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MAGAZINE



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BUSH TECHS: HOW TO FIX A LEAKING TAP / ARE YOU MISSING OUT ON YOUR ENERGY REBATE?

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WARNING:
This magazine contains images of Indigenous and non-Indigenous people. Caution should be exercised while reading this magazine, as some images may be of deceased persons.



news



The Indigenous Youth Leadership Program participants train in Anglesea, Victoria.

Emerging Indigenous Leaders Tackle Kokoda

For the last year, a young Aboriginal employee at CAT, Charlee-Ann Ah Chee, has been involved in the prestigious Indigenous Youth Leadership Program (IYLP). She's now gearing up for her ultimate challenge, trekking the famous Kokoda Track in Papua New Guinea in June 2014.

The IYLP is a two year program run through the Jobs Australia Foundation. It focuses on the development of skills and knowledge by a high achieving group of young Indigenous people. The programs aims to develop individuals and leaders who can effectively address issues and needs in their communities in the future.

Entry to the IYLP program is highly competitive, with only 22 places offered Australia-wide. Charlee is the only participant in central Australia and one of just 3 in the Northern Territory. Over the course of the two year program, young leaders are involved

in a series of courses and personal development opportunities. As well as ongoing learning and assessments towards their Certificate IV in Community Development, participants are responsible for their own fundraising and fitness training.

Several blocks of training have been delivered to the group in Anglesea, Victoria since the program commenced in early 2013. A highlight of the IYLP program is a five night trek on the scenic Larapinta Trail in Central Australia. This 35km walk is really just a warm-up for the ultimate challenge of the program – all 96km the Kokoda Track.

The Kokoda Track is a single-file foot thoroughfare that runs overland through the Owen Stanley Range in Papua New Guinea. It is a challenging walk characterised by hot, humid days with intensely cold nights, torrential rainfall and the risk of endemic tropical diseases such as malaria. The IYLP crew aim to complete the walk in 7 days. The trip will be completed with a group

project volunteering to build a classroom for orphaned children in a PNG village.

We will feature the full story of her Kokoda Trail adventure in the next Our Place magazine.

Community planning in the Watarrka region

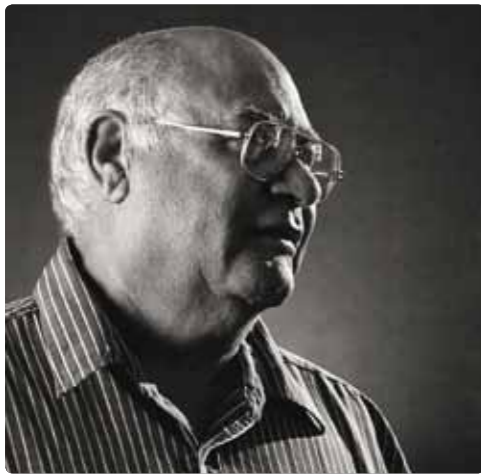
CAT has been working with the people on outstations in the Watarrka (Kings Canyon) region for the past nine months to develop community plans, putting special emphasis on meeting the enterprise aims and aspirations of the communities. Each

community has its own focus, but in most cases this planning process has involved looking at ways in which they can extend their existing art and craft activities and tourism ventures to the next level, or develop new ones. Some people are attending Batchelor Institute courses in Art Administration. Others are keen to update their community facilities to be able to welcome small tour groups and provide guided walking tours, The tours would enable visitors to learn about the plants, birds and animals and special sites of the region while at the same time finding out about their place in the local Aboriginal culture.

The project has also provided funding to review the water, energy and telecommunications needs at each of the communities, and to assist in improving the community infrastructure to support their enterprise activities. The project is supported by the Aboriginal Benefits Account.



Sadie Williams, Phillip Walker and Vera Williams preparing community plans for Lilla Community.



Left to right: Jim Bray, Jim Bray and CAT Board member Noel Hayes at the launch of Alternative Interventions: Aboriginal Homelands, Outback Australia and the Centre for Appropriate Technology by Alan Mayne; Jim Bray congratulates students and hands out their certificates.

Leadership in work and community meet James Bray

BY AMANDA CONNOR

“ In 2012 Jim was awarded the Alice Springs NAIDOC Elder Award for his commitment and work for Indigenous people. ”

James, 'Jim', Bray is an inspiring elder. He is an Eastern Arrernte man and was Chair of the Centre for Appropriate Technology's (CAT) Aboriginal Board from 1990 until 2010.

Jim moved from Alice Springs to St Francis House Adelaide and was educated at Ethelton School until seventh grade. Jim left school as quickly as he could to work with his hands and did not like sitting in a classroom. Jim's first job was as an apprentice Boilermaker in Port Adelaide. He also worked at the timber mills. At the age of 17, he worked on the wharf lifting more than 150 pounds of salt and flour from the boats. A proven hard worker he also decided to give fruit picking a go along the Murray River and at Shepparton in Victoria. Most mornings he would start at 4:30am and work until dusk. He worked with many Italians and Greeks who taught him how to properly pick grapes and peacherines. Jim chuckles when he reminisces on how big the peacharines were. 'They were the size of basketballs he said'.

At the age of 21, Jim returned to the Territory. He spent some time briefly at home in Alice Springs then worked his way up to Gove to work on the Drilling Rigs with Dillingham Engineering. This is where he proved to be an exceptional welder mastering arc and oxy welding. In a welding training test, out of a full class, only four passed. One was Jim Bray. Jim chuckles that 'it wasn't bad for a black boy from little Alice Springs to be one of four to pass a difficult test'. Bray's work was of such exceptional standard that he was offered

an opportunity to work for Dillingham in Canada. An opportunity he didn't take up at the time.

Instead Jim continued to work in the Territory on the railway. He also worked for the Water Resource Division undertaking drilling for the establishment of the Yulara Township near Uluru. He went on to manage Aboriginal Hostels in Katherine, Darwin and Alice Springs learning skills that would be well utilised in the work he would come to do for CAT in later years.

During the 1980's Jim worked at the Institute for Aboriginal Development (IAD), promoting Cross Cultural Awareness. It was here that Bray became aware of what the Centre for Appropriate Technology was about. Bray would often bring his students to CAT as part of their training. 'It was a positive little organisation helping Indigenous people and it was good to see the young Aboriginal men there working'. It was here that Jim met Bruce Walker, the founding CEO of CAT.

Jim recalls the interview he had with Walker for a Residential Manager position at CAT. 'I was staying with some family in Eastside (Alice Springs) and ducked down to the Eastside shop. I was down one aisle and Bruce was down another and we were shouting to talk to each other. Bruce said come in on Monday, we have a job for you. When I got to the checkout, the man behind the counter said to me laughingly that was the best interview I have ever heard.'

So began Jim Bray's journey working at CAT. The role of Residential Manager was a 24/7 job. 'It was very busy, it was good. We handled everyone from the

bush, that's what I said to Bruce, we have to accept every tribe. We had Arrernte, Pitjantjatjara and Luritja groups all coming together, it was good' said Jim. He also describes how CAT gained respect and a good reputation among homelands and outstation residents. 'We never talked at the people but rather we talked with them. It was always, how can we help you? You tell us. That is the different approach CAT had.' Jim recalls.

Eighteen months after Bray beginning as Residential Manager at CAT, Jim became Chairman of the CAT Board, a position in which he would serve for 20 years. Bray believed that CAT needed to get professionals, engineers and scientists on staff to help develop sustainable technology for the bush. This proved a good move for CAT. Such technical expertise was sought after by governments and businesses not only in Alice Springs but also nationally. 'CAT had become a national influence' beams Bray. Working with scientists and engineers Jim saw his longstanding vision of being able to provide opportunities and development options for Indigenous people through better understanding and involvement in science and technology come to fruition. 'I really believe that there should be more Indigenous people studying science and engineering' says Jim. He maintains that through these skills, people are able to shape their world and also engage globally. This vision was further reinforced when Bray had the opportunity to travel to Canada for a Conference with the Inuit people. Jim

had the opportunity to travel to various Indigenous communities and meet Inuit scientists and engineers. Jim recalls meetings such as the one between CAT and RIO Tinto to establish what then became a ten year partnership. He reflects 'the office was 36 floors up, and it was exciting and at the same time scary to look out the window.' After the meeting a great partnership with Rio Tinto was formed. Rio Tinto provided scientists and engineers to work with CAT to help design sustainable and appropriate technologies and services for communities.

Jim's strong leadership and vision directed the organisation in developing appropriate technology and sustainable livelihood opportunities for Indigenous people. 'The Bushlight systems, our drum ovens, pit toilets and tailored training programs are a few of the positive initiatives CAT has developed for Aboriginal communities'. Jim also helped found the Desert Peoples Centre, a joint venture between CAT and Batchelor Institute, and helped spearhead the Desert Knowledge movement — a movement grounded in aligning local knowledge with global opportunities to bring opportunity and growth to the remote and desert regions of Australia.

In 2012 Jim was awarded the Alice Springs NAIDOC Elder Award for his commitment and work for Indigenous people. Bray stood down as Chairman in 2010 however his legendary dedication to CAT lives on. On occasions Jim will come out to CAT and pay staff a visit, a visit that is welcomed by all ☺

Community engagement has become a commonly used phrase in recent years. Governments, business groups, and not-for-profit agencies all use the expression, but when it comes to the practice of engagement, it can mean very different things depending on the context. This story looks at what CAT means by community engagement, what our approach was in the Utopia Homelands Project, and why we think it's important.



Lifting the lid on community engagement practice

The Utopia Homelands Project

BY SAL WARD

Edward Jones selects house repair and upgrade options at Soapy Bore Homeland.

What do we mean by community engagement?

Community engagement is the process of working with community residents to achieve a goal. It can include a wide array of involvement for both parties. CAT's experience of working alongside hundreds of Indigenous communities over more than 30 years has shown that there is not a uniform approach to engagement. Depending on the circumstances, effective engagement can be long term and relationship-driven or short term and output specific.

CAT's approach to community engagement is focused on informed decision making and capacity building. We work with people in such a way that community residents:

- are equipped with the knowledge to make informed decisions on matters that effect their lives; and
- develop skills and experiences that enable greater self-reliance.

Effective engagement contributes to sustainable outcomes for Aboriginal and Torres Strait Islander people and their communities. In the context of remote service

delivery, these outcomes are all the more important. Remoteness and poor access make deployment of commercial contractors for infrastructure work in areas expensive. When capacity is embedded within local people, through effective engagement and training, a community's long term sustainability and self-reliance is improved, and expenses to funders are reduced.

What our approach looked like in the Utopia Homelands

This article describes the housing repairs and maintenance component of the Utopia Homelands Project. There were two distinct phases. The first phase was about identifying and rectifying any safety issues with the houses.

The CAT project team was made up of engineers, project managers, works supervisors and engagement staff. Regular communication was critical to ensure relevant information was shared, both in terms of community members and infrastructure works. This integrated approach meant that small, but important details were not missed.

“ Effective engagement contributes to sustainable outcomes for Aboriginal and Torres Strait Islander people and their communities. ”

Engagement staff moved through Homelands to introduce themselves, and the project, and to start to build rapport with people. We also identified the right people who could take responsibility for making decisions for each house. Interpreters were employed from Homelands to assist with translation where necessary. Once householders understood the project intent, informed consent was sought and documented, and a brief 'census' was carried out to get some baseline information on each house. The 'no survey without service' philosophy meant that once approval was given by residents, we could quickly deploy workers to start making the houses safer to live in. This established trust and demonstrated there would be action. A further key element was to re-evaluate work tasks so as to extract the components that could be done with entry level non specialist skills. This process established job tasks the local work crew would undertake as well as specific tasks for the contractors engaged.

In parallel to the first phase of engagement, CAT established a two-pronged approach to the housing repairs. A pool of trade contractors were deployed to carry out the more technical fixes to houses, such as electrical safety inspections, and addressing plumbing issues. In addition, a work crew of 16 Aboriginal men was recruited, trained and over the course of the 13 month project carried out the housing repair work that didn't require specialist trade skills. Deploying a local work crew sent another important signal to homeland residents. Not only was work being done quickly, it was also being done by their family and neighbours.

Phase One of the project focused on information sharing so that CAT could make the houses safe. This was an externally determined assessment of house safety, and therefore there was little scope for selection of improvements by residents. Phase Two focused on an internally driven assessment. That is, house occupants were given the opportunity to think about

Utopia Homelands Project

The Centre for Appropriate Technology (CAT) worked with the Urapuntja Aboriginal Corporation and homeland residents to improve the sustainability and self-sufficiency of living conditions in the Homelands. The project was supported by the Australian Government Department of Prime Minister and Cabinet.

The Utopia Homelands are located approximately 260km north east of Alice Springs and are the traditional Homelands of the Alyawarr and Anmatyerr peoples.

The project Involved:

- Making houses safe and improving their amenity through basic repairs and upgrades
- Supporting people to make informed choices about energy use and energy spend
- Working with Homelands residents on water management plans to make sure that supplies continue to work well.

Community engagement lay at the heart of each of these project components.



OPPOSITE PAGE: Some of the Utopia work crew — Johnno Turner, Gordon Purvis, Greg Louis, Braydon Ross, and Terence Stirling at Antarrengey.

TOP LEFT: Community engagement with Sonja Peter and Steven and Lizzie Bob at Welere.

ABOVE LEFT: Community engagement resources used in the Utopia Homelands Project.

ABOVE RIGHT: Danny Dixon and Peter Skinner reviewing digital stories from the project.

“ Local people have been involved in evaluating the project through the collection of digital stories from residents and the work crew. ”

how they live in the house and determine what changes would improve their amenity. Accessing the opinions and ideas of the residents takes considered investment and planning on part of the project’s scheduling.

Each house on scope for Phase Two of the project was allocated the same budget for discretionary improvements. CAT staff approached residents in each house to discuss their experience of living in the house, and how they’d like the amenity of their house

improved. We would walk together in and around the house and discuss different priorities from within the options available. A range of visual materials were developed including photos of options to choose from, with ‘price tags’ attached and a visual money scale to help residents spend against the allocated budget.

Outside on the veranda, the engagement team would sit with any residents wanting to participate, including the head tenant. Choices for house improvements

ranged from installation of gun safes to new kitchen benches and sink units, from installing curtains for privacy to new windows and doors. New toilets, basins, ceiling fans, and pantries were all on the menu. Residents chose what improvements they could see would have the most impact for their specific circumstances.

In looking at options and costs, there was inevitably much discussion among residents as people prioritised and negotiated with one another, until the budget was expended, and agreement was reached. All of the required fixes were documented thoroughly using photos and a floor plan of the house.

At the end of Phase Two engagement, a Homelands map with expected timelines for the work to be completed and a pictorial record of each household’s choices were left with residents so they could track that the requested work was delivered as planned.

Why is community engagement important?

Local people were involved in evaluating the project through the collection of digital stories from residents and the work crew. Overall, feedback about CAT’s work in the Utopia Homelands was very positive. CAT was accountable to a project Steering Committee made up of a majority of members from Urapuntja Aboriginal Corporation (UAC). UAC reported back to CAT regularly regarding the feedback they received from people in their Homelands. People were happy with the way they were consulted and engaged about things that effect their lives; people were pleased that the works are being done so quickly after being talked about; and people were happy seeing so many of their countrymen and women working on the project.

Infrastructure projects in remote communities are often based on a model of centralised decision making



LEFT: The work crew clean a verandah in preparation for painting.

Local jobs and skills for sustainability

The project has provided a range of opportunities for Aboriginal employment, including with the local work crew, as interpreters, 'power people' and digital media workers. The local work crew was made up of men keen to work with CAT and have the opportunity to build their skills and knowledge. As project works moved through different regions across the Homelands, and different stages (fix and make safe, housing upgrades), men from the regions where works were progressing would step into work. This approach addressed the difficulties of transport and 'getting to work' and heightened attendance and retention of workers. Only two days 'off tools' occurred over the life of the project.

The energy efficiency component of the project offered employment to local men and women. They were provided skills development in energy efficiency principles and practices and then facilitated conversations, often in language, with other households about energy efficiency.

The water planning work involved residents in each homeland walking through their water supply systems and gaining a better understanding of how to manage risks to their water supplies. Local Aboriginal people were employed to assist in the process and the local work crew was involved in infrastructure upgrades such as fencing bores and tanks.

CAT delivered a Certificate I in Information Technology with a group of local women that focused on using mobile devices for video capture and editing. Two graduates of the training program were guaranteed employment as Digital Media Workers on the project. These employees worked alongside CAT staff to capture stories about residents and local work crew members' satisfaction with the project. These stories form part of the broader project evaluation.

with works delivered by commercial contractors. The landscape of remote Australia is characterised by infrastructure projects that have often not lived up to expectations. It's not hard to see tell-tale signs where engagement didn't occur, or was inadequate, and the infrastructure left behind is unused or vandalised. Effective community engagement provides a means through which sustainable outcomes can be achieved.

The Utopia Homelands Project has endeavoured to establish transparent processes. For example, residents were informed as soon as possible about which houses were on or off scope and why. (Most often the houses deemed off scope were semi-permanent and superseded dwellings built many decades earlier and not connected to power or water.) Residents were also advised of the budget for improvements for each house and the cost of each option they could choose from to make up the total house budget. They were also informed about when they could expect the work on their houses to start and finish.

These processes were designed to support residents making informed decisions about the type of housing upgrades that would provide them with the best amenity and lead to greater satisfaction with the works done. In our experience, improvements to a house are more likely to be valued and looked after if householders have chosen exactly what they want and where. By employing and up-skilling local people to undertake work on houses and infrastructure across the Homelands, they have become better equipped to identify issues as they arise and troubleshoot and maintain their houses themselves. The fact that the local work crew were undertaking work on the houses of their families and peers seemed to lift expectations, by both residents and workers, about the quality of work being undertaken.

Accountability, trust, transparency, and capacity building. A considered approach is necessary when applying these principles in the context of remote service delivery. In approaching this project from the outset with a focus on outcomes for residents many benefits have emerged. Not the least has been the experience of residents, local employees, contractors and CAT staff of the means to better understand and deliver on needs. ◊



MAKING FAMILIES WELL: Dialysis services on country

BY MARTEENA MCKENZIE AND SARAH BROWN

Patients receiving dialysis care on country are treated more safely, with better medical outcomes and more cost effectively than if they are cared for in town. Western Desert Dialysis have known about the real social and economic benefits of their work with remote community dialysis for years, and now they have a report by an international consultancy to help illustrate the broad range of positive outcomes.

Indigenous communities in the Northern Territory have the highest reported rate of kidney disease in the world and ten times higher than anywhere else in the country. Dialysis is the treatment for end stage renal failure and works by removing waste and excess water from the blood. Dialysis needs to be undertaken three times per week for four to five hours at a time, for the remainder of a person's life. For residents of remote communities this often means relocating from their homes into regional centres such as Alice Springs for treatment. Individuals who need treatment away from their home community are usually accompanied by family members.

Families who move for dialysis treatment face many challenges. Away from their home communities,



ABOVE: Patrick Tjungarrayi having dialysis in Kiwirrkurra, WA in the Purple truck, with his Grandkids. TOP: The Purple truck arrives in Docker River to get people on dialysis back home to Docker River.

they face insecure housing, lack social and support networks and have limited employment prospects. There are challenges with overcrowding and there can be troubles with alcohol and violence.

When faced with the prospect of family members permanently moving away for dialysis treatment in the 1990's the Pintupi people formed the Western Desert Dialysis Appeal. Their aim was to fund services for renal patients and their families and enable them

By supporting people to remain on country, there is a greater prospect of children accessing education, adults contributing economically and communities remaining safe and stable.

BELOW: Kiwirrkurra kids visit the Purple Truck.
RIGHT: Rudi Koks dialysis nurse at our Yuendumu dialysis centre.



The positive results of dialysis on country is clear to see. By returning people to their communities where they can be supported by their families and can take part in community life ...

LEFT: The Purple truck, painting by Ningurra Naparula.
ABOVE: Patrick Tjungarrayi meets a new grandchild in Kiwirrkurra.

to access treatment at home on country. Through an auction of paintings at the Art Gallery of NSW, the community raised one million dollars to establish the Western Desert Nganampa Walytja Palyantjaku Tjutaku Aboriginal Corporation (WDNWPT), also known as Western Desert Dialysis.

Western Desert Dialysis began operating a treatment service in Kintore in 2004. This was the first dialysis machine in a remote community in central Australia. Since then the program has expanded to offer dialysis services in Yuendumu, Ntaria (Hermannsburg), Lajamanu and Warburton. Services are also provided to remote residents by the Purple Truck, which is a self-contained dialysis unit that travels to remote communities.

Dialysis on country has positive impacts. By enabling people to stay on their communities where

they can be supported by their families and take part in community life, they are healthier and happier, and communities benefit from their presence. Adults can paint, work, contribute to community life and pass on cultural knowledge to younger generations.

Through their pro bono support work, consultancy firm Ernst and Young undertook a study of the Western Desert Dialysis program. They concluded that the model of care provided through on-community services had higher patient participation rates and better clinical outcomes than centralised town based programs. The report also found that the service was a cost effective option for remote patients and concluded that 'by supporting people to remain on country, there is a greater prospect of children accessing education, adults contributing economically and communities remaining safe and stable.'

In 2010 the Commonwealth Government commissioned the Central Australian Renal Study. One of the recommendations of the study was the need for investment in infrastructure to support central Australian residents to access dialysis services. Sarah Brown, CEO of Western Desert Dialysis says 'we'd like to sit down with governments, to look at the future planning of dialysis services. If dialysis out bush is the same cost as dialysis in hospitals, let's plan for more dialysis out bush.'

Currently the accommodation facilities available in Alice Spring for renal patients can cater for approximately 300 people (patients and their families). Research undertaken by CAT in 2011 identified that these facilities are usually full and there are substantial waiting lists (Porter and Young 2011). With incidence rates of renal disease increasing across central Australian communities and

accommodation services in Alice Springs already operating above capacity, further investment in mobile and on-community dialysis services would seem to make sense.

As Western Dialysis continue their work with residents out bush, their hope is for additional investments to enable expansion of dialysis services to make more families well on country

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MANAGING THE DEMAND: Energy in the Anangu lands

BY JACQUELINE SEMMLER

In Australia and around the world, demand for energy and water has grown rapidly over time. In the case of energy, steadily rising demand has been projected as an inevitable consequence of development and population increases.

However, in the past ten years energy demand in urban Australia has been declining. This is due to the combination of energy efficiency measures (such as improvements in technology in industry, retrofitting of insulation, efficient lighting in homes); strategies employed by industries and households to reduce energy use in the face of rising power bills; and the uptake of household solar power. Together these factors have reduced the demand for energy generation.



Marita Baker with the education resources.

In many remote Indigenous communities and homelands, however, the situation is different. Energy demand is growing. Increased demand is the result of changes in demographics, with more young people, growing families, more household appliances and bringing more communities onto the electricity grid. As demand steadily increases, issues relating to the rising energy costs and the sustainability of power for homelands and communities arise.

The Centre for Appropriate Technology (CAT) recently worked with remote communities in South Australia to understand energy demand issues and develop community-based strategies to support effective demand management approaches and the sustainability of energy services.

The provision of electrical power to remote Indigenous communities

Most larger Indigenous communities throughout remote Western Australia, Northern Territory and Queensland are supplied with power via diesel generators run and managed by State or Territory based Utility companies. Residents of these communities pay for power through the use of prepayment power card meters (PPM). Power cards are a different mechanism for payment to periodical billing, where households receive a bill on a monthly or quarterly basis. Remote households with a PPM purchase a small cardboard card with a magnetic strip, preloaded with a set amount of credit (eg \$10, \$20 or \$50), from outlets such as their community store. The cards are then inserted into the specially

LEFT: Central powerhouse Anangu lands.

designed household meter box and power is credited. The credit counts down as power is used within the house. Disconnection happens when credit is used up. This is termed a 'self-disconnection'. There is an emergency credit function where a button can be pressed to credit the meter either \$5 or \$8 depending on the meter. This emergency credit will then be subtracted the next time a new PPM card is inserted into the meter.

Some smaller communities such as homelands and outstations may be on the 'grid' and as such their energy supply will be the responsibility of the relevant Utility and they may pay for their power via pre-payment meter. Many others rely on a mix of diesel generators, hybrid solar/diesel systems or solar only systems and tend to pay for diesel fuel themselves.

Unique situation: Demand for energy in the Anangu Lands

The Anangu lands of remote South Australia is one region where energy demand is growing and becoming increasingly unaffordable. In the 2011/12 financial year 3.75 million litres of diesel fuel was used to provide over 13 million kWh of electricity for approximately 1000 consumers. These consumers included Aboriginal households, community centres such as schools and health clinics as well as government and other agency staff accommodation facilities.

As part of the South Australian Government's strategy to address growing energy demand across the Anangu Lands, CAT was contracted to undertake a Demand Management Community Education Program in 13 major communities between October 2012 and July 2013. The program built on CAT's experience delivering the successful Bushlight renewable energy program since 2002.

The Demand Management Community Education Program was not without its challenges. Unlike the majority of Indigenous communities elsewhere, in this region there is no cost recovery from Indigenous households for the energy they use. In other words, residents do not currently pay for the power.

The CAT program had two key parts. The first was designing and rolling out an appropriate education program for Indigenous householders in communities across the region about safety and saving power (without the incentive of saving money). This required shaping approaches to energy education suitable for remote Indigenous contexts. Without the leverage of cost reduction this involved:

- engaging directly with the community and its residents,
- building relationships within the community to inform the content of education programs and trial resources, ▷

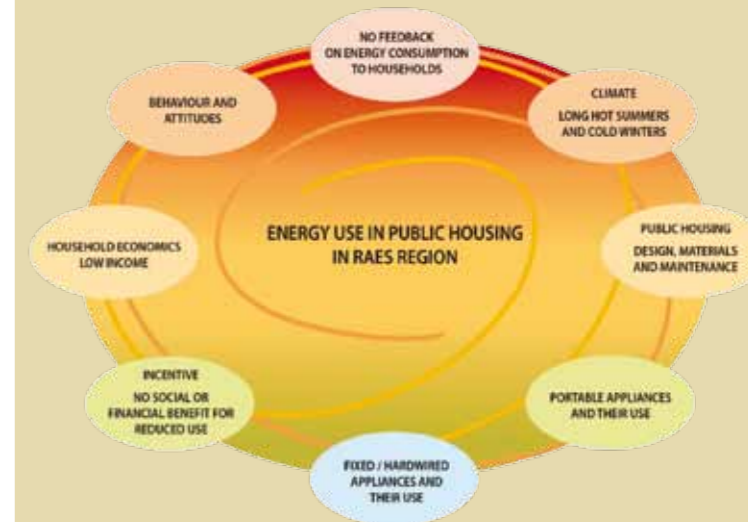


Figure 1

Socio-cultural, climatic and infrastructure factors that interact to drive energy demand in Indigenous housing in the Anangu Lands.

The factors refer to:

- No feedback on energy consumption as households receive no periodical bills or other information on the amount of power consumed.
- Climate factors (due to long hot summers and cold winters) will influence the use of appliances such as air conditioners, fans and heaters.
- Renters in public housing are less able to make changes or retrofit properties.
- The range and availability of portable appliances available in remote communities is limited and those available tend to be both the most energy inefficient.
- Public housing in the communities has high energy use fixed appliances such as electric stoves and evaporative air-conditioners
- No incentive for using less power. Price signals are often a disincentive for using more power.
- The majority of Anangu residents have low incomes and this influences their purchasing power for efficient but more expensive appliances.
- Anangu households tend to have high occupancy rates and large numbers of young people who own and use appliances more frequently. Anangu residents also spend more time at home, a reflection perhaps of the high levels of unemployment and health issues. These behaviours and circumstances drive energy use.

A lack of 'feedback' is the key factor. Although houses are metered, there are no bills or prepayment meters, and there is no form of 'feedback' that shows a household how much power has been used.

The influence of climate should not to be underestimated. The long hot summers of the Anangu lands reach temperatures of 45 degrees Celsius and above, and winters are bitterly cold. Climatic factors have a significant impact on energy behaviour as people often rely on appliances to stay comfortable in their homes.



Case study: The elderly lady

An elderly lady in the lands reported feeling cold in her house during winter. The combustion wood heater was broken, and she also has mobility issues which make it difficult to collect wood. As a pensioner on a low income, she uses an inefficient third hand electric bar heater from family to keep warm. She is unable to afford to buy a more efficient appliance, and the remote community store does not stock them. It is a 600 kilometre drive to the closest centre in Alice Springs. The lady forgets to turn off the inefficient heater when she walks to the clinic. There is also no financial or social benefit for using less power, as residents in Anangu Lands do not currently pay for power.

Case study: The Large Family

This household was large, with many family members staying for extended periods. They had an efficient solar hot water heater on the roof, with a one-shot booster in the laundry. With so many people having showers, the hot water ran out all the time. Someone jammed down the one-shot booster so that there would always be hot water. Unfortunately the hot water system now operates like an inefficient electric hot water heater, greedy for power. But the family has no way of knowing how much energy they are using because there is no feedback to the household indirectly through billing or directly as through an in home display.

- providing tailored information relevant to different and diverse residents and employing interpreters
- developing suitable image based resources so content was accessible for those with low English literacy and numeracy.

The second and essential part was to gain a deeper understanding of what was driving increasing energy demand in the region. This entailed implementing a compact but robust study that included:

- a literature review and desktop research about energy consumption issues relevant to low income families and public housing tenants,
- developing and conducting qualitative interviews with a sample of householders
- collecting energy consumption data from a selection

of households and community facilities over a three month period.

Demand driven by behaviour. But what is driving behaviour?

It is easy to assume that high energy demand is directly caused by people not paying for their power, e.g. 'there is no user pays therefore there is not as much care for managing the amount of power used'. It is tempting to be drawn into 'a user pays or not' debate without acknowledging the complexities of power use in remote and primarily Indigenous regions.

In households, the demand for electricity (or household power) is driven by behaviour in the home, the type of appliances in the house and how often they



One of the typical resources used in the communities.

are used. So whilst behaviour determines energy use, there is also a number of things that drive behaviour in the first place. Cold winters and hot summers and the level of amenity available in houses across the Lands often means that the experience of heat and cold can only be addressed by electrical means. This usually means acquiring the type of portable, and often high energy use appliances available at the local store that are also affordable for people on low incomes. Household occupation rates and high inter-regional mobility also tend to affect how much and where energy is used. The lack of price signals for energy use further compounds the issues.

Where to from here

'Power is good. The Anangu, we are still hearing stories and learning about power. We hear stories about power but my wife and I are basically living outside with the kids living inside' – Community resident, APY lands

The challenge of achieving sustainable energy demand in remote Indigenous communities is complex. There is no 'silver bullet' or perfect answer. CAT's experience in energy services across remote Australia suggests that many remote Indigenous homes with prepayment meters experience energy poverty and disruption to daily life from ongoing, and perhaps lengthy power disconnections. Running out of money for power cards, even briefly, can impact food and medicine storage arrangements (eg fridges and freezers). Similarly the experience of regular disconnections

may lead to lifestyle choices, such as relying on the community store for each meal rather than purchasing a fridge to store food in the home, resulting in negative health and nutrition consequences. Whilst many residents favour the pre-payment model, as you can pay as you go with an easy to use power card, the trade-offs implicit to the model need to be unpacked. As yet, there are few systems that can provide a reliable energy supply, and affordability for low income householders, as well as cost recovery for service delivery.

The challenge for implementing effective energy efficiency measures in remote Indigenous communities involves finding new ways to cross the divide of urban and rural cultural assumptions into the remote Indigenous context. CAT's findings from the Demand Management Community Education program have been communicated to Aboriginal stakeholders and the SA government who together will determine the way forward ☺

For the 'Demand Management Community Education Program' Full Report and a 'Safe and Smart Power Program' Community report go to www.icat.org.au/stories/#energy

The Anangu lands refers to the major communities of the Anangu Pitjantjatjara Yankunytjara Lands including Pipalyatjara, Kalka, Murputja, Kanpi, Nyapari, Watarru, Amata, Pukatja, Yunyarinyi, Mimili and Indulkana; the community of Oak Valley in the Maralinga Tjarutja Lands and Yalata community, estate of the Aboriginal Lands Trust in South Australia.

Alice Springs Public Library

Leading the way for Indigenous Services

BY MARTEENA MCKENZIE AND FELICITY THORNE

The Alice Springs library is a welcome spot to escape the heat and take in an impressive collection of books, movies and music. It is always bustling with people from all parts of the community, and is especially popular with local Indigenous people. There is an award-winning collection especially for Indigenous people and now the library is expanding its range of services to meet growing demand.

For more than ten years the library has worked with local Indigenous people and organisations to build a unique collection that is useful for the whole community. This work has resulted in a collection of books, audio-visual and other specialised items in a range of local Aboriginal languages.

The Local Language collection was started 10 years ago, during the United Nations Year of the Indigenous Language, and has continued to grow in size and popularity. The resources are vibrant and engaging and have broad appeal to local language speakers as well as the wider community. The language collection includes a variety of conventional texts that are produced in local languages. It also supports local enterprises with materials sourced locally from the bi-lingual printers at Yipirinya and Yuendumu.

Akaltje Antheme means 'giving knowledge' in Arrernte, one of the local Aboriginal languages around Alice Springs. The Akaltje Antheme Collection is unlike anything else in Australia — it consists of resources in Central Australian local languages which help support own-language literacy acquisition and showcases Indigenous culture and life to the broader community. The collection was established in 2002 to cater to the needs of local Aboriginal people, rather than the conventional approach of enhancing Aboriginal peoples' access to mainstream library collections. In 2006 this collection won the Library Stars Best of the Best award. It is a popular resource that is also accessed by travelling families with home-schooled children.

The library employs Felicity Thorne as the Indigenous Services Officer. Felicity has been busy improving services and encouraging Indigenous communities to take advantage of the library. In 2013 it began a joint project with the Gap Youth and Community Services 'Strong Women's Group' and the Akeyulere Healing Centre to create a baby board book in Arrente language. The project encourages mums and bubs to read together and support literacy from a young age, and is being launched in late

2014. The library recently hosted the launch of a children's book called 'Growing up in Nyirripi', which was written by Nyirripi students and details their lives growing up in a remote community. The book was produced through the Indigenous Literacy Foundation, which works to improve literacy of Indigenous people in remote and isolated places.

As well as access specialist collections, there are a variety of regular programs delivered through the library for local Indigenous communities. Felicity visits students from the local Yirara College on a weekly basis and supports them to use the computers, Wii, and Wi-Fi service to download and listen to audio books in a range of fiction and non-fiction genres. Young children from Yipirinya pre-school and transition classes visit the library for weekly story time and craft activities. Adults are able to access financial literacy services through monthly workshops run by the 'Money Matters Mob'.

The Alice Springs Library is a vibrant hub for the local community. It is a welcoming place which uses conventional and new technologies to help Indigenous patrons engage with library content



Two local patrons enjoy the kids area of the library.

Further information about the library

www.alicesprings.nt.gov.au/library
www.indigenousliteracyfoundation.org.au
www.yipirinya.com.au
www.yirara.nt.edu.au/index.html
www.moneymobtalkabout.com.au



India's Unlikely Appropriate Technology Hero

Review of the documentary 'Menstrual Man'

A quiet revolution is happening in rural India. In this traditionally conservative society where menstruation is taboo, one man has created a cheap and simple way of manufacturing sanitary pads. He is now spreading awareness, creating jobs and improving the reproductive health of millions of India's poorest women. His story is told in the documentary film 'Menstrual Man', a film which underscores the importance of appropriate technology and the power in every individual to make a difference.

His fellow villagers thought Arunachalam Muruganatham was crazy. Or a pervert. Probably both. His wife left him and his mother abandoned him. But this high school dropout's meticulous research and dogged pursuit of a solution for sanitary hygiene has created an unlikely national hero.

Rural women in India do not have affordable access to sanitary napkins, instead relying on old rags or other

unhygienic substances such as sand or sawdust. This causes serious health issues, with 70% of reproductive disease in rural India caused by poor sanitary hygiene.

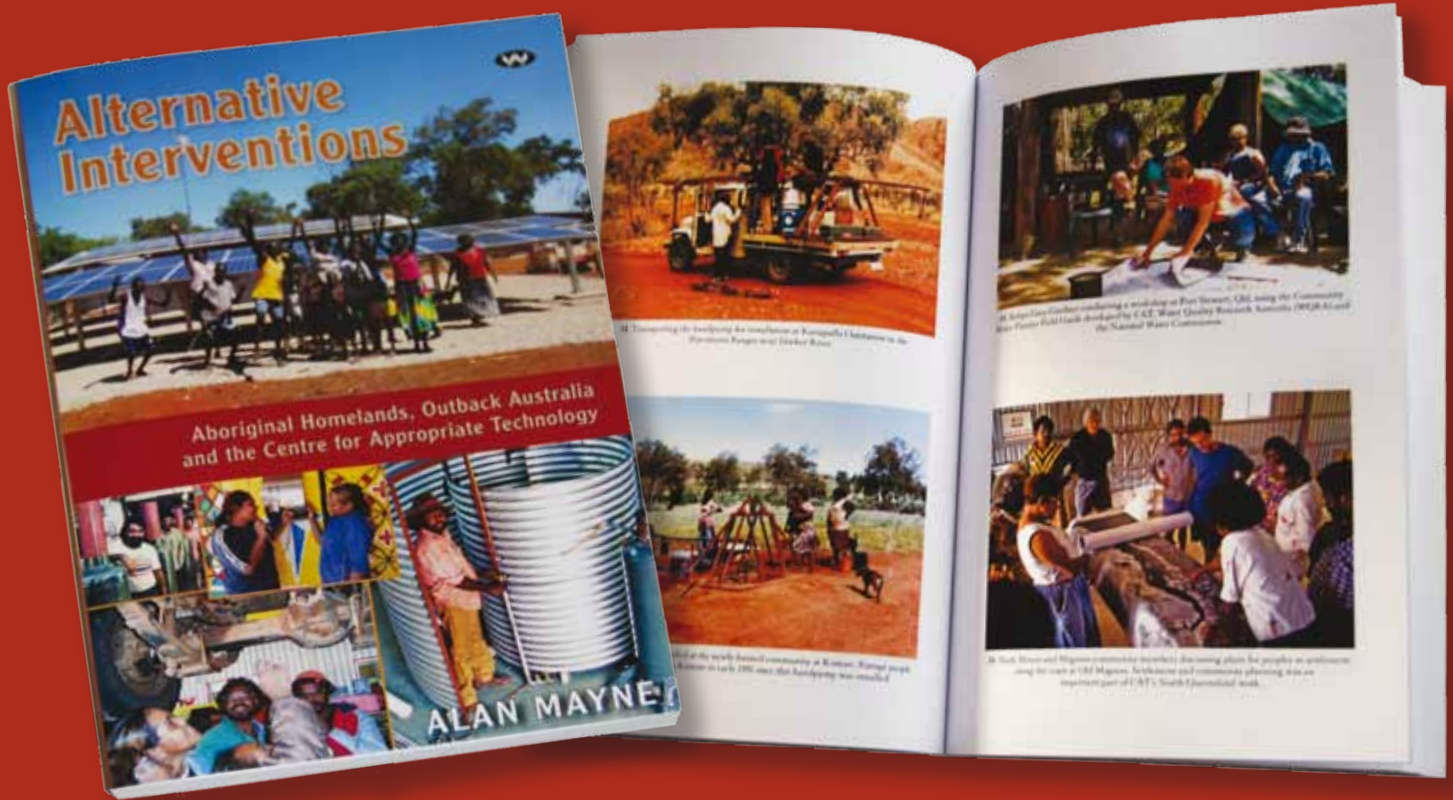
When the newly married Mr Muruganatham noticed his wife using unhygienic rags, he was inspired to help. Thus began a five-year long quest to develop a safe alternative. With limited formal education, the research and development stage was long and bumpy. His technical innovation is profound – an entirely new technique for processing cotton which bypasses the multimillion dollar factories used for commercial products. Mr Muruganatham designed and built a cost-effective system of four machines to produce and package sanitary napkins which are also cheaper than commercial options.

This is also a story of sustainable livelihoods and a man with deep commitment to the rural poor. Over 650 machines and one million jobs have now been created in remote

villages throughout India. Despite offers of buy-outs from venture capitalists, prices are kept rock-bottom. Each machine costs between USD\$1000–\$6000 and is tailored to local conditions and needs. Mr Muruganatham's main customers are rural women's self-help groups and NGOs.

Once ostracised by his community, Mr Muruganatham's wife returned and he now uses his public profile to spread the word. He has won many awards and speaks widely at universities and business schools. While the sanitary pad movement is quietly rolling-out throughout India, his sights are now set on an international expansion, beginning in Fiji. As Mr Muruganatham says 'you must be crazy to dream something big, to achieve something big'.

Menstrual Man is a compelling, funny and moving film. It is also an example of appropriate technology in action. To view the documentary, go to www.menstrualman.com where you can stream it for \$3.99



ALTERNATIVE INTERVENTIONS

Aboriginal Homelands, Outback Australia and the Centre for Appropriate Technology

By Alan Mayne

It is clear that it is the human dimension of science and technology about which the least is known. Bruce Walker CEO of CAT

Not all interventions in Aboriginal Australia are inspired by external agents, politics or ideology. Some interventions arise from simple, pragmatic responses to community needs where people and their aspirations are central.

Historian Alan Mayne unravels a story of people, place and relationships. At once both personal and intensely political, this is a journey of ideas into action; intervention through innovation.

In 2010, thirty years after an initial start up grant of \$40,000 , an Aboriginal owned science and technology organisation (CAT) was operating with an annual turnover in excess of \$20 million and a staff of 130 providing technical services to over 500 remote Aboriginal communities spread across the northern half of Australia. An institution linking people with technology, sustaining livelihoods on country.

'This remarkable story of persistence and purpose should be told as an inspiration to all concerned with the development of appropriate technologies to meet new challenges in human societies. It encourages optimism about the future of Aboriginal people in a climate of uncertainty.'

**Professor Basil Hetzel AC, former Chancellor University of South Australia
and Emeritus Professor University of Adelaide**

Available from CAT, Wakefield Press and selected retailers. \$24.95