### *4.4.4 Siting, planning and detailing of housing, interiors and yards*

A review of typical housing plans in Mimili, such as those built in early 2005 through the NAHS funding program (see Figure 4.2), illustrates how houses and their immediate environments operate environmentally and culturally. However, changing living patterns result in diverse and complex family and generational relationships that affect the ways in which people use houses.<sup>183</sup>

#### **Suitability of external spaces and the need for a perimeter fence**

'Everybody lives under the verandahs and the cooking is mostly done outside.'<sup>184</sup> The long verandah around the entire house, especially when wide and facing north, allows most people to sleep outside in summer and sit in the winter sun. Furnished living spaces on the verandah, where beds are placed in the exposed corner, allow viewing and surveillance of the street and town; other beds are similarly strategically spaced around the verandah perimeter. Although some verandahs are still dirt or concrete slab on ground, raised verandah floors are preferred for safety, and bed frames are used as protection from snakes. A solution to prevent dust being brought inside through flooring, doors and windows is needed.

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<sup>183</sup> These observations and recommendations are based on conversations and two site visits made with a number of Anangu and experienced contractors and consultants in the APY Lands and Mimili during late 2006 and early 2007.

<sup>184</sup> Group discussion, Mimili, November 2006.



pit. Cooking is generally regarded as women's work and men usually only microwave inside or cook kangaroo tails in external fire pits.

Small stoves are ineffective in inside kitchens as households only have a limited range of utensils and pots and many people to feed. An overall community management and store issue is to provide the right combination of equipment/fittings and utensils alongside training in living skills. The ability to store, prepare and cook using conventional upright gas stoves is problematic; the gas trivets are lost and/or are hard to clean, and the trays are used for outside cooking. Plans to trial a small wall stove unit convection oven with burners on the bench top and a microwave oven should ensure a supply of easily maintained cooking facilities.<sup>187</sup> Another (national) project involves designing a kitchen core with fit-out complete and tradespeople only required to install core component(s).<sup>188</sup>

Most Anangu are entertainers at home, with multiple cooking events and the need for large stoves. They buy their food daily, not weekly, as the relatives will eat the weekly food if it is in the fridge. The major issue is that the typical house has one stove but cultural needs result in the possibility of up to five separate cooks in a house; designing for two smaller small cooking areas is an option. Cupboard spaces in kitchens have open shelves, which, while allowing ventilation and ease of cleaning, also provide for mice to breed. The inclusion of doors with robust fittings is one solution, although it requires new cleaning regimes to be undertaken. Stainless steel benches are preferred for longevity and ease of maintenance. Inside stoves are often used for heating, as new wood fires require wood to be chain sawed into pieces small enough for the firebox; usually, such equipment is not readily available.

### **Suitability of bathroom/wet spaces**

More open, spacious bathrooms can be hosed out. Outside wet areas are culturally sensitive as there is insufficient privacy and security; however, entries to toilets are preferred outside the house. Important planning issues include privacy of access so people cannot be seen walking in and out of bathrooms into highly used public areas.

Bathrooms cause humidity and mite breeding, so it is essential to provide well sealed/glued sheet finishes and adequate wall waterproofing and floor drainage alongside adequate ventilation and appropriate window sizes. Disabled access and fittings in bathrooms are mandatory, as many people have disabilities and/or are aged.<sup>189</sup>

Standard house design requires a good standard core with a standard kit of parts to reduce the need for a high trade component. The design of a core bathroom with shower, laundry, toilet, trialled in the factory before installation on site is currently in development through a national design research program.<sup>190</sup>

### **Suitability of storage facilities**

Important lock-up areas outside the house need cement floors and dead bolts to securely house valuables or to make a new room. Pantries and other cupboards need appropriate locking mechanisms for food security. Conversely, walk-in storage rooms collect rubbish and locked doors often mean lost keys and therefore damage or disuse. Large built-in storage cupboards in each bedroom assist security and storage

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<sup>187</sup> Pers comm. APY Lands Maintenance Contractor, February, 2007.

<sup>188</sup> Pers comm. Paul Pholeros, Umuwa, November, 2006.

<sup>189</sup> Pers comm. APY Lands Maintenance Contractor, February, 2007.

<sup>190</sup> Pers comm. Paul Pholeros, Umuwa, November, 2006.

issues but may reinforce the idea that bedrooms are the lock-ups for a number of family groups within the one house.

### **Suitability of sleeping areas**

Earlier house designs included big open lounges and kitchens, but because all personal goods are actually kept in the bedroom, these become the microcosmic house – a house inside a house, where fridges, bikes and stereos are all kept. Now, houses are designed with bedrooms and smaller living rooms within the same building envelope, as family groups all in the same house will occupy a single room for security and storage; but this means that men and women, young and old all live in the same confined space. However, in current houses the living room has become everyone's space and is an unusable thoroughfare connection to all other rooms.

### **Suitability of construction for noise, heat and light**

When planning for heating and cooling, designers need to realise that in the heat of the day people go inside, but most time is spent living outside including at night around the fire, and heating is most usually needed in the early morning. The predominance of cooling systems is exacerbated in existing houses where thermal bridging across steel frames and cladding counters insulation. The weather does not cool down in summer evenings for two months, and sleeping will occur either inside where air cooling is available or outside on the verandah off the ground. Although verandahs are a good width for swag layouts and access, the absence of verandah shading to west walls in recent houses, together with evaporative cooling mounted on the exposed west wall affords little summer shade protection and consequently hotter houses and greater recurrent costs.

Cultural issues can be exacerbated with poorly planned systems where, if only one room is cooled and everyone is crowded into this space, illness and trouble can arise. Planning for cool verandahs and shade shelters alleviates this issue.

The selection of floor coverings is a maintenance and comfort issue; the earlier houses have painted (and now peeling) concrete floors, whereas local preference is for sheet vinyl or linoleum and carpet. However, carpet is highly problematic and contrary to the SA State Government Ministers' Specification as health problems are exacerbated through mite breeding and dust.

Aspects that influence new design outcomes include the following:

- Cultural distinctions must be accommodated if housing planning is to be culturally appropriate. Housing designers and providers need to expand their thinking beyond the one-generational, nuclear family.
- The ubiquitous provision of three bedroom houses on contiguous quarter acre blocks does not accommodate the kinds of separation that facilitate cultural well-being between houses and within houses, and nor does it encourage environmental well-being through the development of local stable microclimates.
- To facilitate extended family groupings, increasing separation between yards with similar-sized blocks could be facilitated by planning for every alternative block as vacant, treed and landscaped to visually separate one house from another and to improve the environmental amenity of the community.
- Dwellings designed for Anangu should contain enough separated living and socialising spaces such as verandahs, yards and living rooms for people in avoidance relationships to occupy the same building without creating stressful situations and to alleviate overcrowding.



- The interior of the house is often not the main living space, and so the housing design should be expanded to encompass external verandah areas and yards, to maximise usable living space.
- Kitchens, bathrooms and wet areas should be designed in response to cultural and privacy requirements and to facilitate a number of different family groups and varying household sizes. Communal facilities for cooking and ablutions can be programmed for use at different times if bedrooms and other living arrangements can be isolated from groups using communal spaces.
- A greater requirement for passive and ecologically sustainable planning, orientation and building systems should be included in development applications.
- A number of natural heating systems are available that use solar and air-based systems, and these used in conjunction with alternative glazing and window treatments should be trialled to enable more passive and cost-effective heating (and cooling).

#### **4.5 Barriers to improving settlement planning and housing**

There are several barriers to the improvement of housing and infrastructure. However, these are generally generated from outside the Mimili community. These include: (i) standardised housing sizes to accommodate a diverse number of family groups and extended visitor groups; (ii) a lack of a housing database and post-occupancy evaluation to support funding and maintenance systems; (iii) loss of cultural and practical 'corporate' knowledge and an influx of inexperienced managers; (iv) pressure on technical and environmental systems; and (v) a lack of trained contractors, training programs and local expertise to build and maintain housing.

Service provider management and the ability to meet need are influenced by the historical lack of systems that enable past history regarding community and housing consultation and agreements to be retrieved. This lack of data affects decision-making processes regarding funding for new housing and/or for special housing projects; for example, the Mimili community has been requesting alternative accommodation for single men for many years through many avenues. Increasingly, external bureaucracies rather than Anangu are responsible for the delivery of basic services. Increasing and inefficient requirements for external reporting together with a lack of development of Anangu community-based input in these areas, has not brought visible commensurate improvement in outcomes despite the influx of external expertise, which is often lacking necessary on-the-ground expertise.<sup>191</sup>

The community faces serious challenges with ongoing water supplies and the cost of energy supplied through diesel generator, although a currently inoperable solar farm system intended to supplement power generation is being trialled on the APY Lands. As the APY Lands are 'out of council' a number of environmental conservation systems, such as water management, do not apply or are not legislated. For example, grey water management is not seen as viable. Specific infrastructure issues affecting Mimili's sustainability involves affordable and reliable power generation and water supply, requiring the need for expanded bore drilling and sewerage reticulation from septic tanks and central storage ponds, although recently Mimili has developed a grey water reticulation system. The diesel generators that power the community are kept running constantly, at great economic cost to the community. Evaporative cooling needs in summer come at great cost to the water supply. And with the development of more infrastructure, including housing designed for more urban and temperate climate conditions, sustainable energy and maintenance systems are increasingly challenged.

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<sup>191</sup> Pers comm. APY Lands maintenance contractor, January, 2007

The APY Council and AAS are developing strategies to link Anangu employment opportunities to housing provision. However, transportable building systems, while more efficient in terms of delivery and installation times, reduce the ability for Anangu, specifically younger men, to gain building skills during on-site construction. This results in a lack of skills across the APY Lands due to insufficient and ongoing work to sustain training programs where people can work on building their own homes and facilities in the communities. For example, houses built on concrete slabs to ensure thermal mass is achieved for insulation exclude the need for local labour. An experienced maintenance contractor has questioned whether more innovative approaches to lightweight construction using improved insulation systems could be designed, thus allowing unskilled labour to be used to construct more lightweight subfloor framing and modular kit houses.

Retaining young men's interest in building systems is difficult; if only menial and repetitive work is undertaken, then it is likely that their involvement will fade away due to a lack of engagement and other competing priorities. Consideration should be given to designing building systems that work for unskilled labour to provide simple projects and a variety of achievable tasks – for example, houses with cladding panel modules that two people can lift and install through general labour and minimal building skills. Basic building certificate requirements and increasingly stringent occupational health and safety and risk management regimes are precluding unskilled Anangu from undertaking general repairs and maintenance, with a corresponding lack of skills development on the APY Lands.

Streamlining planning processes, where development plans are delivered without sufficient consultation and negotiation is enabling faster outcomes through these truncated processes, makes achieving good outcomes difficult. Responsive and informed planning is required on the APY Lands. The development of localised guidelines specific to each community or region could assist improvements in effective and sustainable planning informed by local knowledge.<sup>192</sup>

Additionally, repairs and maintenance are covered by the rent deducted from salaries; however, this income does not cover the actual costs of ongoing external contractor programs. Building services on the APY Lands are approximately double the cost of similar services in other regional areas. And the lack of effective POE used to inform new design and specifications for improved technologies sees ongoing mistakes and shortcomings reinforced by external tendering systems charged with achieving minimum standards.

## **4.6 Towards solutions**

In the context of the whole APY Lands, most initiatives in housing have been trialled through health and education services in designing houses for service providers and single workers. For Aboriginal people, a range of special needs accommodation units, such as aged care facilities, have been built across the APY Lands, with varying degrees of success due to a lack of consultation regarding siting and the cultural needs of aged people.

The best example, at Pukatja, has been planned to take into account cultural kinship and avoidance requirements, alongside providing a safe and healthy environment attuned to the surrounding country. Historically, design innovation is promoted and funded in areas beyond the official housing providers, although recent developments in the government agency suggests a responsive agenda to developing different

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<sup>192</sup> APY Services Housing Services Officer, November, 2006

models, with support for cluster housing development and the development of single men's housing at Mimili as a potential prototype for the APY Lands.<sup>193</sup>

The national Fixing Houses for Better Health program is in operation across the APY Lands, and Mimili will be surveyed in 2007. This program is bringing ongoing improvements to housing maintenance and community knowledge about their houses. Dust mitigation, water management and landscaping projects through ongoing development of mounding in communities continue to improve the long-term environmental conditions in many communities.<sup>194</sup>

## 4.7 Future prospects

The single men's housing project at Mimili is a practical example of a community facilitated design and building process that seeks to improve housing on the APY Lands. Additionally, this project is structured through a process that involves both a traditional linear architectural service that develops from brief formulation to concept design, design development and documentation to implementation, supplemented by Lee and Morris' protocols for consultation.

### 4.7.1 *Alternative accommodation models*

In current three-bedroom housing regimes, the traditional separation of single men from the main family groupings is not provided for. Single men were once typically spatially separated on the outskirts of the community, and within that removal, the sons that came from one generational division were separated from the sons from another in the same facility. In support of single men's housing for Mimili, community elders have stressed the importance of single men having their own place where they can develop independent skills away from their immediate family group. An important aspect of the single men's project is a consultation protocol required by the APY Council Chairman and the Mimili Community to work alongside (as friends) with a community appointed *malpa* throughout the project in consultation, design, design development and construction stages.

Another project requirement is to provide education and training opportunities through the project, as the people are interested to learn how things are done. It is also essential that the consultant remain aware that all knowledge and information gained from the community remains the property of Anangu.

An example of the design process to develop single men's cluster-type housing based along cultural and environmental principles is examined below. The two sketches in Figure 4.3 are records of the initial concept design meetings with single men in the community which identified desired spatial layouts for separate bedroom units circled around a central cooking and living facility, a separate washhouse and a number of external fire pits.

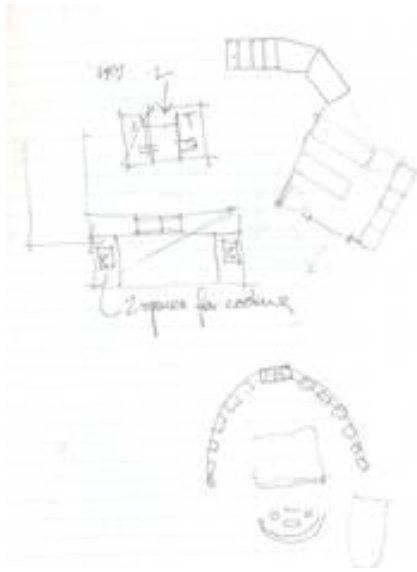
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<sup>193</sup> Discussions with AAS, South Australia, 2006

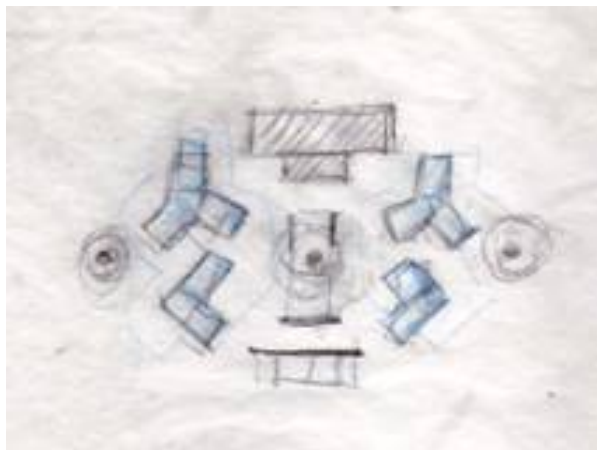
<sup>194</sup> Interview with water management consultant, March 2007

**Figure 4.3: Initial concept designs**

***Single men's idea with bedrooms circled around the central communal space***



***Developed sketch design of (preferred) Option 4 – inner communal space with 4 x 5-bedroom units***



From the meetings on site, particular issues for the Mimili single men's housing have been identified and include the following:

- Planning needs to allow for privacy between clan groups. The project will contain: four separate buildings, each with communal bedrooms for two to house up to 20 single men, an ablutions block separate from the bedrooms to include showers, laundry and toilets isolated for privacy, and a central common room and living space consisting of a kitchen, living room for television, music and general relaxation, and associated covered areas that can accommodate expansion during sporting events. Extensive verandahs designed to all buildings.
- Communal fire pits associated with the bedroom units and common room, with outdoor seating areas for cooking and meetings allows maximum options for communal and private fire pits and levels of avoidance.
- The desire is to weave the facility in and around the existing trees alongside growing new ones for protection from summer conditions. The need for shade was universally confirmed. Landscape treatments to assist the separation of houses and thresholds are preferred.

- Fencing to the perimeter of the site and site works to include space for fixing cars, establishing a small produce garden and associated landscape works including tree planting.
- A plan to have an area where elders can live in to provide education and guidance in living skills and behaviour management. As there will be gatherings of large numbers during football season and at other times, the facility will need to be managed spatially and socially for an influx of men for events.

#### 4.7.2 Summary of findings to support the development of a design framework

Drawing upon the issues summarised in the preceding sections, four key aspects that inform a process for designing and managing housing environments for Mimili arise:

- *Cultural considerations*: spatial planning for town and domestic living arrangements should be designed based upon knowledge of family and community relationships. Such relationships are very localised but also have a regional perspective due to the high degree of mobility of many people across the APY Lands.
- *Environmental considerations*: the combined knowledge of country, the local environment and its resources should form the basis of any planning for and management of housing. This local information is held by many Anangu, service providers and consultants and has been collected over many years.
- *Technical considerations*: based on POE research and documentation drawn from Mimili and across remote arid regions, knowledge of the life cycle of housing, other facilities and infrastructure should be used to inform future development.
- *Project management considerations*: co-ordination of design and construction methods should be built on analysis of successful and workable precedents, through a combination of national and regional standardised systems mediated by local requirements.

The key to ensuring that Anangu housing is formulated and delivered to provide improved outcomes involves a consultative and collaborative approach to design and construction between the local community, service providers and experienced consultants and contractors. This approach is informed by the evaluation of POE data and on the ground site and cultural analysis to support the development of a portfolio of cultural and technical design exemplars for remote, arid regions.

## 5 SYNTHESIS OF PATTERNS AND ISSUES

### 5.1 Introduction

Mimili, Maningrida and Palm Island are all remote Indigenous settlements. However, as seen in the previous three chapters, they are culturally and environmentally distinct, and home to three very different communities. Coming from such diverse landscapes in such widely distant parts of Australia, the people of Mimili, Maningrida and Palm Island represent diverse language groups, cultural beliefs and practices, 'contact histories', and patterns of response to changing social, political and economic conditions. The historical origins of the three settlements are quite different also – a pastoral workers' settlement (Mimili), a missionary and trading post consolidated into a township to progress assimilation (Maningrida), and a penal settlement for exile and punishment (Palm Island). Each of these histories plays a significant role in shaping the patterns of similarity and diversity of language groups in each settlement, of attachments to 'country', of levels of cultural continuity, and of the changing social mores that influence responses to housing needs and aspirations.

However, despite these differences, the communities of Mimili, Maningrida and Palm Island share many similar housing problems, due to their common experiences of: remoteness; lack of local education, training and employment opportunities; and a legacy of chronic under-funding for infrastructure and services. Most significantly, the settlement planning and house plans in the three communities mostly fail to meet the most basic of responses to Australian Indigenous culture. The resultant cultural dislocation, together with severe overcrowding and irregular maintenance, means that the condition and appropriateness of housing stocks are not conducive to the health, social well-being and other non-shelter outcomes possible from better housing. Indeed, the housing and health staff interviewed in all three case study communities recognised that housing, health and social well-being were mutually interdependent. They saw well-designed housing, along with water, sanitation and access to services, as a vital dimension of the infrastructure necessary for a healthy community. For example, in relation to health, overcrowded, inappropriate housing, inadequate water supplies and poor sanitation are the root causes of the high prevalence of diseases, such as hepatitis B, gastroenteritis, scabies, trachoma and upper respiratory tract infections, in remote Indigenous communities.<sup>195</sup>

The patterns of similarity and difference found in Mimili, Maningrida and Palm Island are described in this chapter. Although some positive patterns are identified, for the most part these patterns reflect significant liveability problems related to a lack of concern for core cultural issues, inappropriate settlement planning, the lack of liveability of internal and external spaces, and the ineffective management of the housing process. These problems are often the result of neglecting the principles of design practice that underpinned the draft Design Framework outlined in the Positioning Paper and summarised in Chapter 1. This chapter uses the lens of these principles to analyse the patterns of housing issues in the three case study communities and to revise the draft Design Framework as the basis of recommendations for improving the procurement, design, construction, management – and ultimately, the liveability – of houses in remote Indigenous communities in Australia.

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<sup>195</sup> See also Bailie (2007) *op. cit.*; Steering Committee for the Review of Government Service Provision (2005) *Overcoming Indigenous Disadvantage: Key Indicators 2005*, Productivity Commission, Canberra, Chapter 10.

## 5.2 Culture and housing

On the surface, sensitivity to culturally based conceptions of space and shelter in the design of remote Indigenous housing may seem at odds with the stated policy goal of reducing the unit cost for delivering appropriate Indigenous housing and of 'working with private companies to develop suitable low cost housing options'.<sup>196</sup> However, as reported in Chapter 1, the vision, objectives and principles underpinning Building a Better Future emphasise the need for houses to be responsive to Indigenous culture. This includes the consideration of issues such as: location, orientation and other environmental factors, cultural beliefs and traditions, family and household patterns, and the special needs of people at different life stages. Indeed, policy makers as well as anthropologists and architects have consistently argued that settlement planning, house siting and house design need to reflect Indigenous people's conceptions of, and use of, space.<sup>197</sup>

This section provides a review of general issues of culture and housing suitability as a background to the more detailed analyses in later sections of this chapter. Anthropological studies indicate that Indigenous Australian families traditionally perceive and use housing as a shelter around which they conduct the business of living.<sup>198</sup> This contrasts with the Western notion of a house as a 'home' inside which almost all domiciliary actions take place. However, in Mimili, Maningrida and Palm Island, it is very clear that the Northern Territory Department of Health and Community Services was correct when it noted that:

Aboriginal community townships have usually been developed along the lines of any small rural Australian town, i.e. rows of three bedroom houses, built on quarter acre blocks .... This traditional solution is based on:

- a nuclear family residential model
- the need for separation and privacy from neighbours
- economy of service provision ... [leading to] spacing houses close together.<sup>199</sup>

Yet, despite displaying a great diversity of cultural aspirations and practices, Indigenous communities shape their use of space and shelter to mediate social interactions and respond to specific geographic conditions.<sup>200</sup> This has led to a preference for both 'informal and fluid living arrangements' in relation to housing design and layout as well as a need for responsiveness to the need for warmth in

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<sup>196</sup> See Chapter 1, Footnote 24.

<sup>197</sup> See, for example, Commonwealth, State and Territory Housing Ministers' Working Group on Indigenous Housing (1999) *op. cit.*; Housing Ministers Advisory Council (2001) *op. cit.*; and Memmott, P. and Chambers, C. (eds) (2003) *Take 2: Housing Design in Indigenous Australia*, Royal Australian Institute of Architects, Canberra.

<sup>198</sup> See summaries of this research in, for example, Ross, H. (1987) *Just for Living; Aboriginal Perceptions of Housing in Northwest Australia*, Aboriginal Studies Press, Canberra; Read, P. (2000) *Settlement: A History of Australian Indigenous Housing*, Aboriginal Studies Press, Canberra; Neutze, M. (2000) Housing For Indigenous Australians, *Housing Studies*, 15(4), pp 485–504; Memmott and Chambers (2003) *op. cit.* and Long, Memmott and Seelig (2007) *op. cit.*, Chapter 5.7.1.

<sup>199</sup> Northern Territory Department of Health and Community Services (2002) *The Public Health Bush Book*. Online at [http://www.nt.gov.au/health/healthdev/health\\_promotion/bushbook/bushbook\\_toc.shtml](http://www.nt.gov.au/health/healthdev/health_promotion/bushbook/bushbook_toc.shtml) (accessed 14 April 2006).

<sup>200</sup> See, for example, Moran, M. (1999) *Improved Settlement Planning and Environmental Health in Remote Aboriginal Communities*, Centre for Appropriate Technology, Alice Springs; Memmott, P. and Moran, M. (2001) *Indigenous Settlements of Australia*, Environment Australia [Technical Papers], Canberra. Available online at <http://www.ea.gov.au/soe/techpapers/indigenous/introduction.html> (accessed 23 June 2006).

winter and shelter from the sun in summer, shade, air circulation, preferred locations for fire and cooking places, sanitation and storage. Reinforcing Moran's conclusion that 'This is far removed from the fixed and controlled environments of sub-division allotments in community townships',<sup>201</sup> Lee and Morris extend the scope of the importance of an appropriate design framework for Indigenous housing to also include cultural sustainability – which they argue is 'likely to be compromised by inappropriate and standardised built environments'.<sup>202</sup>

Further, Long, Memmott and Seelig note that:

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.<sup>203</sup>

This almost universal specification of three- (or two- or four-) bedroom family houses in the three case study communities (apart from the notable exceptions of houses in several Maningrida outstations) is generally meeting neither the personal, cultural nor functional needs of many Indigenous families. This lack of cultural consideration in design contributes to health and education problems, family instability and community breakdown, especially when cultural beliefs and practices such as the importance of the extended family, avoidance relationships, individual and family mobility, and reciprocal obligations between individuals, families or larger groups. When added to existing patterns of housing shortage, overcrowding and maintenance backlogs, and the importance of housing to health and well-being are also considered, this lack of even minimal consideration of cultural factors is a major problem.

## 5.3 Settlement planning

### 5.3.1 Overall settlement patterns

Community views on the characteristics of preferred housing locations were summed up well by two residents of Palm Island, who said:

Yeah, it's close to the store and close to the hospital. Sunday, I can go to church. It's very close to everything.

Yeah, we like the location as we can sit down and think about things and relax. It's a nice area – really like it. Not many parties and you only hear the children. It's quiet and peaceful.<sup>204</sup>

Indeed, the location of houses and zoning of residential groupings was a positive aspect of the settlement pattern of all three case study communities. For example, houses in Mimili are divided into three separate areas to facilitate the clustering of the three major family groups who live there, although this is the result of negotiation based on cultural relationships rather than planning design. The single men's housing that is central to the case study in Mimili will be located away from these three family areas.

Maningrida is divided into separate districts to provide housing for each of the main language groups. Due to the lack of housing choices for families in an overcrowded community, some areas are now becoming a little more 'integrated', while a new subdivision being developed at a distance from these three zones (on the other side

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<sup>201</sup> Moran (1999) *op. cit.*, p. 6.

<sup>202</sup> Lee and Morris (2005) *op. cit.*, p. i.

<sup>203</sup> Long, Memmott and Seelig (2007) *op. cit.*, p. 53.

<sup>204</sup> Interviews, Palm Island, 5 December 2006.



of the airstrip) is likely to be integrated for the same reason. In addition, a small residential/respice centre for elderly residents has been built away from the town. Overlooking the sea, it has been located to afford views and breezes and to be away from 'humbug' behaviour and other sources of nuisance and noise.

The built-up area of Palm Island is more extensive than either Mimili or Maningrida. Indeed, with a similar population to Maningrida, it has about twice the number of houses. These are spaced out along the coast and across the narrow plain that separates the sea from central hilly land on the island. As a result, there are numerous residential 'districts' on Palm Island but each, for the most part, is home to one of the many different language groups who live there. This separation of residential districts is mostly a positive feature, allowing family and kin to be relatively near each other. However, according to the council's housing office, this can also be a problem when seeking to allocate specific housing types to community members who may only be willing to reside within a house in their specific residential 'district'.

Two additional types of residential districts are also found in the three settlements. While not so pronounced in Mimili due to its comparatively small area and population size, the first of these comprises a scattering of, often unserviced, self-built shelters, caravans and family camps around the periphery of the three communities. The second is a district(s) of better quality housing reserved for non-local employees such as police, teachers, health workers and outside council managers. These houses tended to be larger and more sturdily build, have air-conditioning, covered car parking and gardens, and to be better and more regularly maintained. Some of the non-local employees on Palm Island also have preferential locations, with their homes having beach frontage. The overall designs and floor plans of such houses also represent a more sympathetic response to family preferences in the use of space and the domiciliary behaviour of their tenants than those of the houses available to Indigenous residents. Some also involve purpose-built architectural designs, prefabrication construction methods, innovative architectural detailing and integrated transportation methods. However, to date these innovations have not been extended to Indigenous housing.

Apart from this 'residential zoning', the three communities share four other settlement patterns. First, the three towns are quite spread out, generally with large blocks of land per house and extensive open spaces between residential districts. Second, most residential areas have been subdivided into a grid pattern of streets and housing allotments, not unlike those of country towns or city suburbs. We were told in all three communities that this was done in order to obtain efficiencies and cost-effectiveness in providing water in the reticulation of services.

Third, all businesses and government services in each settlement are centrally located. However, coupled with the geographic spread of houses this often make it very difficult for elderly and disabled people to access the services they need, and encourages children and young people to congregate there away from the oversight of their parents. Fourth, even those services that can be accessed locally are far fewer than would be found in non-Indigenous towns, especially those of the same 2000–3000 population size as Maningrida and Palm Island.<sup>205</sup> This lack of access to a

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<sup>205</sup> For example, Maningrida is served by one community store, two take-away food outlets, one of which also provides credit union and post office services, a Centrelink office, a clinic, a primary and a high school, a swimming pool built in 2006, offices for the Maningrida Council and Bawinanga Aboriginal Corporation (BAC), a small shop attached to a women's craft centre, and two BAC-owned enterprises, a regional art centre and a mud-brick factory. Palm Island is similarly served by just one community store, one take-away food outlet, a post office, a Centrelink office, a courthouse, a butcher, two schools, a PCYC, TAFE, hotel and offices for Palm Island Aboriginal Council.

wide range of services and retail outlets makes household furniture, bedding, white goods, most clothing, garden tools, hardware supplies and light building materials extremely expensive. Indeed, the low levels of family income, together with the very high cost of purchasing such items mean that most households simply cannot afford them and, instead, eat and sleep on the floor on foam mattresses.<sup>206</sup>

Finally, a particular settlement planning concern on Palm Island is a shortage of 'buildable' land for housing and government services. This has resulted in tension between the need for land to provide government services (including accommodation for government employees) and the need for land to provide housing for local residents. The lack of town planning – or community or council acceptance of a 'Sustainable Land Use Plan' developed by the Queensland Government, means that the council is 'reluctant to approve leases of more land for government services when no plan exists to adequately house the existing residents of the island.'<sup>207</sup>

### 5.3.2 *The shape of blocks and arrangement of houses*

The arrangement of houses on allotments and in relation to each other in Mimili, Maningrida and Palm Island reflects the grid street and block structure of suburban subdivisions, with houses mostly built to face the street. This has been done with limited consideration of solar orientation, the direction of prevailing breezes, the cultural significance of surveillance behaviours and sight lines, and/or the preference to live facing towards traditional lands. Knowledge of local environmental conditions together with meaningful community consultations could have added greatly to the amenity of houses in the communities at little or no extra cost.

Another opportunity to improve social amenity that is lost in the grid alignment of houses is the consequent neglect of the cultural preference for family and kin to locate their dwellings in circular or semi-circular patterns to facilitate sightlines for non-verbal communication, privacy and customary avoidance behaviours. Circular or semi-circular patterns also have the advantage of providing centrally located, communal outdoor living spaces that are a significant aspect of Indigenous domiciliary behaviour.<sup>208</sup> As a result, the back yards of the rectangular housing allotments become significant spaces for daily gatherings. While fences are a physical barrier to this, they are highly valued as a way of keeping children and dogs in, wind-blown litter out, and as structures upon which to build make-shift storage and shelters for visiting relatives.

There was a particular concern with the location and siting of the 25 houses on Palm Island built by the Australian army in 2001. These were built high on Reservoir Ridge but, instead of facing the sea for views and breezes, were built side-on, with front verandahs often facing the back walls of neighbouring houses. Another problem with these and other prefabricated houses was a belief that they were not sturdy enough, were built too close together, and lacked noise insulation. Palm Island residents and councillors stated that they believed that the Reservoir Ridge siting error and others associated with prefabricated houses were the result of 'quick-fix', externally driven solutions that fail to take account of community knowledge, preferences and aspirations.

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<sup>206</sup> Some furniture and white goods are available at the community stores at Maningrida and Palm island but not in the store in Mimili or, indeed, anywhere in the AP Lands.

<sup>207</sup> McDougal, S. (2006) *Palm Island: Future Directions*, Palm Island Aboriginal Shire Council and Department of Aboriginal and Torres Strait Islander Policy (DATSIP), p. 21.

<sup>208</sup> See chapters by Memmott, Keys, and Dillon and Savage in Memmott and Chambers (2003) *op.cit.*

## 5.4 The liveability of houses

This section reports on what householders told us of the experience of living in their homes in Maningrida and Palm Island. This data was mostly collected when we asked residents to build the layout of their homes using cardboard blocks and sketches, and then to rearrange them so that they might be more like their 'ideal' house. We also encouraged residents to talk while they were doing this in order to explain their thinking. In Mimili, data was collected on these matters through the consultative activities used to explore preferred designs for the single men's housing.

### 5.4.1 Design for large, variable and complex household types and sizes

In all three communities, every person interviewed emphasised the inability of traditionally sized and designed houses to accommodate the large numbers of people living in almost every house and the variable and complex composition of family groupings and households.

#### **Small, overcrowded bedrooms**

The overcrowding of houses in all three case study communities means that there are simply not enough sleeping areas, toilets and bathrooms. On top of this, the standard 9–12 square metre size of bedrooms is far too small for the large number of people using them and their needs for storage, privacy and safety. Overcrowding also results in disruption to sleep and establishes pre-conditions for potential inappropriate and abusive relationships. Thus, many people also sleep in areas not designed for sleeping, such as living rooms, which results in noise and disturbances from multiple competing activities being juxtaposed to each other. Where provided, verandahs are often used for sleeping, especially in summer, although some residents of low-set houses expressed security concerns unless verandahs were at least partially enclosed. These problems of insufficient and under-sized bedrooms were often exacerbated by the regular and unplanned arrival of visitors typical in Indigenous communities and homes.

The difficult experience of living under such conditions is evident from the following comments of householders:

I have been living in this house eight to nine years and waiting for my own house for fifteen years. This house is my husband's mother's home ... Not enough space, not enough storage, not enough rooms. My eldest daughter is sleeping outside. The roof [on the verandah] is not wide enough to stop rain and we have two families sleeping there. We put a tent in the bathroom for a room in the rainy season.<sup>209</sup>

There's four kids, my wife and me. There's a boy's room and a girl's room but three boys sleep in the kitchen and living room too. We go up to ... oh ... 18 when there is a ceremony or a funeral ... We need a proper fire escape out of each room ... and a bigger storage room, what we've got in the bedrooms is too small .... Not enough cooking spaces.<sup>210</sup>

#### **Household composition**

The severe shortage of houses and bedrooms in Mimili, Maningrida and Palm Island means that the typical household composition was not the nuclear family for which houses were designed. Rather, most households were a complex, multi-generational, extended family with number of family sub-units, each living in its own bedroom. This

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<sup>209</sup> Interview with resident of a 2-bedroom house, Maningrida, 22 September 2006.

<sup>210</sup> Interview with resident of a 3-bedroom house, Maningrida, 20 September 2006.

pattern could be described as 'a house within a house' with each small 'bedroom house' providing sleeping and living space for groups of three to six people who could comprise a nuclear family, a nuclear family and a grandparent, several elderly aunts and their grandchildren, uncles and young unmarried men, or groups of teenage girls. These small 'bedroom houses' also have to provide storage space for their inhabitants' belongings. Many residents also often stored their groceries in their bedrooms out of concern that others might eat their food if it were left in the kitchen. This concern for security meant that most interior doors to bedrooms were fitted with locks or latches, adding to increased risk should a fire occur within the house.

### **Visitors**

The culture of reciprocal hospitality in Indigenous society means that visitors are generally welcomed in the three case study communities, primarily as a way of maintaining kinship bonds and of caring for those in need. However, the high levels and frequency of temporary visitation is posing problems. First, often visitors come to stay with family in houses that are already overcrowded and/or in need of repair. Second, the crowded living conditions that result are often below the standard required for healthy and safe housing.

People are often forced to sleep on verandahs; showers, toilets and sinks can become blocked; and rainwater tanks can run low. Such living conditions can lead to conflict, especially when added to emotional tensions caused by overcrowding. Too much noise, 'humbug', fighting, drinking and difficulties for children (sleeping and school) were mentioned as particular problems as a result. Council officers reported that the levels and costs of repairs and maintenance are disproportionately higher during times of high visitation.<sup>211</sup>

Current council responses to these problems include: imposing limits on the length of time visitors can stay (but this is difficult to enforce) and the construction of ablution blocks, basic shelters and demountables for visitors. However, often such shelters are sub-standard and lack facilities. The 'chicken coops' in Maningrida are an example of this. These are large, open-walled (apart from chicken wire) sheds built for residentially mobile wet-season visitors from nearby outstations. However, they are also used by shorter-term visitors and often have people living in them semi-permanently due to overcrowding and long waiting lists for housing.

The building of additional bedrooms, bathrooms and toilets in houses (either new-build or extensions) was not seen as a solution, as the additional bedrooms would be quickly occupied by those already living in already over-crowded conditions.

### **Wear and tear**

The large size of households meant that there is generally a high level of wear and tear on housing structures, fixtures and fittings in many homes. The rate and extent of such wear and tear is worsened by faulty original workmanship, the specification of non-robust plumbing, doors, hinges, wall materials and so on, and irregular, under-funded maintenance. For example, in Maningrida, only \$1,500 per house per year was set aside for repairs and maintenance. This is inadequate when sufficient skilled labour is not available locally and call-outs for minor repairs can cost several hundred dollars.

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<sup>211</sup> Despite this, the 2004 Fixing Houses for Better Health survey in Maningrida revealed that 91% of all repairs were due to routine maintenance requirements compared with only 7% caused by tenant damage. See [http://www.maningrida.nt.gov.au/home/about\\_us/housing\\_for\\_health\\_programme](http://www.maningrida.nt.gov.au/home/about_us/housing_for_health_programme) (accessed 2 February 2007).

## Alternative housing options

When asked to suggest a solution to the problem of housing shortages and overcrowding, several of those interviewed in Maningrida and Palm Island expressed a concern that building more houses might only lead to more people moving there from other places. This was a particular fear in Maningrida, where policy changes about support for outstations and the ending of CDEP could mean the increasing movement of people from smaller settlements to service centres such as Maningrida, thus intensifying the existing shortage of houses.

There also seemed to be mixed views among residents about the desirability of two-, three- or four- bedroom homes for nuclear families. This is the predominant model that has been built to date, the model that better educated and employed community members tend to prefer, and the model that would seem to be the focus of private home ownership schemes now being considered for implementation (see Chapter 1). Several interviewees expressed a desire for such houses and some even suggested that they would prefer a small two-bedroom house as a way of 'warding off' long-term visitors, especially in order to give their children the chance to study at night and avoid noisy, disruptive 'humbug' behaviour by socialising adult residents and visitors.<sup>212</sup>

However, other residents believed that the solution lay in building large, multi-bedroom homes or adjacent housing units suitable for all members of an extended family and visitors to live with each other. People in Maningrida described several of the large houses they had seen built by Bawinanga Aboriginal Corporation (BAC) for outstation residents as their ideal house. A resident of Palm Island explained this type of preference in these words:

There is not enough room when my daughter and her family come to stay. She usually has to stay somewhere else where there is room. I would like six bedrooms with a verandah all the way around to sleep all the family members and visitors.<sup>213</sup>

However, there are other design alternatives to building more bedrooms. As Memmott, Long and Thomson argue, high levels of visitation can be catered for by appropriately sized bedrooms and living spaces, well-positioned and screened verandahs, detached shade structures, and additional showers and toilets.<sup>214</sup> However, there is little evidence of the use of these relatively inexpensive strategies in Mimili, Maningrida or Palm Island.

In Mimili, the key response to questions about housing needs was to suggest that a house or houses for young unmarried men, away from the main town, was needed. This would not only relieve the pressure of numbers in existing houses but also provide a space for a return to the customary separation of such young men. Answers to questions about the need for more houses that responded to other such customs drew a wide range of answers. Separate houses for young couples or single mothers with young children were seen as significant needs. Such accommodation was also seen as desirable in Maningrida for single people and young couples. However, interviewees were opposed to flats or attached units being built as these were seen as likely to attract drinkers and noise. Separate accommodation for the elderly was also seen as desirable but only for short times – for example, for medical care or respite

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<sup>212</sup> At one point, the Maningrida Council discussed only building two-bedroom houses for this reason but did not proceed with this due to the high relative costs involved and need for as many bedroom spaces as possible. Interview, Maningrida, 22 September 2006.

<sup>213</sup> Interview, Palm Island, 6 October 2006.

<sup>214</sup> Memmott, P., Long, S. and Thomson, L. (2006) *Indigenous Mobility in Rural and Remote Australia*, AHURI Final Report, p. 103.

from overcrowded conditions – as families said that they prefer to care for their elderly relatives.

#### *5.4.2 Issues concerning particular rooms and spaces*

Apart from issues arising from the inadequate number and size of bedrooms, residents also described bathrooms and toilets, living rooms, kitchens, verandah and other external living spaces as the cause of concerns.

##### **Bathrooms and toilets**

The residents of Mimili, Maningrida and Palm Island identified significant problems with the number and locations of bathrooms and toilets. Many argued that the one or two bathrooms and toilets in their houses were not sufficient for the large number of residents. Indeed, Memmott, Long and Thomson have calculated that a 15-person household with one shower can take 2.5 hours or longer to shower.<sup>215</sup>

The importance of avoidance relationships, for example with regard to toilet access by adult brothers and sisters and mothers- and sons-in-law, was often brought up in interviews by residents. There were also concerns that toilets were often too close to kitchens, that they could be seen from living rooms, that people, especially women, could be seen entering them, that noises of people using toilets could be heard, and that the windows to toilets often faced onto outdoor public areas, or across hallways to other toilets. However, outside toilets that could be located and oriented to avoid these problems were seldom suggested as a solution, as going outside at night was 'too dark' and 'not safe'.<sup>216</sup>

##### **Living rooms**

Living rooms were often said to be too small as places for sleeping and entering and leaving the house. There were no complaints about a lack of space for sofas or televisions as few owned the former and the latter were kept in bedrooms. Instead, residents talked about the need for space to move around other people, to avoid walking on mattresses and belongings on the floor, and to avoid eye contact with relatives with whom they have an avoidance relationship. On the other hand, Palm Island residents discussed how they wanted larger living rooms as their houses were not provided with a dining room and, therefore, needed somewhere to put a dining table (if funds provided). Hallways were also a source of concern as they were adjacent to bathrooms and toilets and often too narrow for people in avoidance relationships to be able to move around one another.

Window heights in living rooms (and other rooms) also featured regularly as aspects of house designs that would be changed if people had a choice. The common hip-height of windows in bedrooms and living rooms was disliked as this height prevented appropriate surveillance and sightlines when people were seated on mattresses and pillows on the floor. Windows positioned at or near floor level were favoured as a result because of the way they facilitated sightlines.

##### **Kitchens**

Kitchens were a source of concern for some of the women interviewed. They described problems with the small size of kitchens and stoves when several family sub-units were trying to cook at the same time. Other areas of concern included: the lack of refrigerators and other food storage places, ant and cockroach problems (despite regular council insect-spraying programs), and the proximity of kitchens to

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<sup>215</sup> *Ibid.*, p. 103.

<sup>216</sup> See Footnote 5 for wider possible explanations of these concerns.

living rooms, especially if people were sleeping in them. There was a common preference for large family-sized, eat-in kitchens rather than open-planned ones that did not have a space for eating. As one resident who was interviewed said, 'We eat on the verandah now as there isn't a dining room and the lounge room is too small.'<sup>217</sup>

Another aspect of concern to women in Mimili and Maningrida was the difficulty of keeping houses clean, not only because of overcrowding and setting out of bedding and belongings on the floor, but also because of the climate. The hot conditions and inadequate house designs meant it was necessary to keep doors and windows open as much as possible for cooling. This led to high levels of dust being blown into houses. Several Maningrida women also mentioned that they did not have the means to keep bathrooms and toilets clean, especially with visitors who 'are still introducing themselves into the ways of the white community'.<sup>218</sup>

### **Storage space**

The lack of sufficient, safe and secure storage was a major concern in all three communities. Kitchen storage tends to be open wire mesh shelves in order to allow access to plumbing and to prevent the vermin infestations that may occur in hot and damp enclosed cupboards. Families were worried that this meant that children could climb into cupboards and might pull heavy pots down on top of them. Altogether, most houses seemed to have been built without sufficient storage cupboards. Linen cupboards in hallways, ample food and clothing storage in bedrooms, and lockable cupboards on verandahs or carports were described by residents as particular needs. Some Palm Island residents expressed concern that even where cupboards were provided, they lacked shelves, doors and locks:

We desperately need storage in both the kitchen and bedrooms. We always complain about it to the government. We also need storage in the carport for tools, lawn mower, etc.

Storage is needed on the verandah and it needs to be lockable. We don't have any drawers in the kitchen or bedroom and we need them. They need to be lockable so the baby doesn't get into them or the cupboard.<sup>219</sup>

### **Healthy living environments**

The houses in the three case study communities generally reflected the principles of health, safety and sustainability in the *National Indigenous Housing Guide* and associated practices of designing for 'healthy living practices'.<sup>220</sup> This was aided by housing authorities specifying that the Building Code of Australia (BCA) and relevant State/Territory building regulations applied to houses being built on community title land. As a result, issues of gas and electricity safety, vermin control, safe drinking water, wet area drainage and waste water treatment seem to have been taken into account in design and construction or renovation of houses in the three case study communities. Where there were breakdowns this was due to routine and accelerated wear and tear, and inadequate maintenance, rather than tenant damage.

### **Verandahs and yards**

The people in the three communities have a strong preference for functional external living spaces. The design of verandahs and yards is very important in this regard, not just for communal cooking and gatherings but also for climatic reasons, such as

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<sup>217</sup> Interview, Palm Island, 6 December 2006.

<sup>218</sup> Interview, Maningrida, 21 September 2006.

<sup>219</sup> Interviews, Palm Island, 5-6 December 2006.

<sup>220</sup> Department of Families, Community Services and Indigenous Affairs (2003), *op. cit.*

shade and cover from rain, and for additional sleeping spaces. However, for the most part, these were not a feature of most house designs as, until quite recently, very few houses were built with verandahs and fences. Verandahs are now common but fences are part of standard building specifications in Mimili and for new houses in Maningrida.

The residents of Mimili, Maningrida and Palm Island, like most Indigenous groups around Australia, tend to socialise in outdoor groups, often sitting in circles or clusters. Verandahs that provided day-time living areas during both wet and dry season and shaded, treed spaces in the yard, or nearby yards in the dry season, were features that almost all householders who were interviewed added to their 'improved' house plans. They also described the need for verandahs to be wide, with extensive roof overhangs to provide sufficient shaded meeting spaces, spaces for visitors or young men to sleep, and to prevent storm-driven rain from wetting belongings and bedding stored on verandahs. Some also asked for verandah walls to block the wind and ensure privacy, while others mentioned the need for verandahs to serve as places for wet weather clothes-drying.

Yards are also seen as very important, with fences considered very important by some for the 'enclosure' reasons outlined above and by others as a stable support upon which to erect temporary shelters for visitors. Almost all yards contained at least one outdoor cooking space that also served as a social hearth. However, there seemed to be little articulation between the siting of these spaces in relation to verandah overhangs, outdoor benches/tables for preparing food, or the kitchen or toilets.

## 5.5 Managing the housing process

This section is based on arrangements for the procurement, design and construction of remote Indigenous housing at the time of the fieldwork in 2006.

### 5.5.1 Procurement and construction

Community residents play a very limited role in the design, procurement and construction of new houses or in the design of renovations in Mimili, Palm Island or Maningrida. This may change in the future, as and when private home ownership on leasehold title is introduced, provided residents are given a choice of housing styles to purchase. However, little design consultation with residents occurs at present and few are employed in house construction.<sup>221</sup> Rather, decisions about what kind of houses to build, and for whom, are made within a bureaucratic hierarchy of funding disbursements typical of what Jardine-Orr describes as a supply-driven, externally prescribed system.<sup>222</sup> For example, the community self-build process for increasing local participation in design and construction developed by Haar<sup>223</sup> or the participatory planning processes used in Mapoon<sup>224</sup> seem not to have been used in any of the

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<sup>221</sup> An exception is the 'sweat equity' program in Cape York managed by the Balkanu Cape York Development Corporation. See also Moran, M. (2000) Housing and health in indigenous communities in the USA, Canada and Australia: The significance of economic empowerment, *Aboriginal and Torres Strait Islander Health Bulletin*, Issue 7. Online at [http://www.healthinonet.ecu.edu.au/html/html\\_bulletin/bull\\_7/bulletin\\_brief\\_communications.htm](http://www.healthinonet.ecu.edu.au/html/html_bulletin/bull_7/bulletin_brief_communications.htm) (accessed 21 July 2007). For details of the Balkanu programme see <http://www.balkanu.com.au/business/infrastructure.html>.

<sup>222</sup> Jardine-Orr, A. (2005) *Remote Indigenous Housing System – A Systems Social Assessment*, unpublished PhD thesis, Murdoch University, Perth.

<sup>223</sup> Haar, P. (2003) Community building and housing process: Context for self-help housing, in Memmott and Chambers, eds, *op cit.*, pp. 90–97.

<sup>224</sup> Moran, M. (2004) The practice of participatory planning at Mapoon Aboriginal settlement: Towards community control, ownership and autonomy, *Australian Geographical Studies*, 42 (3), pp.339–355.



three case study communities. Indeed, little was known by council staff of either of these initiatives and the suggestion that 'untrained' members of a community could – or would even want to – assist in the building of their own homes was received with amazement by a building manager in one of the communities.

In addition, in South Australia, Queensland and Northern Territory, funds are allocated to this pool from annual budgets, and the relevant departments responsible for Indigenous housing are entrusted to divide this amount across communities according to a housing needs formula. Previously, additional funds for houses were also available from ATSIC and the NAHS.

Arguably, the current channeling of housing funds through State and Territory governments is an advantage as, prior to the bilateral agreements, councils/ICHOs were reliant on separate funding decisions from the Australian Government, State or Territory governments and NAHS. This process caused uncertainty and delays, and prevented economies of scale being achieved for housing construction within communities or on a regional scale.

### **Maningrida**

In the Northern Territory, housing needs in a community are assessed according to the average number of people per bedroom, with communities then placed in a rank order according to the level of bedroom shortages. Councils/ICHOs are then allocated a fixed sum for a nominated number of houses and renovations in the coming year. On this basis, Maningrida Council was allocated funds for four new three-bedroom houses and three major renovations to be completed in 2006.

In a change from this practice, the Northern Territory has allocated \$10 million to Maningrida Council to manage its own program of new housing, repairs, upgrades and renovations over the current three-year period. This change in funding arrangements is supported by development of a set of six standardised house designs and building specifications by the Northern Territory Government. These designs were developed by architects very experienced with remote Indigenous housing and thus have the potential to avoid many of the liveability issues discussed in previous sections.

However, council officers in Maningrida expressed concern that consultation on the particular housing requirements of different families, and issues of siting and orientation of particular houses on particular sites, would be neglected through the use of standardised designs. They were also critical that the standardised plans that had been developed seemed to neglect the accommodation needs of large extended families, the elderly, single people, young couples, and single mothers and their children.<sup>225</sup>

Maningrida Council is guided in its decisions on what kind of houses to build and how to allocate funds under the new three-year funding cycle by discussions with the government and the advice of its housing manager and the operations manager who leads its building team. The building team of skilled tradespeople has extensive experience in Maningrida and has employed several local residents as building labourers through CDEP. The operations manager reported, however, that the local TAFE centre does not provide any building-related courses and that his team is too small to provide apprentice training.<sup>226</sup> The shortened building season – due to summer monsoon rain – is also a factor in his decision not to take additional time during the construction process to provide training in building skills for local workers.

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<sup>225</sup> Interview, Maningrida, 21 September 2006.

<sup>226</sup> Interview, Maningrida, 22 September 2006.

This results in reduced employment opportunities for local people, as does the decision to use cement blocks as the basic building material instead of bricks from the mud brick factory operated by Bawinanga Aboriginal Corporation.<sup>227</sup>

### **Mimili**

In Mimili, housing decisions come from the State government via Housing SA to the APY Council for allocation against submissions it has received from all the communities in the APY Lands. APY Council prioritises housing need in a community by comparing its needs with those of other communities. For example, Mimili was allocated 13 houses in 2003 to be built between then and 2006, but no new allocations have been made since then. APY Services acts as project manager, supervising local builders.<sup>228</sup>

### **Palm Island**

On Palm Island, all funds are allocated from the Queensland Government to the Palm Island Aboriginal Council. However, the parties have been in protracted discussions regarding housing shortages, with the council even declining the allocation of four new houses in 2004/05 as it believed these were too few to address the scale of the problem. Following discussions with the Queensland Government, the council contracted the Queensland Department of Public Works (QBuild) and Project Services to build houses with the unspent funds from the previous year and the 2005/06 budget allocation. However, the Queensland Government altered its needs-based funding formula in 2007, replacing it with a scheme whereby one dollar will be allocated by the government for housing for every dollar collected in rent.

Project Services and QBuild staff develop all the plans and design specifications for houses on Palm Island with minimal consultation. Indeed, interviews with staff of Project Services in Townsville indicated that needs assessment and/or consultation with Palm Island residents are not undertaken, because 'this would complicate design, and would not provide adaptable or suitable housing'.<sup>229</sup> Rather, once decisions are made to build a house, a brief is developed, the site chosen, and the QBuild plans costed. QBuild then lets tenders to Townsville construction companies to build the houses. Consultation does take place with the Palm Island Aboriginal Council during the costing phase, in order to develop local employment possibilities.

#### *5.5.2 Post-occupancy management*

In all three communities, the councils own the houses and allocate them to families according to a waiting list. The allocation system does not always work fairly and many people can be on a waiting list for several years. Sometimes, houses are allocated prior to construction and decisions about the number of bedrooms made to match family size and disability access if needed. Sometimes future residents are also able to choose paint colours. However, many houses are not allocated until after they are (nearly) finished, ruling out any chance of even such basic consultation.

Post-occupancy management is not well developed in any of the three case study communities. Post-occupancy evaluations are not conducted routinely on individual houses and faulty workmanship is seldom rectified. Housing registers and tenant lists are difficult to keep up to date and the use of asset management databases is not effective. These problems were said to be the result of the already heavy workloads of

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<sup>227</sup> The Operations Manager holds very strong views against the durability of mud brick construction despite it being used successfully in outstation houses built by Bawinanga Aboriginal Corporation. Interviews, Maningrida, 21, 22 September 2006.

<sup>228</sup> Parsons Brinckerhoff was the project manager for NAHS-funded houses.

<sup>229</sup> Interview, Palm Island, 6 December 2006.

staff, priority being given to managing the construction of new houses, and the need to deal with daily housing emergencies.

Further, maintenance schedules and records are not maintained routinely, and many residents are frustrated by the lack of action on requests for repairs. 'I am sick and tired of asking' was a common complaint, with few households having a resident skilled in minor repairs or owning an appropriate set of basic tools. Rent collection and monitoring of arrears was not usually efficient, with rental income barely sufficient to cover ongoing maintenance costs.

These problems have been noted by several researchers<sup>230</sup> as a nationwide issue in recent years, with recommendations on the need for capacity building and training in areas such as contractual arrangements, rent policy, tenancy allocation and management, record-keeping, arrears management, asset management, maintenance scheduling, 'hands on' maintenance, and refurbishment.

### 5.5.3 Summary

The current stock – and quality – of houses in the three case study communities cannot be seen as solely the fault of the councils or current housing policies. Rather, they are also the historical legacy of several decades of inconsistencies and under-funding in Indigenous housing policy and administration at Commonwealth, State and Territory levels. For example, the following 'governance' factors were identified across the three communities:

- The allocation and timing of housing budgets to communities have generally been inconsistent and have caused uncertainty about the amount of building possible in any one funding period. The annual basis of funding also prevented longer-term planning for maintenance and construction, at least until quite recently.
- Past delays in annual housing budget allocations to councils/ICHOs cascaded into further delays in housing construction at the community level, thus intensifying local causes of building delays such as the restricted building season in tropical and monsoonal environments, and delays in the availability of appropriate building materials and skilled labour in remote communities.
- Poor documentation is available to assess design faults, materials appropriateness and construction on site.
- Housing budgets do not include adequate provision for fences, landscaping or maintenance schedules.

A lack of involvement of major construction companies was another significant aspect of the housing design process in the three case studies. While this does not imply that large companies would be better than existing builders, the small number of houses being built in each community per annum and the geographic spread of remote Indigenous settlements may be making this area of the market too difficult for such companies.

However, BlueScope Steel has developed partnerships in both the Northern Territory and Queensland to advance the design and construction of remote Indigenous housing. For example, Lysaght Smartruss<sup>®</sup> construction materials and methods were used to build three new houses, two new duplexes two extensions and a renovation in Bagot, a Northern Territory community that currently has about 50 dwellings and has

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<sup>230</sup> See Jardine-Orr (2004) *op. cit.*, pp 30-37; Hall, J. and Berry, M (2006) *Indigenous Housing- Assessing the Long Term Costs and the Optimal Balance Between Recurrent and Capital Expenditure*, AHURI Final Report.

a population of around 400.<sup>231</sup> BlueScope Steel has also been involved in a trial of steel-framed housing in the remote north Queensland Indigenous community of Lockhart River.

Despite the proven strength of steel-framed construction, especially in cyclone-prone areas such as northern Australia, there is a very strong preference for concrete block houses among the residents of the three case study communities. This may be appropriate in arid environments, such as Mimili, where well-insulated, high thermal mass is required. However, this does not apply in the tropics, where lightweight, well-ventilated buildings are more climatically suitable. Nevertheless, Maningrida residents who were interviewed about their 'ideal house' commented:

A brick (block) house would be safer in a cyclone. Other houses will blow away and there is no insurance for that'.

My ideal house? A strong brick house.

Concrete block is good.

I want a house in brick.<sup>232</sup>

Such comments in Maningrida may be the influence of the operations manager, who had strong views in favour of cement block construction:

Pre-fab steel houses are a huge problem with steel and rust, and stud wall frames are not cyclone proof. In England what is still standing after hundreds of years? Brick houses!<sup>233</sup>

Palm Island Indigenous residents also stated their preference for brick or cement block houses. Some of those interviewed concluded the following:

I would like the exterior to be brick – it's stronger and well built.

We prefer brick or concrete block. It has a noise reduction; you can drill into it, it's cyclone proof and will survive pretty nasty storms.

I like concrete block – you see beautiful ones in Townsville. That's what I would like.<sup>234</sup>

This pattern of housing procurement, construction and management (and the associated problems) may change with the Australian Government's financial commitment to the normalisation phases in the Northern Territory and the increased attention to Indigenous management and housing by State governments. The focus on economic development in communities, the growth of employment opportunities and the increased allocations for housing and employment training in Queensland are examples of this.<sup>235</sup> The Australian Government's decision to end CDEP in the Northern Territory identifies the creation of over 2000 new jobs in remote communities and the remaining 6400 CDEP workers transferred to training or mainstream work-for-the-dole programs.

Arguably, part of the thinking behind these decisions is the belief that altering the reliance on welfare in remote Indigenous communities will stimulate self-responsibility and savings, which in turn will provide a stimulus to increased local economic activity,

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<sup>231</sup> See <http://www.bluescopesteel.com.au/index.cfm/objectID.340D3BB5-903B-B9AE-3F73A0EE3B80627D> (accessed 24 November 2006).

<sup>232</sup> Interviews, Maningrida 20-22 September 2006.

<sup>233</sup> Interview, Maningrida 20 September 2006.

<sup>234</sup> Interviews, Palm Island, October and December 2006.

<sup>235</sup> See Chapter 1, Footnote 27.

hence increasing the potential for home ownership.<sup>236</sup> However, a caution about the realisation of these possibilities has been made by Northern Territory Housing Minister Elliott McAdam, whose office has calculated that the decreased income community members will receive under mainstream work-for-the-dole programs compared with CDEP payment levels will see a reduction of \$20 million in funds available to communities for service provision.<sup>237</sup>

## 5.6 Conclusion

We commenced the case study research for this project fully expecting to find significant differences in housing needs and aspirations across the three geographically and culturally diverse communities of Maningrida, Mimili and Palm Island. Detailed anthropological studies would no doubt confirm the scope and importance of such differences. However, this research was not an anthropological study. Rather, the visits to Maningrida, Mimili and Palm Island were undertaken with a focus on housing policy, design and construction issues.

The lens of sustainability that framed our observations and interviews consciously sought to integrate concerns for social well-being and stability, cultural values and imperatives, economic development, training and employment opportunities, and respect for geographic influences and eco-efficiency in housing designs. The sustainability lens also sought an understanding of the place of consultation in the design process. However, economic viability is also a key aspect of sustainability – and the acute housing shortages in remote Indigenous communities demands that as many houses as possible be built with the funds available, especially now that increased funding for remote Indigenous housing is available.<sup>238</sup>

However, as seen by the application of the extended definition of ‘Design Framework’ in this research,<sup>239</sup> the cost of a house is much more than the cost of construction. A whole-of-life costing model that considers capital and recurrent costs – plus, perhaps, the costs of housing-related health, education and family well-being problems – raises several key questions. For example: to what extent can appropriate consultation and a consideration of different household types and their different housing aspirations ensure that houses are functional and valued by residents, thus reducing accelerated wear and tear on homes? If this assumption is true, can the added costs of consultation and the design response to such considerations be offset by the reduced costs of ongoing maintenance and repairs? To what extent can training in construction and maintenance and the recognition of ‘sweat equity’ reduce capital and maintenance costs? Similarly, to what extent may the added up-front construction costs that come from specifying sturdy materials and high-grade fixtures and fittings offset or reduce the costs of later repairs? Also, is the relative additional cost of building a five- or six-bedroom house for an extended family of, say, 15 to 20 people proportionally less than the cost of two three-bedroom houses?

Processes for answering questions such as these are provided in the Design Framework outlined in the next chapter.

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<sup>236</sup> See Chapter 1 Footnotes 19 and 20. A second motivation lies behind the decision to end CDEP. A key aspect of the Australian Government’s intervention in the Northern Territory is a ‘quarantining’ of 50% of social security payments in 73 remote Indigenous communities. However, such quarantining is not possible with CDEP and, hence, the decision to abolish the program.

<sup>237</sup> Karvelas, P. (2007) Radical plan to dismantle NT dole, *The Australian*, 24 July, p. 6.

<sup>238</sup> See Chapter 1 Footnote 41.

<sup>239</sup> See Chapter 1.2 for the definition and scope of ‘Design Framework’.

## 6 A DESIGN FRAMEWORK FOR INDIGENOUS HOUSING IN REMOTE COMMUNITIES

### 6.1 Introduction

This chapter presents a Design Framework for remote Indigenous housing in Australia. This framework provides general principles that integrate the need for community safety and health, economic development and eco-efficiency – all aspects of sustainability – with specific recommendations for the design and modification of Indigenous housing that reflect the housing aspirations and needs of its householders.

To date, research on the successes and failures of design practice for Indigenous housing has focused largely on the need for design to respond to culturally based domiciliary practices and the importance of suitable 'health hardware'. These are the 'Cultural Design' and 'Environmental Health' approaches identified by Memmott.<sup>240</sup> However, the three case studies presented in this report have demonstrated that the provision of well-designed housing must also pay close attention to a number of other factors that deeply influence the life expectancy of housing and its ability to cater for the needs of residents in remote communities. Chief among these are the many inputs and activities involved in the management of the entire design process and which underpin the liveability and lifespan of housing. These factors are integral to the third approach to Indigenous housing identified by Memmott. This is the 'Housing as Process' approach, which integrates and extends aspects of the other two approaches.<sup>241</sup> The Design Framework presented in this chapter integrates all three approaches and, as such, has a strong affinity with an emerging approach that Seeman and Parnell (2007) call 'Housing for Livelihoods'.<sup>242</sup> A key assumption of 'Housing for Livelihoods' is that social housing success needs to be 'measured by its investment reach into the local fabric of community livelihoods, rather than on shelter and health alone'.

The Design Framework is intended as a practical reference guide for policy makers and built environment professionals responsible for the design, procurement, construction and management of remote Indigenous housing. It is not to be read as a prescriptive set of guidelines or 'one size fits all' approach to the complex cultural, economic, environmental and technical challenges in building and maintaining houses across the many diverse remote Indigenous communities in Australia. As such, the Design Framework supplements the *National Indigenous Housing Guide*<sup>243</sup>, and its four principles of safety, health, quality control and sustainability.

Chapter 1 of this report outlined the relationship between housing problems and social concerns, the need for culturally responsive housing, and the importance of the housing industry as a driver of employment opportunities and community renewal. Maximising the potential of this relationship was the focus of the CHIP review and the related 2007 Budget initiatives for remote Indigenous housing.<sup>244</sup>

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<sup>240</sup> Memmott, P. (2004) Aboriginal housing: Has the state of the art improved? *Architecture Australia*, Jan.-Feb., pp. 46-48.

<sup>241</sup> *Ibid.*

<sup>242</sup> Seeman, K. & Parnell, M. (2007) *Scoping the Lifecycle of Housing and Infrastructure through a Whole-of-System Approach in Remote Aboriginal Communities: Research Report*, Desert Knowledge CRC, Alice Springs, p. iii.

<sup>243</sup> Department of Families, Community Services and Indigenous Affairs (2007) *op. cit.* Note: At the time of writing, a third edition of the *Guide* had been awaiting publication for almost a year.

<sup>244</sup> See Chapter 1.5.

Although some of the policy initiatives for achieving this are contested, such as the emphasis on private home ownership and converting community land titles to leasehold tenure, the allocation of the \$1.6 billion (over four years) to remote indigenous housing in the 2007 Budget has the potential to lead to major improvements in this area.<sup>245</sup> This process should also encourage the increasing cooperation of State and Territory governments through bilateral housing agreements with the Australian Government (with new ones to be established for 2008) as well as the Australian Government's own five-year commitment in the Northern Territory under the stabilisation phase of the 'national emergency'.

Nevertheless, Minister Brough's call for 'suitable low-cost housing options'<sup>246</sup> points to the need to maximise both the number and the quality of the housing that is to be built with these funds. The Design Framework presented in this chapter has the same two goals. However, we argue that the phrase 'suitable low-cost housing option' is open to interpretation. For example, what is meant by 'suitable' in relation to housing in remote Indigenous communities? What criteria should be considered in any definition of suitable housing for such communities? And does 'low-cost' refer to initial construction costs or to the total life-cycle costs of a house over a specified period of time?

In an effort to respond to Minister Brough's 'call', and in light of the evidence presented in earlier chapters, the Design Framework presented in this chapter is based on the following conceptions of 'suitable' and 'low-cost'.

- 'Suitable' housing is housing that is appropriate for residents in terms of cultural, social, health and environmental imperatives and the opportunities for social harmony, employment and economic development that can flow from the appropriate investment of funds in the design and construction of housing.
- 'Low-cost' housing is housing that is 'suitable' for residents and that is designed, built and maintained according to principles, processes and systems that would lead to significant cost savings over a specified lifespan of a house.

These definitions form the assumptions upon which the Design Framework is based. Three principles of effective design practice in remote Indigenous housing, which were identified in the Positioning Paper and summarised in Chapter 1, also underpin this Design Framework. These are:

- The need for effective consultation and an anthropological understanding of the particular cultural norms of the client group;
- The importance of house designs to support healthy living practices; and
- The importance of the designer's professional and ethical responsibility to creatively challenge the dominant patterns of housing in ways that goes beyond a formulaic response to the budgetary limits and client aspirations.

As stated in Chapter 1, the Design Framework has significant value for decision makers due to the confidence they can have in the comprehensive and intensive research upon which it is based. This research process included: an extensive analysis of the policy and academic literature on remote Indigenous housing and case studies of housing in three communities across three States/Territories. The case studies involved numerous interviews with families and householders, with community housing and health staff, and with managers and elected officers in three Indigenous councils. Interviews were also conducted with relevant State/Territory and Australian Government officers, and with building companies, tradespeople, architects and

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<sup>245</sup> See Chapter 1 Footnote 20.

<sup>246</sup> *Ibid.*

project managers experienced in the design and construction of remote Indigenous housing.

This information was used to develop a draft Design Framework that was then tested through consultation with the same groups of stakeholders through additional field visits. The results of this latter consultation are embedded in the three case studies in Chapters 2, 3 and 4, and in the synthesis of the patterns of similarity and differences in the case studies in Chapter 5.

## 6.2 The revised Design Framework

The draft Design Framework was summarised in Chapter 1. It contains 10 processes in the design and delivery of housing in remote Indigenous communities. These are listed in the first column of Table 6.1. Some of these were seen by those who were interviewed in the later rounds of field visits to be, variously, overlapping, out of sequence, or of unequal importance to others. Written comments on each of the 10 elements were also invited from the government agency staff, architects and project managers, experienced in remote Indigenous housing, who had been interviewed in earlier phases of the research. These final stages of data collection, analysis and validation were synthesised in Chapter 5 and led to a reduction of the 10 elements to seven in the revised Design Framework, but in a more complex mix, as illustrated in the second column of Table 6.1.

**Table 6.1: Comparison of the elements in the draft and revised Design Frameworks**

<i>Draft Design Framework</i>	<i>Revised Design Framework</i>
1. Establish project protocols 4. Consult on options for concept design	2. Consultation at key phases of the design system
5. Integration of cultural issues 6. Integration of sustainability issues	1. Sustainability as a key focus → Cultural appropriateness → Eco-efficiency → Healthy living practices → Employment opportunities and economic development → Life-cycle costing, to include both the cost of construction and planned repair and maintenance → Innovation in procurement, ownership and construction systems
	3. Settlement design
2. Design of internal spaces 3. Design of external spaces	4. House design, including internal and external spaces
7. Education and training	5. Integration of education & training into design, construction & maintenance plans
8. Design development and documentation 9. Construction and project management	6. Design development, construction and project management
10. Post-occupancy management	7. Post-occupancy management

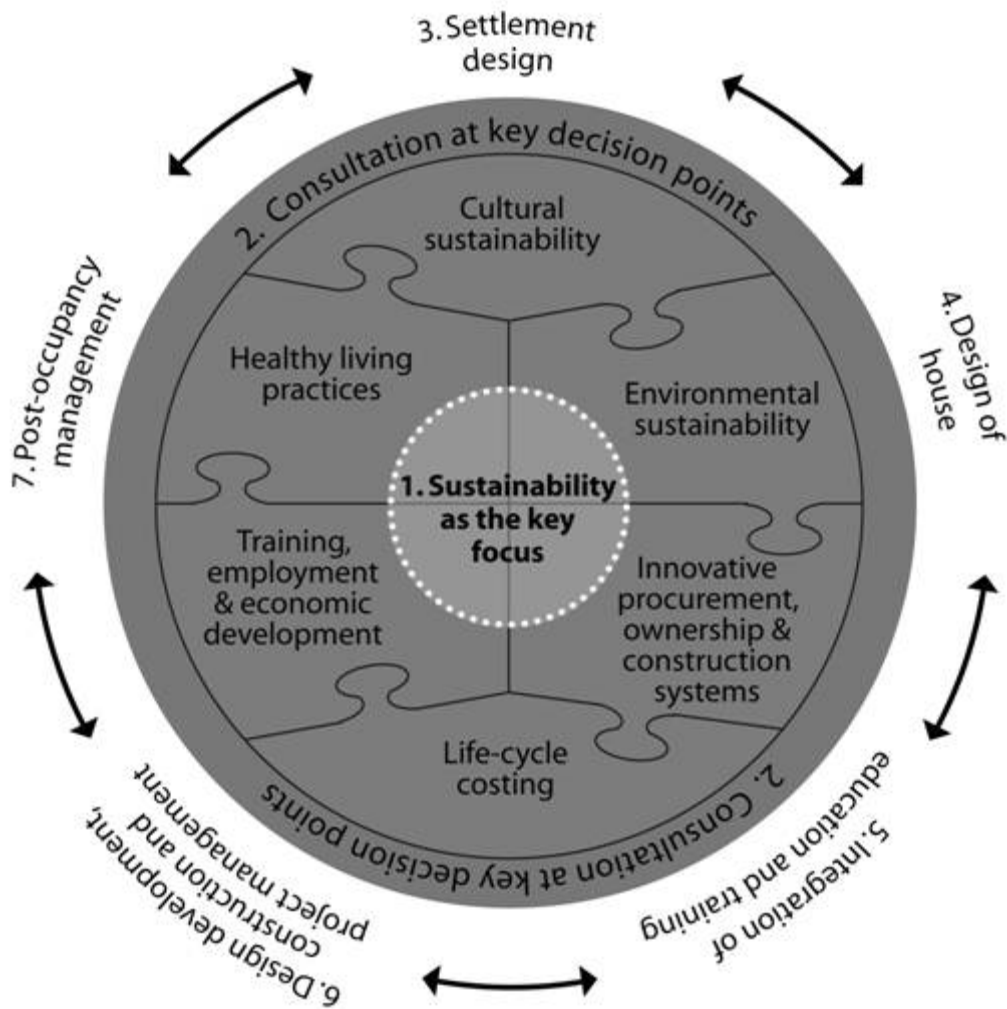


Table 6.1 shows that the four major changes from the draft Design Framework involved:

1. Establishing the six dimensions of 'sustainability' in remote Indigenous housing as the key focus of the design process;
2. Integrating consultation at all key phases in the design system;
3. Re-sequencing the elements in the framework in line with the key decision points in the implementation of a design system; and
4. Constructing the Design Framework as a cycle, with decisions at the key decision points being made through consultation and guided by the six interrelated dimensions of sustainability.

The revised Design Framework is depicted in Figure 6.1.

**Figure 6.1: The revised Design Framework**



## 6.3 The Design Framework

### 6.3.1 'Sustainability' as the key focus

Within the field of Aboriginal remote housing, it appears very little relevance is being placed on longer term sustainability-oriented outcomes in relation to design.<sup>247</sup>

The revision of the draft Design Framework was based on an increasing understanding that a central key to improving every phase in the design and delivery of remote Indigenous housing was the integrated and balanced consideration of community and resident consultation, cultural responsiveness, settlement layout, eco-efficiency, job creation, employment and training, resident and environmental health, and the economics of construction and asset management. All these considerations could be defined within the broad conceptual umbrella of 'sustainability'.

However, in the *National Indigenous Housing Guide* and in the draft Design Framework, sustainability was seen as having two meanings: (i) durable and long-lasting and (ii) having a positive environmental impact. As such, sustainability sat alongside other design imperatives, such as culture, health and costs, as a separate or additional part of the housing process, rather than being an integrated focus for design as reflected in the metaphor of 'triple-bottom-line' thinking about sustainability.<sup>248</sup> This metaphor reflects the call by Ross for the 'economic aspects of Aboriginal housing ... [to be] integrated with environmental and social aspects ... Sustainable Aboriginal housing requires the *integration* of social, economic and environmental analysis and design'.<sup>249</sup>

This broadened conception of 'sustainability' reflects a key finding from the case studies, namely that the economic, social, cultural and environmental imperatives of design are interdependent and mutually reinforcing. For example, the choice of whether to use concrete block, mud brick or steel-frame construction affects not only initial construction costs but also opportunities to employ community labour and locally available materials, thereby promoting employment and the circulation of money in the local economy, the durability of the building in response to climatic factors, and the level of repair and maintenance required. Similarly, design decisions in response to the systemic, long-term overcrowding in houses in remote communities, such as decisions about the size and location of bedrooms and verandahs and the number and location of toilets and showers, affect the liveability of a house in terms of both cultural appropriateness and the likely rate of wear and tear on the structure, fixtures and fittings. In the same way, decisions about the size and location of kitchens, the provision for both internal and external cooking spaces, and the size and security of storage for food and cooking equipment all have a significant impact on the appropriateness of the house to the number of residents and their preferred domiciliary practices, and the overall functionality of the house.

This integrated view of sustainability accords with current national and international thinking on the concept. For example, the United Nations World Summit on Sustainable Development, held in Johannesburg in 2002, recognised economy, society and the environment as three interdependent pillars of sustainable

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<sup>247</sup> Comment on draft Design Framework by Architect 'A', September 2006

<sup>248</sup> Brown, D., Dillard, J. and Marshall, R. (2006) Triple Bottom Line: A Business Metaphor for a Social Construct. *Document de Treball*, No. 06/2, Autonomous University of Barcelona. Available online at <http://www.recercat.net/bitstream/2072/2223/1/UABDT06-2.pdf> (accessed 2 November 2007).

<sup>249</sup> Ross, H. (2002) Sustainability and Aboriginal housing, in Birkeland, J. (ed.) *Design for Sustainability: A Sourcebook of Integrated Eco-logical Solutions*, Earthscan Publications, London, p. 140.

development,<sup>250</sup> while UNESCO and others add cultural sustainability to these as an underlining principle.<sup>251</sup> However, there are many diverse and differing perspectives on sustainable development in the academic and policy literature. Some scholars even consider sustainable development to be an oxymoron that ignores the tensions between economy and environment and between the present and the future. The United States National Research Council addressed these definitional ambiguities by identifying what policy makers and researchers sought to sustain and develop under the label of sustainability.<sup>252</sup> Under the heading 'What is to be sustained', they identified three major categories of *nature*, *life support systems* and *community*, while under the heading of 'What is to be developed', they identified the three categories of *people*, *economies* and *society*. These six categories were elaborated by the identification of the key elements of each that needed to be sustained and developed, as illustrated in Table 6.2.

**Table 6.2: Clarifying the meaning of sustainable development<sup>253</sup>**

<i>What is to be sustained</i>	<i>What is to be developed</i>
<b>Nature</b> Earth Biodiversity Ecosystems	<b>People</b> Child survival Life expectancy Education Equity Equal opportunity
<b>Life support</b> Ecosystem services Resources Environment	<b>Economy</b> Wealth Productive sectors Consumption
<b>Community</b> Cultures Groups Places	<b>Society</b> Institutions Social capital States Regions

Reflecting this same integrated view of sustainability, the Australian Collaboration argues that the goal of public policy in Australia:

... must be the concurrent achievement of economic, ecological, social and cultural objectives. These four pillars are the foundations of a good society. To

<sup>250</sup> United Nations (2002) *Johannesburg Declaration on Sustainable Development*. Online at <http://www.un.org/esa/sustdev/documents/WSSDIPOliPD/English/POliPD.htm> (accessed 4 January 2006).

<sup>251</sup> UNESCO Executive Board (2005) UNESCO's contribution to the implementation of the United Nations Decade of Education for Sustainable Development (2005-2014), Document172EX/INF.4, Paris, 19 August; Nurse, K. (2006) *Culture as the Fourth Pillar of Sustainable Development*, Commonwealth Secretariat, London.

<sup>252</sup> National Research Council (USA) (1999) *Our Common Journey: A Transition toward Sustainability*, National Academy Press, Washington, D.C.

<sup>253</sup> *Ibid.*

achieve some objectives at the expense of others is unacceptable. All must be achieved together.<sup>254</sup>

Six sustainability values or principles were identified when this integrated view of sustainability as a central goal of Indigenous housing policy was applied to the findings of the three case studies and the revision of the draft Design Framework. These are:

- Cultural appropriateness;
- Environmental sustainability;
- Healthy living practices;
- Employment opportunities and economic development;
- Life-cycle costing; and
- Innovation in procurement, ownership and construction systems.

These six principles provide for the physical, social and economic well-being of people living in remote communities as well as the infrastructure needed to support the improvements greatly needed in the health, education and employment of Indigenous individuals and families in remote locations.

### **Cultural appropriateness**

The design of Indigenous housing must respond to core cultural imperatives associated with customary beliefs, preferred domiciliary practices, and the diverse range of household types, sizes and aspirations found in remote Indigenous communities. Culture is dynamic and changing and responds to new opportunities for education and livelihoods. In turn, the culture of a community affects how these new opportunities will be interpreted and received.

This aspect of culture, together with the great diversity of cultural patterns in different parts of Australia, means that it is unwise to try to specify the aspects of cultural that should be integrated into the design of a house. This means that a key foundation of the Design Framework is the need for cross-cultural consultation between design and other housing professionals, the community where a house is to be located, and family for whom it will be home.

Areas in which such consultation is vital include: the location of the house in relation to family and kinship groupings, the siting and orientation of the house in relation to 'country' and adjacent homes of relatives, the functions and design of internal and external spaces, customary practices in relation to sight-lines and avoidance relationships, and the impact of these on the location of toilets and bathrooms, etc.

### **Environmental sustainability**

There are two aspects to the environmental credential of a house. The first relates to ensuring that the form and design of the house is responsive to the local environment, especially the climate. This is imperative for ensuring the comfort of residents and reducing the energy (and financial) costs of installing artificial heating and cooling systems, and involves passive solar design influences on the choice of building styles, siting and orientation.

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<sup>254</sup> Yencken, D. and Porter, L. (2001) *A Just and Sustainable Australia*, The Australian Collaboration, Melbourne p. 12. The Australian Collaboration is an umbrella group for the major NGOs in Australia, including: Australian Council of Social Services (ACOSS), the National Council of Churches of Australia (NCCA), the Federation of Ethnic Communities Council (FECCA) the Australian Conservation Foundation (ACF), the Australian Consumers Association (ACA), the Australian Council for Overseas Aid (ACFOA) and the Trust for Young Australians.

The second aspect relates to the selection of building materials that are climatically responsive, construction systems that maximise the use of local materials and labour and water (thereby reducing the energy (and financial) costs of transport), and the integration of energy and waste management systems that support the social, economic and environmental health of the community.

### **Healthy living practices**

Achieving personal and family well-being through attention to health and safety is the focus of the *National Indigenous Housing Guide*. The Guide contains guidelines for ensuring that appropriate 'health hardware' is provided in a house to support the nine Healthy Living Practices identified by HealthHabitat:

- Washing people
- Washing clothes and bedding
- Removing waste water safely
- Improving nutrition: the ability to store, prepare and cook food
- Reducing the impact of overcrowding
- Reducing the negative effects of animals, insects and vermin
- Reducing the health effects of dust
- Controlling the temperature of the living environment
- Reducing hazards that cause trauma.

Household safety is an important additional aspect of health hardware. Thus, the *National Indigenous Housing Guide* also contains guidelines for meeting minimum standards for

- Electrical safety
- Gas safety
- Fire safety
- Structural safety.

Paying attention to these aspects of health hardware contributes not only to the health and safety of householders but can also help to address the links between health and overcrowding, the spread of infectious diseases and poor nutrition, and the wider issues of domestic violence and school truancy.

### **Employment opportunities and economic development**

The economic sustainability of remote Indigenous communities is one of their greatest weaknesses and, to date, too little attention has been paid to maximising the significance of housing construction as the major area of infrastructure investment in almost every remote Indigenous settlement in Australia. Yet the design, construction and maintenance of houses has the potential to be a major creator of local employment and the retention and circulation of money in local economies.

However, few possess appropriate skills for employment in the construction industry at the present time. Thus, the economic development of remote indigenous communities is heavily dependent upon the rapid expansion of education and training schemes to provide the skills needed for employment in various aspects of the housing system,

## **Life-cycle costing**

The severe shortage of housing in most remote Indigenous communities makes it imperative that all available funds are well spent. To date, the emphasis has been on building the maximum number of houses for the least cost. However, this approach only deals with the direct costs of housing. Indirect costs also need to be considered in order to maximise the value and return on housing expenditures.

The cost savings from minimising direct costs, e.g. by making rooms too small, not providing adequate external spaces and wet areas, and a low specification standard for fixtures and fittings, can result in high and ongoing recurrent costs for repairs and maintenance and greatly reduce the longevity of the house. Indirect costs that also have to be considered include the financial, not to mention human, costs of problems such as ill health, family instability and reduced productivity that result from living in inappropriate, overcrowded and/or poorly maintained housing.

The design of Indigenous housing reflects the principle of 'best value' rather than 'best price' and the subsequent use of whole-of-life costing for housing that integrates the cost of materials and construction with the planned and budgeted lifespan of a house, the associated repair and maintenance schedules, and the housing-related costs of health, family stability and education.

## **Innovation in procurement, ownership and construction systems**

'Value for money' can also be sought through the development of the range of innovative procurement, ownership and construction systems that are likely to result from changes in the financing and management of remote Indigenous housing. As outlined in previous chapters, the 2007 Commonwealth Budget has provided significant additional housing funds, as have recent initiatives of State and Territory governments. The allocation of responsibility for managing community-title rental housing to State/Territory housing departments provides for a pooling of these funds and the resultant opportunity to ensure 'value for money' through:

- economies of scale in housing procurement, construction and management;
- innovative procurement systems (such as regional alliances);
- the appropriate use of modular construction technologies (such as the off- and on-site fabrication of building components and on-site assembly supported by certification systems); and
- a professionalisation of property management and rental management.

The possible injection of housing funds from mortgages as people take advantage of new opportunities for home ownership may also add to the pool of funds available. Also important here is the development of alternative financing schemes such as lease-purchase arrangements and 'sweat equity'.

## **Summary**

These six aspects of sustainability provide a lens through which to analyse and channel all decisions in the design, procurement, construction and post-occupancy management of housing in remote Indigenous communities. The following sections outline a broad set of principles that may be used to guide this process.

However, it should be noted that decisions about sustainability must be locally relevant and culturally appropriate – what is 'sustainable' in one context may not be relevant or appropriate within another. This is particularly so within the vast range of geographical environments and Indigenous cultural patterns in remote regions of Australia. Thus, the principles outlined in the following sections are not a 'one-size fits-

all' set of prescriptions. Rather, each one needs to be considered in light of local contexts and endorsed, modified or rejected.

### 6.3.2 Consultation at key decision points

The lack of effective cross-cultural consultation was a major barrier to achieving liveable housing outcomes in all three case study communities. This is not a new finding, as previously noted by many researchers.<sup>255</sup> However, the three case studies have established that this concern is not just held by researchers and designers, but is a view shared by everyone involved in remote Indigenous housing, including householders, community councils staff and elected officers, staff in State/Territory housing agencies, architects, project managers and builders. All stated very clearly that the lack of effective consultation with future residents led to short-term housing solutions based on, at best, a generic assessment of housing needs and restricted consultation to limited phases of the design and construction process.

Key reasons for this problem include: a belief that consultation is expensive; shortage of people skilled in cross-cultural design consultation; difficulty in identifying the 'right' people to consult with over different issues; and the introduction of standardised housing plans that do not require consultation. Another barrier to consultation arises when a community council adopts a 'wait and see' attitude and delays decisions about which families will be allocated a house until it is completed.

Another cause is the ambivalent attitude that many key decision makers have towards consultation. While staff in council management and government agencies can believe that consultation is important, they also have to respond to political messages that 'the general public does not want to see too much money spent on public housing'.<sup>256</sup> A commitment to consultation is also undermined by the pessimism felt by many who have worked in Indigenous housing for many years. Thinking that the general condition of community housing is getting worse, not better, despite all their efforts, such people have come to believe that there is 'no housing solution' in remote Indigenous communities and have little practical faith in the value of consultation or any other proffered solutions.<sup>257</sup>

However, several developments are making consultation more important. The first is the increasing commitment to Indigenous housing policy in all jurisdictions around Australia in recent years, and the transfer of responsibility for Indigenous housing to State/Territory public housing agencies. Funding for remote Indigenous housing has increased substantially since the CHIP Review and the 2007 Budget, while the new ARIA agreements currently being negotiated by the Commonwealth with State/Territory housing agencies are encouraging innovative approaches to the procurement and management of community housing. All these developments are creating conditions for consultation to be integrated into key decision points in the housing system.

Architects and designers have traditionally seen consultation as the initial stage in scoping resident needs and a design brief. As one architect who commented on the draft Design Framework noted, 'This is the phase when the most learning takes place

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<sup>255</sup> See, for example, Memmott and Chambers (2003) *op. cit.*; Lee and Morris (2005) *op. cit.*; Wayte, K.J., Bailie, R.S and Stephenson, P. 2005. Improving the feedback of housing information to Indigenous communities, *Environmental Health*, 5 (2), pp. 36-47.

<sup>256</sup> Interview, Darwin, 30 July 2007.

<sup>257</sup> Interview, Maningrida, 31 July 2007.

about the people, the place, the needs and the limitations.<sup>258</sup> Another architect described the importance of early consultation in this way:

It is of the utmost importance to make the early consultations, information gathering and establishment workshops on the project brief integral with the trust needed for building [in remote communities]. We need to ensure that the project becomes a process the community is integral to, and not a product delivered by the consultant.<sup>259</sup>

However, consultation will always be a short-term 'fix' in assessing community housing needs if it lacks longer-term consultation or follow-up with residents and housing managers at key decision points in the housing design system. For example, consultation is vital in the planning of the original settlement layout, the configuration of streets and blocks, location of family and kinship groups, and the location and siting and possible clustering of houses on blocks. Consultation is also a vitally important process in the design of floor plans and of external spaces of individual houses. It is also an important facet in conducting a training needs analysis and developing strategies for maximising local employment in housing construction, repairs and maintenance, and in the development of tenant and rental management systems that will be seen as fair and transparent. The place of consultation at each of these decision points is emphasised in the following descriptions of priorities in developing a quality housing system for remote Indigenous communities.

***Best practice principles***

- A long-term commitment is made to consultation to improve the availability, functionality and liveability of individual houses and the housing design system.
- All involved in the housing design system have appropriate skills in cross-cultural consultation, including allowing sufficient time for consultation, and fees budgeted appropriately.
- Culturally responsive strategies are in place to identify and negotiate with traditional owners, elected council officers, council managers and all relevant formal and informal stakeholders in settlement planning and the location and siting of housing.
- Consultation meetings with elected council officers and staff and other community representatives are used to determine a full project brief, including funding, regulations, resource needs, time frames of construction cycle and accountability requirements.
- The use of three-dimensional models and sketches by designers and future residents are used to communicate appropriate and preferred configuration of internal and external living spaces.
- A local person/s is/are nominated/employed to work as a partner in all consultation and construction phases.
- Standard designs that could restrict the perceived amount of consultation needed are subjected to the same community and householder consultation as other houses and modified to suit particular cultural, siting, orientation and floor plan requirements.

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<sup>258</sup> Comment on draft Design Framework by Architect 'B', September 2006

<sup>259</sup> Comment on draft Design Framework by Architect 'A', September 2006.



### 6.3.3 Settlement planning

The thing we have really got wrong is settlement planning. Design has to be in relation to space. It is not just the house itself you have to plan. It's all about how houses are grouped to suit family relationships, the grouping of houses, the spaces between the housing. We are only now just beginning to think about small communal areas where people can come together for some reason or other. You know, to cook, or for women's groups and men's groups. We have been doing this for a long time in mainstream public housing, but not in Indigenous communities.<sup>260</sup>

Thus, it not surprising that the 2006 State of the Environment report described the quality of human settlements in Australia as 'generally good' but 'with remote Indigenous settlements being the notable exception'.<sup>261</sup> Settlement planning can be defined as the broad spatial patterns established in a city or community that provide a template for land subdivision, house siting, house design, landscape planning, sewerage, water connections and access to public transport health services.

In a limited number of Indigenous communities, such as the small town of Old Mapoon on the Cape York Peninsula, participatory planning workshops have been successful in merging culturally determined conceptions of, and use of, space, overall settlement pattern, the arrangement of houses on blocks and their relation to each other. Importantly, the authors of the Mapoon Settlement Plan argue that protecting sites of historical and traditional significance are important not only in good site planning but also in maintaining the health and well-being of Indigenous communities.<sup>262</sup>

A key issue in settlement planning practice in remote Indigenous communities is the degree to which planning is 'centralised' through the involvement of a small group in the community or 'participatory' through the involvement of the whole community.<sup>263</sup> There appears to have been little participatory consultation with the communities of Maningrida, Mimili and Palm Island. Apart from discussions with traditional owners about sites of cultural significance, most key decisions guiding the configuration of lots, the siting of houses, and nature and level of civic infrastructure have been made by external land use planners, engineers and key decision makers of local councils. The needs of women, children and the elderly seem to have been especially neglected. Distances between housing districts and shops, schools, clinics and other services can be large and walking very difficult in hot and wet conditions. Well-lit and grassed or paved footpaths are rare, and formal and informal places to meet, talk and socialise, such as public parks, gardens and shaded bowers, are almost non-existent. Accessible public toilets and changing rooms for parents and babies are also rare.

While most architects and policy makers interviewed for this research agreed that culturally appropriate settlement planning was key to the success of housing in remote Indigenous settlements, there has been very little research, informed policy or innovative design practice to date in this area.

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<sup>260</sup> Interview, Darwin, 30 July 2007.

<sup>261</sup> 2006 State of Environment Committee (2006) The condition of human settlements, *Australia State of Environment 2006*, Section 3.3. Available online at [www.environment.gov.au/soe/2006/publications/report/human-settlements-3.html](http://www.environment.gov.au/soe/2006/publications/report/human-settlements-3.html) (accessed 2 May 2007).

<sup>262</sup> Moran, M. (1999) *Improved Settlement Planning and Environmental Health in Remote Aboriginal Communities*, Centre for Appropriate Technology, Alice Springs.

<sup>263</sup> *Ibid.*

### ***Best practice principles***

- Sufficient time and fees are built into housing programs to allow appropriate participatory consultation with the community about subdivision layout, infrastructure needs and the siting of services.
- Formal and informal meeting and playing areas, parks, shaded areas and safe, accessible footpaths are provided.
- Subdivision layouts cater for diverse household and family groupings such as nuclear and extended families, single men, single women, elderly and disabled residents.
- Houses are separated widely enough apart (minimum 4–5 metres) to provide protection and privacy.
- Large blocks of land are allocated for housing and are sub-divided to allow for (future) adjacent accommodation for extended family groups.
- Large blocks of land allow the siting of housing for extended gardens, verandahs and external cooking space areas.
- Family associations are central to community layout to ensure that cultural and kin relationships can be reflected in housing allocation and interior space planning.
- An ecological systems approach to alternative power and water delivery systems is used wherever appropriate to minimise infrastructure costs and to reduce everyday costs to householders.

### ***6.3.4 Design and planning of houses***

In the traditional design and planning phase of housing, the designer analyses the project and/or user brief, the site conditions, features and constraints and determines the best location and orientation of the proposed dwelling/s. The designer then begins to develop ideas through rough plans, sketches and models, which are brought together into concept design drawings for discussion with the client or community group. These steps are necessary in the design of Indigenous houses also, as is consideration of the planning of internal and external living zones and mix of private and communal living spaces. The appropriate spatial configuration of these spaces need to take account of household size, gender and age composition, and social avoidance regimes of family groups as they are critical to the development of safe and healthy lifestyles.

The case studies of Palm Island, Morningside and Mimili demonstrate that when houses are not culturally responsive in their design, are poorly built and/or where there is no systematic approach to their repair or maintenance, minor problems can escalate over time and create dysfunctional living environments that also contribute to shortening the life expectancy of the houses themselves. As a result, the adequacy of design of housing plays a crucial role in community health and well-being in remote Indigenous settlements. However, most existing models of Indigenous housing have been designed with little or no understanding of the complex nature of typically large, Indigenous family households. The range of residences in remote communities needed in our case studies vary from large 4–5 bedroom households, to single men's and women's housing, to elderly or disabled housing. Despite this, the mainstream nuclear family house still provides the template for most Indigenous housing. These traditionally sized 'suburban' houses are unable to accommodate the large, variable and complex household sizes found in remote Indigenous communities.

### ***Best practice principles***

#### Household make-up

- A careful study is made of the composition of the householders who will be using a house, over what period of time and according to what season.
- Particular attention is paid to extended family, age, gender and disability issues among possible residents, so that:
  - there are flexible facilities for sleeping, feeding and ablutions for up to four times the number of regular residents
  - internal circulation and functional relationships between spaces and space needs are accommodated, e.g. through appropriate size, location and number of wet areas, bedrooms, kitchen spaces, storage requirements, verandah areas, etc.
  - access to external services and emergency escapes are facilitated.
- Flexible accommodation is provided for visitors through, for example, larger living room spaces, semi-enclosed, wide verandahs, etc. Additional external toilets and showers are available to avoid overuse of toilets, showers, septic systems, etc.

#### External design

- Decisions about the form and structure of the dwelling are decided as result of a balanced consideration of: design responses to environmental and climatic conditions; patterns of construction and maintenance costs; locally available materials and skills; opportunities for local employment and skills development; possibilities for modularisation, extensions, etc.; and household composition. These considerations will determine, for example, whether houses are high or low set, built on a concrete slab or a raised timber floor, are built from cement block, mud brick or with steel or timber light-frame construction and cladding.
- Houses are sited and oriented appropriately with respect to: the direction of 'country'; family and kinship groupings and possible clustering; sightlines; views; breezes and solar aspect; and in relation to local services and resources.
- The number of doorways are appropriate to the number of people living in a house, with doors and windows positioned to allow natural ventilation and breezes, as appropriate to local climatic conditions.
- The location of verandahs, external cooking space/s yard spaces, perimeter fences, etc. takes account of health and safety requirements and social protocols.
- Sturdy construction of wide roof overhangs to verandahs helps manage roof storm-water overflows and avoid rain penetration, and harvest water.
- External site planning facilitates the use of outside cooking/hearth areas, with well-drained and shaded structures for outside entertaining.
- An extra toilet/hand basin is provided in the yard for emergency and visitor use.
- Secure gates (through appropriate specification of hinge selection and fixings) ensure privacy and security of verandahs and yard spaces.
- Fencing is provided around houses to provide definition of boundaries to domiciliary spaces and to limit entry of unwanted dogs, cars and people to private yard spaces.
- Provision is made in external areas for the storage of additional bedding, tools, machinery and vehicles, as appropriate.
- Landscaping provides a mix of shade areas, gardens and open space for gatherings or for children to play.

#### Internal planning

- Bedrooms are large enough to accommodate the household sub-units who may occupy them, together with secure storage and shelving for all of their possessions.
- Bedrooms have two-way access, to ensure the safety and security of individuals.
- Living rooms are planned to allow for a range of storage, living and sleeping activities, including accommodating mattresses and people sitting on the ground facing one another.
- Corridors are of sufficient width to provide additional sleeping and storage spaces and allow people in avoidance relationships to pass without embarrassment.
- The number of toilets and bathrooms are appropriate to the likely number of residents and are located correctly according to local avoidance behaviors, with regard to other areas of the house and to ensure privacy and security.
- Kitchen, bathroom and laundry design, fittings and fixtures incorporate the health and safety recommendations for healthy living practices in the National Indigenous Design Guide.
- Sufficient lockable storage is provided in kitchens to enable different family sub-units to store their food and to accommodate large-size cooking equipment such as pans, pots, etc.
- The size, location and positioning of window openings in living and kitchen spaces allow for exterior visual surveillance.
- Openable windows in kitchen spaces allow utensils and food from the internal kitchen to be passed to an outdoor bench.
- Adequate acoustic insulation in floor, wall and roofing construction in bedroom, bathroom and living spaces allows for minimal noise disturbance from within the house.

#### *6.3.5 Design development, construction and project management*

The term 'design development' refers to the stage in building services when design professionals compare the concept design drawings with the design brief and then develop the technical detail for the project with the assigned project team. Detailed drawings and specifications are then prepared to enable the builder to construct the project. The drawings are lodged to obtain building approval and the method of engaging a builder for the project is determined. The construction and project management phase of housing is defined as when the designer works with the builder and other project team members to ensure that the project is constructed in accordance with the original design drawings and specification.

Several problems have been identified at this stage of the housing system:

1. Much remote Indigenous housing has suffered from low specification standards for fittings and fixtures and inferior workmanship. These have left many houses unable to cope with the wear and tear of large households.
2. The costs of construction are inflated by a variety of factors, including remoteness and associated costs of transporting materials and 'importing' skilled labour.
3. While competitive tendering processes are generally successful in reducing the initial costs of construction, they have led to short-cuts to keep prices down and have restricted opportunities for local employment and training. However, qualification-based processes that privilege council-managed building teams and the use of distant project managers may reduce the number and effectiveness of inspections during construction.

4. Most housing contracts are small and let to small building companies or council teams. The lack of economies of scale reduce incentives for entrepreneurship and the ability to adopt new construction technologies and materials.
5. Project managers sometimes have to manage conflicting roles in remote Indigenous housing, such as overseeing any client consultation and analysis of user needs, selecting the architect – or even being the architect or house designer, undertaking and approving site testing, preparation and inspections, and supervising construction.

Generally, all these problems arise because of the perceived need to cut costs in the provision of housing in remote Indigenous communities. New approaches based on, for example, the regionalisation of tenders, alliances of builders, off-site prefabrication and modularisation, professional facilities management, etc., are being developed in response to these problems but have yet to be costed or evaluated on a whole-of-house-life or whole-of-community basis.

#### ***Best practice principles***

- Design development follows the careful analysis of user needs and aspirations as revealed by initial consultations and the review of concept drawings, models and plans.
- The specification of building materials, construction processes, fittings and fixtures is a balanced response to local environmental conditions, anticipated robust use, whole-of-house-life costing, and opportunities to promote local employment and training.
- Appropriate technologies for solar power for heating, water collection and storage, and waste water treatment are specified.
- Competitive tendering for housing construction, including freight of building materials, is used wherever appropriate and possible.
- Innovative procurement and construction strategies are explored to maximise the effectiveness and efficiency of housing budgets.
- Project management ensures that the specified construction details are followed, that quality building materials are used, and that the quality of training and workmanship is of the highest standard.
- The original designer is consulted over proposed changes during construction (e.g. as a result of cost increases, etc.) to ensure that these they do not undermine the goals of the original design brief. This may necessitate further consultation and increasing the number of site inspections.
- The specification of appropriate and long-wearing finishes (e.g. wall paints, and cupboard and floor surfaces) takes account of likely available cleaning equipment and maintenance tools and skills to facilitate ease of cleaning and maintenance by householders.

#### ***6.3.6 Employment and training***

The bottom line [in Indigenous housing] should be the transfer of 'facilitation' knowledge to enable Aboriginal people to drive the process and be responsible for the outcomes themselves.<sup>264</sup>

Improved housing design and construction can make a major contribution to the quality of life and health for remote Indigenous communities. However, the opportunities long-term economic development that a local housing industry may engender is currently lacking in most Indigenous settlements. This is despite the fact that housing funds are usually the single largest investment in a remote community

<sup>264</sup> Comment on draft Design Framework by Architect 'A', September 2006.

outside of health and education services and, therefore, if used wisely and in complementary or pooled arrangements with other with funding sources (e.g. CDEP, the construction of health and education facilities, training program budgets, etc.) can do much to create local employment opportunities, drive a local economy and prevent the drift to larger centres. While there have been successful models of housing construction being used to stimulate ongoing training and education (for example in the communities of Mapoon and the Tiwi Islands), most employees in the design, construction and maintenance of remote Indigenous housing are external to the communities in which they are working. The resultant 'fly-in-fly-out' culture of many remote contractors not only inflates the cost of housing but also creates a culture dependent on outside services, even for housing maintenance.

Standard construction contracts have often sought the employment of local community labour by way of clauses within the contract. However, these have not generally been accompanied by parallel training programs that ensure that the required skills sets for local employees are developed – and it is unrealistic to expect commercial builders to carry the financial costs of training alone. The lack of inter-departmental approaches between State/Territory housing departments, secondary education and TAFE programs is a key barrier in this regard, as are attempts to educate a small number of Indigenous workers to tradesperson level, often very unsuccessfully due to the literacy standards required, instead of training a large number of workers in basic building and maintenance skills. Indeed, Jardine-Orr et al. argue for a broad 'community development' approach to training in remote Indigenous communities.<sup>265</sup>

Another key to the longer-term sustainability of remote Indigenous housing is the development of household skill programs to provide capabilities for effective household management. This includes beginning the handover process early in the construction process to encourage a sense of ownership of the house. This can also include progressive discussions with future residents about the various technical aspects of maintaining houses, including, where appropriate and needed, the operation of kitchen appliances, changing of light bulbs and fittings, switching off gas and electrical and gas appliances, maintaining and replacing washers, windows, hinges and locks, and unblocking drains and toilets. Successful programs already exist for householder training in a limited number of Indigenous communities such as the Tiwi Islands.<sup>266</sup> This method of developing ongoing community self-reliance in housing maintenance is also central to the work of FHBH programs.<sup>267</sup>

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<sup>265</sup> Jardine-Orr, A., Spring, F. and Anda, M. (2004) *Indigenous Housing and Governance: Case Studies from Remote Communities in WA & NT*, AHURI Final Report.

<sup>266</sup> SKM (2003) *Tiwi Islands Housing Strategy* (revised). Available online at <http://www.tilg.nt.gov.au/council/content/download/243/1089/file/Final%20Tiwi%20Islands%20Housing%20Strategy%20Revised%20Oct03.doc> (accessed 2 July 2007).

<sup>267</sup> McPeake and Pholeris (2005) *op. cit.*, p. 6; See also Long, Memmott and Sealing. (2007) *op. cit.*, p. 82.

### ***Best practice principles***

- The construction, repair and maintenance of housing and associated infrastructure systems (e.g. water, sewer, power, roads, parks and gardens) are used to catalyse the local economy and create opportunities for employment training.
- New housing programs build upon and extend the knowledge and skills of local community members for building, maintaining and repairing housing and associated infrastructure systems.
- Capital works contracts are integrated with facilities management and maintenance regimes for the long-term operation and viability of remote living environments.
- A whole-of-government approach to funding the social and economic development of remote Indigenous communities integrates health, education, training and housing programs to maximize employment and training opportunities.
- Housing-related training programs emphasise the development of long-term repair and maintenance skills.
- Opportunities to enhance household living skills are provided to promote the health and safety of householders.
- An education and training program is developed to ensure long-term participation in housing-related employment. This involves:
  - a training needs analysis to identify gaps in the skills necessary to participate in housing-related employment such as in for construction, repairs, maintenance administration and management;
  - preparation of a training program that addresses identified gaps, and that includes both apprenticeships and basic skills courses in plumbing, roofing, carpentry, window glazing, painting, minor electrical repairs and gardening as well as administration and management;
  - workplace assessments to tailor education and training to individual needs; and
  - processes for formal and non-formal certification and recognition of prior and current work experiences.

### ***6.3.7 Post-occupancy management***

The aim of effective post-occupancy management is to maximise the functional lifespan and liveability of houses through a range of strategies designed to ensure the effectiveness of housing budgets. The first step in this is to conduct a post-occupancy evaluation (POE). Normally this is the responsibility of the designer and involves following up outstanding building works and the immediate rectifications of faulty materials and workmanship. However, this responsibility often falls on the assigned project manager or council housing officers in remote Indigenous communities. Unfortunately, this task is often neglected due to the conflicting roles played by many project managers and local building teams (see Section 6.4.5). With initial POEs not being undertaken effectively, there is little information upon which to develop maintenance schedules and ongoing maintenance support.

The many housing issues experienced in the three case study communities in this study suggest that ineffective POE processes are not only the only problem in post-occupancy management, however. Tenant registers, waiting lists, rental records and maintenance schedules are often poorly managed also. Such problems are often related to the low budgets and skill levels of ICHOs and council housing staff and are a key reason for the planned transfer of ownership and management of housing in remote communities to private ownership or State/territory public housing agencies.

**Best practice principles**

- Post-occupancy evaluations (POEs) are undertaken as a priority task within three months of construction or renovation.
- Contracts for the design of houses include the need to specify a maintenance schedule.
- Processes for housing allocation and tenancy management are fair and transparent, and include developing and implementing:
  - a regular review of housing waiting lists to ensure accuracy and fairness;
  - guidelines for allocating housing and matching householder needs to the design of houses;
  - a tenancy charter that outlines the rights and responsibilities of housing managers and tenants;
  - a tenant–householder register and a standardised rent collection system; and
  - a Family Income Management (FIM) scheme to assist those with rental payment problems.
- An efficient repair and maintenance program is in place, and includes:
  - an inspection of all houses to identify and address immediate repair and maintenance needs;
  - a continuously updated ‘condition register’ for all houses in a community;
  - an annual survey of houses to record housing condition and identify key maintenance issues;
  - a rigorous housing maintenance schedule that is posted in public notices;
  - the immediate repair of any critical health and safety risks;
  - a minor works register and maintenance program;
  - an education and training program to provide local people with the skills to conduct minor repairs and maintenance;
  - a system to ensure that people who intentionally cause damage to houses are responsible for the costs of repairs;
  - opportunities for ongoing home management and maintenance training; and
  - a system for recognising and rewarding satisfactory home maintenance and repairs by tenants.



# 7 RESEARCH FINDINGS AND POLICY IMPLICATIONS

## 7.1 Introduction

The main research findings and policy implications from this project, outlined in the Design Framework in Chapter 6 and summarised below, will inform more effective practice in the design, construction and management of remote Indigenous housing. The Design Framework provides concepts and principles that integrate and extend the focus on safety, health, quality control and sustainability in the *National Indigenous Housing Guide* by integrating principles for cultural, economic and environmental sustainability into the housing process. As such, the Framework supports the ways in which Indigenous people prefer to use their homes to help meet their cultural and social aspirations and needs as well as addressing many of the central housing problems that undermine opportunities for social stability, employment, training and economic development in remote Indigenous communities.

The Design Framework is based upon the interplay of two sets of ideas:

1. Principles of sustainability for remote Indigenous housing, and
2. The application of these principles at key decision points in the housing system.

A central aspect of sustainability, however, is responsiveness to the local. Thus, what may be 'sustainable' in one context may not be culturally relevant or environmentally appropriate in another. This is particularly so within the vast diversity of geographical environments and Indigenous cultural patterns in remote regions of Australia. Thus, the principles outlined in the following sections are not 'one size fits all' prescriptions. Rather, each one needs to be considered in light of local contexts and endorsed, modified or rejected. The need for such local and regional review is one of the major policy recommendations at the end of this report.

## 7.2 Principles of sustainability

The six principles of sustainability for remote Indigenous housing identified in Chapter 6 were:

- *Cultural appropriateness* – based upon the need for the design of Indigenous housing to respond to core cultural imperatives of customary lifestyles, Indigenous domiciliary preferences and diverse range of household types, sizes and aspirations.
- *Environmentally sustainable* – based upon the selection of environmentally appropriate building materials, house siting, orientation and design, construction systems and water, energy and waste management systems.
- *Healthy living practices* – based upon the HealthHabitat principles in the *National Indigenous Housing Guide*, which contribute to quality construction, safety and addressing the links between health and overcrowding, the spread of infectious diseases, poor nutrition, domestic violence and school truancy.
- *Employment opportunities and economic development* – based upon the significance of housing construction as the major area of infrastructure investment in almost every remote Indigenous settlement in Australia and its resultant potential as a major creator of employment, skills training for workforce development, and the retention and circulation of money in local economies.

- *Life-cycle costing* – based upon the principle of ‘best value’ rather than ‘best price’ and the subsequent use of whole-of-life costing for housing, which integrates the cost of construction with the planned and budgeted lifespan of a house and associated repair and maintenance schedules.
- *Innovation in procurement, ownership and construction systems* – based upon the economies of scale and time savings to be achieved by innovative procurement systems (such as regional alliances), alternative approaches to home tenure (such as lease–purchase, sweat equity, etc), and the appropriate use of modular construction technologies (such as the off- and on-site fabrication of building components and on-site assembly and certification).

These six principles provide for the physical, social and economic well-being of people living in remote communities as well as the infrastructure needed to support the improvements greatly needed in the health, education and employment of Indigenous individuals and families in remote locations.

## **7.3 Application of the sustainability principles at key decision points in the housing system**

### *7.3.1 Consultation at key decision points*

Consultation needs to be undertaken throughout the housing process in remote communities: from the establishment of a settlement plan, to discussions about preferred housing layouts, to involving residents in householder training programs and, finally, to ways of maintaining houses and providing a sense of ‘ownership’ for residents.

During initial stages of housing design, a wide range of 3-D design techniques, such as sketches and simple card models, are valuable in exploring spatial possibilities and preferences with future householders.

Finally, in order for consultation to be effective in assessing the real needs of remote householders, sufficient budgets, local resources and timelines need to be built into all project management contracts to ensure ongoing consultation about housing preferences and future maintenance by both external designers and dedicated local community representatives.

### *7.3.2 Settlement planning*

To date, there has been little research on the initial housing subdivision layout or ‘settlement plans’ that guide house siting, landscape planning, sewerage and power connections in remote Indigenous communities. The process of planning new residential communities in these areas has also often been undertaken with minimal consultation of local residents or reference to important Indigenous cultural landscapes and traditions. In order to improve both the design, construction and future maintenance of housing, sufficient time and fees need to be costed upfront into housing programs to allow appropriate consultation with the community about subdivision layout, infrastructure needs and the siting of services. It is also critical that subdivision layouts are based upon the specific householder needs of remote communities to allow for additional groupings of single men, single women, the elderly, and disabled residents.

### *7.3.3 Design and planning of houses*

Consultation undertaken with householders and planning officers in the three case studies clearly demonstrates that when the external and internal design of remote community houses is not culturally responsive, the life expectancy of those houses

can be less than 10–15 years. As a result, the appropriateness of design in housing provides not only a key economic argument for good design and construction, but also plays a crucial role in wider community health and well-being in remote Indigenous settlements.

Decisions about the form and structure of houses in remote areas must be decided as result of a balanced consideration of design responses to environmental and climatic conditions, patterns of construction and maintenance costs, locally available materials and skills, and opportunities for local employment and skills development.

#### *7.3.4 Design development, construction and project management*

These phases of housing procurement and delivery require the direct involvement of qualified architects, working with engineers, quantity surveyors, building tradespeople and project managers. Overall supervision by the architect is vital for ensuring not only that the project is constructed in accordance with the original design drawings and specification, but is also key to the maintainability and longevity of remote area housing.

Substantial innovation in construction technologies is required in remote areas to allow for both on- and off-site prefabrication and the use of local building materials. In this process, it is also imperative to use local labour in the building process and ongoing maintenance and management of housing stock.

#### *7.3.5 Employment and training*

Employment and training for remote Indigenous communities is a key priority for all future housing management strategies in remote areas developed at local, state or federal level to provide local people with the opportunity to participate in housing-related employment.

The development of appropriate skills for repair and maintenance work in remote communities through targeted training programs developed at the outset of all new housing and renovation projects is strongly recommended and would vastly improve the lifespan of the housing and the economic development of the community.

#### *7.3.6 Post-occupancy management*

Effective post-occupancy management of remote Indigenous housing projects is also key to housing longevity and whole of community health and well-being. Post-occupancy evaluations should be undertaken within three months of a house being completed and occupied, and then at regular intervals as part of a regular repair and maintenance schedule.

Key to housing becoming a driver for community sustainability in remote communities is the use of local labor in construction and maintenance and the development of householder skill programs and asset management practices to effectively maintain and manage housing stock.

## **7.4 Reflections**

From the beginning of this research project, and at all times throughout, we sought to be true to the (i) systemic, (ii) culturally responsive and (iii) consultative principles developed in the Positioning Paper and summarised in Chapter 1.3 of this report. We were particularly keen to be true to the consultation principles developed by research partners Gini Lee and David Morris, in a previous AHURI project.<sup>268</sup> One of these reflected the FHBH credo of 'no survey without service'. Thus, the research in Mimili

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<sup>268</sup> See Lee and Morris (2005) *op. cit.*

was conducted alongside a 'design-build' exercise by the University of South Australia researchers and will result in the construction of single men's quarters (see Chapter 4.8). Researchers from RMIT and Queensland University of Technology are members of Architects Without Frontiers and sought to provide roofing repairs in Maningrida following Cyclone Monica and are still working on projects there and, at the invitation of the CEO on Palm Island, provided pro bono support to review the Palm Island town plan, assess building proposals, and develop designs for a town square.

These activities greatly assisted in bringing a degree of legitimacy and integrity to our visits to Mimili, Maningrida and Palm Island, and underpinned the sense of humility with which we approached interviewees. It reminded us too of a point we were very mindful of right from the beginning of the study: that our research would not produce a Design Framework that would be suitable for all situations. This is why our goal was to develop a design *framework* rather than design guidelines. The diversity of cultural patterns and geographical environments around Australia, together with the need for in-depth consultation with community leaders and future residents of a house, meant that we were not seeking to develop a prescriptive set of guidelines or 'one size fits all' approach to the complex cultural, economic, environmental and technical challenges in building and maintaining houses across the many diverse remote Indigenous communities in Australia.

As we embarked on the research, we found a small but active group of architects very experienced in the design of remote Indigenous housing. They knew each other, had often worked together, and were only too pleased to share their knowledge. These people have been responsible for some of the major innovations in remote Indigenous housing and the application of anthropological research to culturally appropriate house design. Some are now working on FHBH projects.

However, what surprised us (although, on reflection, it should not have) was that several were no longer working in the field of Indigenous housing. They had become frustrated with the changing policy environment, uncertainties over funding continuity and priorities, the limitations that fee pressures and large distances placed upon the consultation and supervision phases of design and construction, and increasing pressure to reduce costs through the use of standardised designs. However, they remained vitally interested and were keen to share their experience.

We also met a great number of committed and caring policy makers, government officers, elected community council officers and council managers and staff. All seemed very pressured and were working on a wide range of complex issues, often at the same time and while trying to negotiate uncertain and shifting policy and budget settings. Several had many years of experience and had developed much wisdom from their years of commitment. Others were relatively new to the field and eager to learn about what was happening in other communities or parts of Australia.

However, whether experienced or relatively new to Indigenous housing policy, very few knew of the history of remote Indigenous housing design in Australia, the innovative work of Indigenous housing design community, the wide range of plans they had developed, or the initiatives of the Indigenous Housing Taskforce of the Royal Australian Institute of Architects.<sup>269</sup> Similarly, few in the Northern Territory knew about the culturally responsive and participatory approach to settlement layout in Mapoon in north Queensland,<sup>270</sup> and no one in Maningrida or Palm Island knew about the design-build strategy being used by the Louis Laybourne Smith School of Architecture at the University of South Australia to engage students in the design and

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<sup>269</sup> See <http://www.architecture.com.au/i-cms?page=1.17.3577.5947.9924.9927>

<sup>270</sup> See Moran (2004) *op. cit.*

construction of single men's housing in Mimili for this project or similar projects in past years.<sup>271</sup> Similarly, few outside Maningrida – even in the Northern Territory – knew of the capacity for prefabrication developed by the Bawinanga Aboriginal Corporation through the development of its mud brick factory and its off-site assembly of roof trusses, window sections and security screens, and kitchens and bathrooms for transport to building sites.<sup>272</sup>

The growing commitment to remote Indigenous housing at both the government policy level and in the design profession provides an opportunity to bring these two communities together and begin to address this lack of shared knowledge. The 2007 *Which Way? Directions in Indigenous Housing* conference being organised by the Royal Australian Institute of Architects with support from the Australian Government Department of Families, Community Services and Indigenous Affairs (FaCSIA) and a wide range of other government, corporate and academic partners is an excellent step in this process.<sup>273</sup>

A very significant need now is to continue the opportunities for sharing and learning by establishing a national Internet-based database to act as an interactive repository and source of ideas for policy makers and designers. As such, it would be an archive of innovative designs, approaches to construction, property and rental management systems, policy papers, post-occupancy evaluations and other research reports on remote Indigenous housing.

Finally, we began Chapter 1 by acknowledging that the value of this report resided not so much in any new insights about remote Indigenous housing we hoped to find, but in the synthesis of the experiences of many who have worked in the field before, testing and grounding the synthesis in the field through three case studies, and then developing a practical and flexible framework from a Design Framework.

This Design Framework integrates the focus on cultural responsiveness, Healthy Living Practices and consultation and capacity building in the cultural, health and process approaches to remote Indigenous housing, respectively.<sup>274</sup> However, it goes beyond these by also emphasising the importance of an integrated view of sustainability as a central focus of the entire design process, the importance of design, construction and maintenance as a driver of employment opportunities and economic development in remote Indigenous communities, and the potential of innovative approaches to the procurement, construction and management of such housing. These latter contributions indicate that, in addition to design and anthropology, four important disciplines or professional fields are needed to support the successful utilisation of the Design Framework. These are:

- *Property construction and project management* – which is necessary to take advantage of the innovative modular and pre-fabricated construction technologies that can provide improved housing outcomes at reduced prices;
- *Economics* – which is necessary to the development of alternative financial models for the procurement and management of remote Indigenous housing based upon public–private partnerships, life-cycle costing, and a consideration of the value of the 'social savings' from non-shelter outcomes, such as health, education and family services, that can flow from improved housing;

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<sup>271</sup> See Chapter 4. See Chapter 4.

<sup>272</sup> See <http://www.bawinanga.com.au/enterprises/construction/index.htm>

<sup>273</sup> See <http://www.architecture.com.au/i-cms?page=9657>

<sup>274</sup> These three approaches are derived from Memmott (2003) *op.cit.*, and are summarised in the Positioning Paper for this project, and at the beginning of Chapter 5 of this report.

- *Community and regional development* – which is necessary for identifying opportunities and strategies for using investments in housing to leverage the human capital development and employment that can flow from capacity building in construction, property management and maintenance.
- *Education and training* – which is necessary to maximise employment in housing-related employment.

These four practical disciplines provide the basis for translating the important work done to date by anthropologists and architects to date into a strategy for delivering affordable, but high quality, and culturally and environmentally sustainable, housing.

## APPENDIX 1: CONSULTATION LIST

South Australia Office for Indigenous Housing (Aboriginal Housing Authority), Adelaide	<a href="http://www.housingtrust.sa.gov.au">http://www.housingtrust.sa.gov.au</a>
Arup Darwin	<a href="http://www.arup.com/australasia/index.cfm">http://www.arup.com/australasia/index.cfm</a>
Aboriginal Environments Research Centre (AERC), University of Queensland	<a href="http://www.aboriginalenvironments.com">www.aboriginalenvironments.com</a>
Architectural Practice Academy, Brisbane	<a href="http://www.publicworks.qld.gov.au/about/news.cfm">www.publicworks.qld.gov.au/about/news.cfm</a>
Architects Studio, Darwin	<a href="http://www.groupgsa.com/alliances.asp?ID=1&amp;SUBID=21">http://www.groupgsa.com/alliances.asp?ID=1&amp;SUBID=21</a>
Bawinanga Aboriginal Corporation (BAC), Maningrida	<a href="http://www.maningrida.com/mac/bac.php">www.maningrida.com/mac/bac.php</a>
Brendan J Meney Architects, Alice Springs	2 Range Crs, Alice Springs, NT, 0870
Build Up Design, Darwin	PO Box 4128 Darwin, NT, 0800
Centre for Appropriate Technology, Inc. (CAT), Alice Springs	<a href="http://www.icat.org.au">www.icat.org.au</a>
DFA Architects, Cairns	Machans Beach, Cairns, QLD, 4878
HealthHabitat, Sydney	<a href="http://www.healthhabitat.com">www.healthhabitat.com</a>
J&B Wigley Architects and Community Planners, Melbourne	<a href="http://www.ozemail.com.au/~bwigley/jb_wigley.html">www.ozemail.com.au/~bwigley/jb_wigley.html</a>
Maningrida Council, Inc.	<a href="http://www.maningrida.nt.gov.au">www.maningrida.nt.gov.au</a>
Merrima Design, Brisbane	<a href="http://www.merrimadesign.com/">http://www.merrimadesign.com/</a>
NBC Consultants, Darwin	NBC Consultants, 1 Caryota Court,. Coconut Grove NT, 0810.
Northern Territory Department of Local Government, Housing & Sport, Darwin	<a href="http://www.dcdsca.nt.gov.au/indigenous_housing">http://www.dcdsca.nt.gov.au/indigenous_housing</a>
Oodgeroo Unit, Queensland University of Technology	<a href="http://www.oodgeroo.qut.edu.au">http://www.oodgeroo.qut.edu.au</a>
Palm Island Aboriginal Shire Council	C/- Post Office; Palm Island, QLD, 4816
Palm Island Future Directions Steering Group	<a href="http://antarqld.org.au/pdf/palmislandfuturedirections.pdf">http://antarqld.org.au/pdf/palmislandfuturedirections.pdf</a>
Paul Haar Architects	Thornbury, VIC, 3071
PM&D Architects	326 Hay Street, Perth, WA, 6000
Queensland Department of Public Works	<a href="http://www.publicworks.qld.gov.au">www.publicworks.qld.gov.au</a>
Queensland Department of Project Services	<a href="http://www.projects-services.qld.gov.au">www.projects-services.qld.gov.au</a>
Queensland Department of QBuild	<a href="http://www.qbuild.qld.gov.au">www.qbuild.qld.gov.au</a>
Queensland Department of Communities	<a href="http://www.communities.qld.gov.au">www.communities.qld.gov.au</a>
Queensland Department of Housing	<a href="http://www.housing.qld.gov.au">www.housing.qld.gov.au</a>
SGS Economics & Planning	<a href="http://sgs-pl.com.au">http://sgs-pl.com.au</a>
Susan Dugdale Architects	<a href="http://www.dugdale.com.au">http://www.dugdale.com.au</a>
Tangentyere Council, Alice Springs	<a href="http://www.tangentyere.org.au">www.tangentyere.org.au</a>

## **AHURI Research Centres**

Queensland Research Centre  
RMIT-NATSEM Research Centre  
Southern Research Centre  
Swinburne-Monash Research Centre  
Sydney Research Centre  
UNSW-UWS Research Centre  
Western Australia Research Centre



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