

People working with technology in remote communities

# Ourplace

Number 21

## **BUSHLIGHT: better energy services**

Remote communities – increasing viability  
Janganpa – dancing for the future

### **BUSH TECHS**

• Landfill design • Pit toilets

Camp ovens from car wheels  
Public housing transfers  
Women and technology

**WALL POSTER inside:  
How to look after  
your bore**

# ourplace

Number 21

Listen to families living on country talking about their community and before long you find that they mention governance or services or facilities. The conversation turns into one about how they can successfully live in a particular location. Some government staff and researchers have started calling this the 'viability' of remote communities.

The new Cooperative Research Centre on Desert Knowledge (DK CRC for short) has adopted viability as one of its four themes. This means that, for the first time, serious research effort will be directed towards the subject of viability. The challenge is to understand and bring new insight to complex issues. An important goal will be to create the opportunity for Indigenous people to contribute to and gain insight that helps them achieve sustainable living in small remote communities.

The notion of viability is a loaded one. You only have to pick up

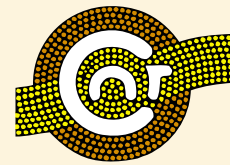
a selection of national newspapers to find articles about the problems of remote communities. Underlying many of these commentaries is a sense that this cannot be fixed and that, therefore, the chosen lifestyle and location is not viable. In this magazine, we hope to present some clear thinking. We plan to report what people living out bush think about the subject, as well as learning about current policy and research trends. Steve Fisher, Technology Group Manager at CAT, outlines the key issues on pages 8 and 9. In the next *Our Place*, we will present the views of people in remote communities. Please contact us with your views; telephone Kathie Rea or David Dolman on (08) 8951 4311.

On pages 5 to 7 of this issue is an update on the Bushlight project, which has been running for 18 months. Our story reviews progress on its three main aims: improving renewable energy systems, improving community capacity and confidence, and building a support network.

Inserted in this edition is a colour wall poster on 'how to look after your bore'. This is the first of a series of posters that give clear, straightforward advice on technical subjects. In the centre pages are two more of the BUSH TECH information sheets, which have been popular with some readers. Again, your ideas are very welcome.

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The Centre for Appropriate Technology (CAT) welcomes reader views on *Our Place*. To give feedback, please telephone the editor, Kathie Rea on (08) 8951 4311 or email to ourplace@icat.org.au.

*Our Place* is available free of charge to people living or working in Indigenous communities. To join the mailing list, email ourplace@icat.org.au or telephone (08) 8951 4311.

Stories from *Our Place* can be downloaded from the CAT website at www.icat.org.au.

Single sheet copies of BUSH TECHS #1 to #18 are available free of charge; please telephone (08) 8951 4311.

Copies of the A3 poster *How to look after your bore* are available free of charge to people living or working in Indigenous communities; telephone (08) 8951 4311.

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FRONT COVER – THIS IS WHAT I MADE AND WHAT MY GRANDFATHER MADE; THESE ARE STILL IMPORTANT TOOLS FOR US, JOHNNY POSSUM JAPALJARRI TELLS SCHOOL CHILDREN PARTICIPATING IN THE 2003 AKALTYE YOUTH EVENT. (SEE NEWS PAGE 4) THE STUDENTS SPENT ONE AFTERNOON OUT BUSH WITH THE JANGANPA GROUP (SEE STORY PAGE 10) AND ANOTHER WITH AKERTE ARENYE GROUP (ARRERENTE PEOPLE) TO LEARN ABOUT TRADITIONAL TECHNOLOGIES. PHOTOGRAPH BY ANDREW LANE

# Day by day, in a community council office

Noel Hayes lives and works in Ali-Curing (Alekerange), a large community south of Tennant Creek. As a CAT Board member and an ATSI regional councilor (Barkly), he combines an on-the-ground perspective with understanding of the big picture. Noel works as administration coordinator of the Ali-Curing Council Office. *Our Place* asked him what it is like, day to day, in a community council office.

Everybody comes in to the council office - people who live here, visitors coming in; a lot of visitors. People that come in normally come to the office; government people, tourists sometimes, but they come to look at artifacts and paintings so I refer them to the Women's Centre. It's pretty hectic sometimes. Then again, sometimes pretty quiet.

I stop in the office, look after phone calls and visitors, do the mail, vehicles, coordinate everything, help run the place because most of our workers are on CDEP and they knock off about 12 or 1. But I'm here from 7.30 to 4.30. We're staff so got to be here all day.

People who live here are asking for housing repairs, mail, dealing with the banks, and Centrelink. They've all got to come and see me for their housing repairs and for their banking problems. The policeman's wife, she works here and looks after women's centre and she looks after Centrelink too. But I give her a hand sometimes when she's busy. So we do all their Centrelink, ring up and fill their papers in, all this sort of thing. Look after the people I suppose, if you put it that way.

We got a freecall telephone and that rings to the Centrelink office. It's in Cairns I think. People ring up direct here and they do all the inquiries themselves but some of them, we've got to fill their papers in.

We pick up mail two times a week, all the community's mail, we pick up radio and school mail, and Murray Downs station mail (station out the back of us). We got a mailbox at the turn-off. We take station mail into the office and they pick it up from the office same day, next day. School's there every day picking up their mail so they're all right. We sort all the mail out, put them in their boxes, it's a normal thing, pretty straightforward but sometimes we get a bit hectic. People

looking for mail all the time. Come in every day sometimes but we only get mail twice a week.

We do what's called 'banking' on every Thursday morning. Someone goes into Tennant and they drop off all the mail, do all the banking, all the cheques and all the bills. It takes a couple of hours, all depends how fast you drive. About two hours I reckon, slow steady driving. Sometimes I drive but normally I'm too busy looking after the office. If it's a mail day, I got to stop in the office.

We got all the telephones to look after. We get the Telstra telephones and we've got to collect all the money for that. I empty the telephones. We got one at Murray Downs; I got to go and empty that too. There are two public phones. One is round at what we call the police station and one is down the road from the council.

If the public phone is broken, we report it and just wait for them to come out. Sometimes, a bit slow, takes about a week. It's all computerised now. When you get the money out now, you've got to press all these new numbers and it comes up on the screen. Got a code number, with eight digits I think it is now.

If people have a problem with housing repairs, they write it up or I write it up. Then we get our housing man to have a look. Haven't had him for long. We was without one for about four, five months and there wasn't any repairs getting done. Though he's catching up now. It was pretty straightforward when he got going; he's right now.

Council also got the Rec Hall and the essential service, that's the water and power, and the airstrips, the normal thing. The council looks after that.

We got CDEP; that helps, CDEP work for women and men. They look after the community. They do the rubbish collec-

*continued on page 4*



## Noel Hayes

*continued from page 3*

tion, cleaning up our parks and gardens; they do all that. We got Homemakers/ Aged Care. We do the old people's meals and cleaning and washing and that sort of thing. The respite centre is there, where you can sit down for the day if you want.

We got the women's safe house. That's for people with domestic violence. So when women's husband get drunk and want to fight them, they just get the women to take them over there and put them in the safe house where it's safe. Next morning, when everything's all right, they go home. CDEP worker, he's on call always. Not he, she, got to be a woman. We have two policeman and one police aide, who's a lady.

I couldn't tell you how many people there are now. Might be about 400. They're up and down because people always moving in and out. People moving away sick, got to move with their families. The kidney mob, they're in town; some of them gone back to outstations.

Young people mostly move in and out. They go away for a couple of months, then they're back, then go away and live in town for 12 months. Come back for a month; go away for another six months. They just up and down. No jobs for them here, only CDEP and that's not much money when you look at it.

Earlier this year, Noel Hayes was elected to the Ali-Curing community council. Noel also talked to *Our Place* about the role of a community councillor. That interview will be in our next issue.

## Water theme for Akaltye 2003

School students from across the Country learnt about traditional and contemporary technologies for finding, conserving, filtering and using water during the 2003 Akaltye Youth Event in Alice Springs.

The young people, aged 13 to 15, learnt

*SLUDGY POND WATER IS PUT THROUGH A SIMPLE FILTERING SYSTEM MADE BY STUDENTS.*



about traditional Aboriginal technologies while out bush with elders from the Janganpa Group (Walpiri and Anmatyere people) and Akerte Arenye Group (Arrernte people).

Back at CAT, the students discovered the water cycle before building a biosphere and later, a fun water fountain. This year's theme was Water: Making Every Drop Count.

Over the five days, 28 students participated in a program of hands-on activities designed to promote understanding of how science and technology can be applied in real life situations to solve problems.

The Year 7 and 8 students were from 13 schools in Western Australia, South Australia, New South Wales, Queensland and the Northern Territory.

The Akaltye Youth Event aims to encourage Indigenous youth to view science and technology as a career pathway that will benefit themselves and their communities. Akaltye means 'to learn' in the Arrernte language of Central Australia.

This was the fifth Akaltye Youth Event hosted by CAT. The major sponsor is Rio Tinto and four young science students in the company's Indigenous cadetship program attended to assist and act as role models. The Commonwealth Department of Education, Science and Technology also was a sponsor. Science educator support was provided by the Investigator Science Centre (SA) and Questacon (ACT).

Akaltye Youth Event was held during National Science Week

## Gulf region signs with Bushlight

Dozens of small Indigenous communities in the Gulf region will be assisted with planning for access to affordable, reliable and consistent energy, following the signing of an agreement between ATSIC and the Bushlight renewable energy project.

Chairperson of the Gulf and Western Queensland Regional Council, Steve Hirvonen, said the memorandum of understanding will enable Indigenous communities to develop community energy plans and access renewable energy systems specially designed for remote Indigenous communities.

"A lack of access to reliable power sources has historically been a serious impediment to the aspirations of our people to return to their traditional country," Steve said. "All the evidence points to the fact that people live healthier and more fulfilled lives when back on country and so this agreement has, indirectly, very positive health potential."

The Bushlight project, funded by the Australian Greenhouse Office and ATSIC, operates as a joint venture between CAT and the Australian Cooperative Research Centre for Renewable Energy. (see story pages 5 to 7)

"Bushlight is already working with ATSIC regional councils in Western Australia and the Northern Territory but we are the first region to sign off in Queensland and, of course, I'm very proud of that achievement," Steve Hirvonen said.

"The project is about more than sustainable energy services. Bushlight will also provide for employment and training outcomes, and ensure greater opportunity to develop Indigenous business.

"Bushlight's work on sustainable energy will become an important part of ATSIC's regional plan for the Gulf area and that will be a huge bonus for local Indigenous peoples."



*JOHN HOPKINS (REGIONAL MANAGER, CAT) AND STEVE HIRVONEN SIGN THE MOU IN THE PRESENCE OF REGIONAL COUNCIL MEMBERS: (L-R) TIM SHAW, KERRY MAJOR, JASON CONNELLY, HAZEL SEWTER, WARREN KING, PEARL CONNOLLY, DON ROWLANDS, ROGER KELLY AND LANCE OWENS.*



BEN PURCELL, MARGARET CAREW AND TIG ARMSTRONG, BUSHLIGHT STAFF (AT LEFT) DISCUSS HOUSEHOLD ENERGY PLANNING WITH RESIDENTS AT A CENTRAL AUSTRALIAN COMMUNITY.

## Improved renewable energy systems

The Technical Services group is developing renewable energy systems in stages. The first stage focusses on small, household-based power supply system. (see box 1, *First Bushlight power systems*)

In 2004 specifications will be developed for the full range of RE power systems required in communities with a population of less than 50. This will include large, centralised RE systems and RE/diesel hybrid systems.

### Industry consultation

An industry workshop, held in Alice Springs in August 2002, drew renewable energy companies from around Australia. Industry consultations began in September on system design and roll out of the first Bushlight RE power systems. Thirteen organisations involved in the design, supply and installation of RE systems across Australia provided specific, detailed input.

Robust, reliable RE systems can only be achieved if the components, or building blocks, are reliable. Understanding the performance capabilities and limitations of components is an essential first step. Bushlight worked alongside staff at the ACRE Lab at Murdoch University to develop and trial test methodologies for many components.

### Life Cycle Costing

The Technical Services group has been developing a Life Cycle Cost model to assist in evaluating the relative costs of different types of power supply systems. With this model, Bushlight can readily demonstrate the financial implications of electricity supply options, using costs relevant to specific communities. This will assist communities in their decision-making about energy services.

### Metering and demand management

Bushlight Technical Services are conducting research into demand management techniques and energy-metering options to assist communities in managing their electricity use. Readily available devices such as circuit and appliance timers, and daylight switches have been tested. An economic feasibility study into an advanced energy-metering device is underway. This may be particularly helpful where many houses are connected to a single source of electricity supply.

### Pilot capital works program

A pilot capital works program is underway in the Central Australia and Kimberly regions. The pilot program aims to create successful case studies of RE installations in communities. Community Energy Planning has begun and the delivery and installation of systems will begin in November. ATSIIS nationally (Housing and Environment Branch) is funding the pilot program.

# BUSHLIGHT:

## improving livelihood choices through better energy services

The Bushlight project was established in response to a clearly identified need for better, more sustainable energy services in remote communities. In a 1999 survey of energy systems in 88 small communities in WA, SA, Qld and the NT, only 65% were found to be working.\* CAT identified the causes of system breakdown as the lack of demand management, complex and non-standard technology, lack of trained staff and little technical support. The Bushlight project was initiated to develop a different approach. During its first 18 months, the project team has confirmed the reasons for Bushlight many times over. Indeed, the demand for reliable and affordable energy services remains critical in many communities.

**B**ushlight aims to improve the livelihoods of residents by introducing energy services that are sustainable, reliable, affordable and based on renewable energy. Project staff are re-thinking the way that infrastructure and services are delivered to communities. The four-year project began in April 2002.

Since then, formal agreement has been reached with nine ATSIC Regional Councils on how Bushlight services will be delivered within their regions. Bushlight staff have visited more than 100 small communities in the Kimberley, Top End NT, Central Australia and North Queensland to discuss energy services and collect data for regional energy plans. Bushlight's first generation of renewable energy (RE)

systems have been designed, built and tested.

Bushlight is a joint venture between CAT and the Australian Cooperative Research Centre for Renewable Energy (ACRE). It is funded by Aboriginal and Torres Strait Islander Services and the Australian Greenhouse Office. Bushlight has regional teams working from Alice Springs, Derby and Cairns, and a technical group located in Perth.

### The Bushlight project is focused on achieving three key outcomes:

- improved renewable energy systems
- improved community capacity and confidence
- a support network.

## Community capacity and confidence

### Regional energy planning

A Regional Energy Plan is being developed for each ATISIC region in which Bushlight is working. These are strategic plans developed by Bushlight in discussion with ATISIC Regional Councils and regional ATISIS offices. The plans will describe the existing energy infrastructure in the region, and outline strategies and priorities for addressing demands for energy. The plans also describe the key responsibilities of Bushlight and other parties within each region. Each Regional Energy Plan is developed after extensive outstation visits and discussions with stakeholders; e.g. community councils and resource agencies.

On being approved by the ATISIC Regional Council, the Regional Energy Plan will form the basis of the regional capital works program. Regional Councils will set the energy service priorities within their regions, ATISIS will determine funding available to be applied against these priorities, and Bushlight will implement capital works in accordance with these plans. The funds available for capital works and the funding channels varies from region to region.

Bushlight has signed agreements with ten ATISIC Regional Councils: Kullarri, Malarabah and Wunan in the Kimberley; Alice Springs, Central Remote, Nulla Wimila Kutju and Yapakurlangu in Central Australia; Garrak-Jarru and



RESIDENTS DRAWING MAPS OF CURRENT AND FUTURE FACILITIES, PART OF ENERGY SERVICES PLANNING AT WULUNUNJUR IN THE DERBY REGION

Miwatj in the Top End; and Gulf and West Queensland. (see story page 4)

### Community Energy Planning Model

Bushlight has developed a Community Energy Planning Model with five stages; prepare, select, install, maintain, and sustain into the future.

In the select stage, the community is presented with a selection of energy solu-

tions and resourced to make an informed choice. A Community Energy Plan is formed which includes a capital works program, costings, supply arrangements and a service agreement.

Making an energy budget is part of energy planning. (see box 2)

### Support network

Education and training are critical in the Bushlight strategy to increase the longevity and sustainability of renewable energy systems in small homeland communities. Resources are being developed to meet education and training needs at three levels; one, the users of the renewable energy systems; two, employees of resource and support agencies; and three, industry accredited, commercial system designers, installers, and service providers.

#### Level 1 – Community-based training

Community-based training is for people who are having a Bushlight system installed in their house. The emphasis is on raising awareness, as part of the Community Energy Planning Model. (see above) Training in how to operate an RE system will be provided prior to and immediately after the systems are in place. Further education and training will be offered as needs arise. Fact sheets about fuel and energy are being developed.

#### Level 2 – Resource agency training

Resource agencies are well placed to carry out maintenance work on renewable energy systems on communities within their regions. Many resource agencies have identified a need for staff training in RE system maintenance. In response, Bushlight has developed a training course

### Box 1

## First Bushlight power system

The first Bushlight power supply system is designed to meet the energy needs of a single home. The Bushlight Technical Services group prepared a technical specification for this small, robust system. Following a competitive tender, Ergon Energy Corporation was awarded the contract to supply and install the first 20 of these power supply systems.















Bushlight 1 is a stand-alone, solar powered system, designed to provide 100% of the energy from the sun. The system can supply both DC (24 volt) and AC (240 volt) loads. It includes a connection point and manual changeover switch to connect a diesel or petrol generator if there is unexpected or high energy use; e.g. if many family members come to visit.

Ergon supplied the first power system for testing in March 2003. It has been tested to ensure it will perform reliably under the conditions found in small communities in desert and monsoon regions. This included a system stress test (designed to simulate the most extreme conditions the system is likely to experience), system operation under 'typical' conditions, insulation and earth testing, and a post-test evaluation.

Extensive testing allows Bushlight to identify and address any problems before the systems are installed in communities.

MICHELLE GULDEN, ERGON, WITH THE FIRST BUSHLIGHT SYSTEM UNDER CONSTRUCTION AT ERGON



Appliances	How Many	Energy (Watts)	Average Daily Hours	Power Used
Refrigerator/freezer (290L)	1	165	10.0	 (1.6 kWh)
Chest freezer (150L)	1	100	10.0	 (1.0 kWh)
Exterior lights	6	20	0.5	 (0.1 kWh)
Kitchen/living room lights	4	20	5.0	 (0.4 kWh)
Bath/toilet/laundry/hall lights	6	20	0.42	 (0.1 kWh)
Bedroom lights	3	20	2.0	 (0.1 kWh)
Kitchen/living room fans	2	70	3.0	 (0.4 kWh)
Bedroom fans	3	70	3.0	 (0.6 kWh)
Washing machine (2 loads/week)	1	750	0.14	 (0.1 kWh)
TV	1	75	6.0	 (0.5 kWh)
Video or DVD	1	30	3.0	 (0.1 kWh)
Stereo	1	50	2.0	 (0.1 kWh)
Stand-by loads	3	5	14.0	 (0.2 kWh)
<b>Total AC Load (kWh/day)</b>				 <b>(5.3 kWh)</b>

A HOUSEHOLD ENERGY BUDGET FOR AN AVERAGE DAY

## A household energy budget – a tool for planning

A household energy budget sets out the amount of energy available every day from an energy service and how the household plans to use that energy. How much energy is required each day to run the fridge, lights, fans, washing machine and TV? How much more energy will be needed if the household wants to run a freezer?

Solar systems and diesel generators make electricity. Bushlight asks residents to think about other types of energy too, such as gas, firewood and thermal solar. Residents might use firewood for cooking and heating. If there is plenty of firewood around, it makes sense to keep on using firewood rather than switching to electric heaters or cookers.

Before Bushlight designs or installs an energy system, project staff work with the household or community on an energy audit. Residents talk about the different things they use energy for, the different amounts of energy these take

and the different types of energy.

Pictures of appliances and energy symbols have been developed to help visualise how much energy is used. The blue sun symbol represents one kilowatt hour of electricity.

The Technical Services group use the daily energy budget to design a system with the right number of panels, batteries and other components to supply the electricity that a household needs. Bushlight systems are designed to help people manage their energy budgets, by including circuit and switch timers, and appropriately rated circuit breakers. Bushlight also provide information and training to help people to operate their systems and manage their energy.

Bushlight is for small communities of up to 50 people who do not have access to grid power. Bushlight works with ATSIC Regional Councils to decide the locations of Bushlight systems.

for the staff of resource agencies and community councils, and participants in CDEP with these organisations. The course will be fully accredited under the national training framework.

A draft of the Certificate II course was discussed in detail at a training forum held in Alice Springs in August. Resource centre staff, TAFE instructors in electro-technology, systems installers, and representatives from national and NT education and training bodies participated. A pilot course will begin early next year with full accreditation expected by mid 2004.

### Level 3 – technical service provider network

A Technical Service Provider Network (TSPN) is being developed to improve community and regional access to suitably trained and qualified service providers. This will lead to more cost effective operation of RE systems in the long term.

The Network comprises individuals and/or organisations that can deliver appropriate levels of RE system support services. These technical service personnel will be able to perform the highest required level of field maintenance, fault analysis and repair of RE installations.

Information about the Network will be accessible via a centralised database and available to owners of Bushlight systems.

The initial database of Technical Service Providers has been compiled and includes contact details, qualifications, accreditation levels, tools and equipment, and relevant experience. The database will be updated as the Network is developed.

*Next issue: the first installations of Bushlight systems.*

\*CAT, Remote Area Power Supply survey report



# Working towards viable remote communities

When people decide to live somewhere, they make judgements about that place. They work out whether it is a safe, secure place to be and whether they will be able to stay there for as long as they wish. They make an assessment of the viability of living there.

This article is the first in a series on 'viability'. Here Steve Fisher describes some key issues. In the next *Our Place*, we present views of people in remote communities.

## Whose viability?

The notion of viability is a loaded one. It implies some kind of positive or negative assessment as to whether a community can be successful in the long term and that the assessment is delivered somehow by outsiders.

On the face of it, small communities

should not be subjected to this kind of pressure when country towns, such as Alice Springs or Broken Hill, are not. After all, nobody could argue that a town in the desert that is using up ancient water resources at a rapid rate could be called viable or which receives a vast government subsidy as a service centre is sustainable. Surely this is no different from a small remote community.

The main difference is that many remote communities are viewed as somehow transient or temporary. The history of Indigenous people being pushed from one place to another is one strong influence on the way that mainstream Australia views small communities.

The important question is 'whose viability?' Any discussion of community viability has to involve the residents themselves. It should assist residents to make decisions about their own pathways and prospects.

## The need for real stories

For more than 20 years, CAT staff have been sitting down with groups of people and planning moves back to country or improvements to communities. We have tried to assist communities to make their own assessments of whether they can live in a viable way in a new location.

In the history of Australia, small remote communities are a new pattern of settlement that has sprung up over the last 40 or 50 years. Before that, people rarely came together in small settlements. A great deal of learning about remote living has taken place during this time. The challenge is to draw out the lessons; the positives, the negatives and the insights, in such a way that people have the information to make their own decisions about viability.

Indigenous people usually are very clear about the reasons why they want to live on country. But substantial analysis is lacking on what this means in practice for a group of people living in a modern, liberal economy where everything is costed and valued. A few stories would be a start. More sustainable communities and outstations would be even better. But, as Noel Hayes, CAT Board member, says 'many people have to be able to find their feet first'.



## How economics helps (and hinders)

A participant in a recent workshop on community development said many communities are making a transition from a 'caring and sharing' society based on mutual support and swapping of favours to one where the user pays. At the same time, for most of their lives, many people find themselves in survival mode, especially in town where the costs are higher and the pressures of family may be particularly strong.

Recently, CAT Radio Producer Adrian Shaw interviewed Brenton Johansen, a trainee working at Ikuntji, west of Alice Springs. Asked why he liked the training, Brenton replied that one reason was to be away from town and the temptations of shops and other places to spend money.

Economics is everywhere in people's thinking and the way in which we all go about our lives. If we use the economic language of viability, sustainability, returns on investment and so on, we need to go a stage further. Any assessment of one option should consider the competing ones. Living on a community might be a costly exercise for the residents and for the agencies that provide services but the alternatives are not free of cost. For example, outstation residents who have chosen to live away from the town of Coen, on Cape York, have done so for good reason. If outstations didn't exist, there would be costs to these people themselves, and to government, of living back in town. Again, some real analysis is missing.

Similarly, costs of living remote may be high, but benefits must also be measured. It is tricky to put a price on the cultural value of living on country or the freedom from abuse or violence that many outstation people describe as the reason that they live out bush rather than in town.

## Policy angles

I was speaking recently with someone who works on resourcing small communities who told me he was all in favour of a moratorium on outstations. He felt that they were held up to be a right, but no thought was going into the sacrifices that ATSI was making to support them. The resource bucket is only so big, went his argument. If people have family disputes and then split up to form more outstations, it makes no sense for them to simply expect a dip into the bucket for a house, a bore and a solar system. Otherwise, some other project goes without support.

This is one policy angle that is rarely expressed. There are others. Wouldn't it be good if this debate could be developed so that we reach a coherent position, with information laid out in front of us and a clear opportunity to discuss in detail the options open to people.

What differences are apparent in the

## Building blocks: what a viable community looks like

These are factors in the viability of a remote community.

**Effective governance** – Governance is the means by which a group of people allocate resources to achieve their aims. To be viable, a community requires a form of organisation that is effective in making decisions on resource use.

**Expressed aspirations** – Viability depends upon some kind of planning taking place. Without a plan, it is hard to work out who might be living in the community in the future, what the pressures on facilities might be and how resources could be used to best effect. In other words, without a clear expression of the aspirations of the people, it is almost impossible for a community to be considered viable since there is no unifying sense of purpose.

**Reliable infrastructure** – A community cannot be viable if the infrastructure is unreliable. CAT has been working at a community in WA where the creek crossing regularly fails during the Wet, rendering access impossible. This reduced the willingness of people to live there all year round. Without a critical mass of people, income to the store was reduced, governance processes were hampered and so on. Reliable infrastructure is essential to community viability.

**Livelihood activity** – A sustainable livelihood is defined by CAT as 'the range of activities that support improved well-being through work, enterprise and trading and that can be maintained into the future'. Without livelihood activity, a community cannot be considered viable since people are not engaged in maintaining, improving or developing their assets. An active CDEP, a functioning local corporation or an arts centre are examples of livelihood activity.

**Assets and resource flows** – This relates to livelihoods. If the resources flowing out of a community over time are greater than the inflow, then the assets of that community will deplete. A positive balance sheet for resource flows is therefore fundamental to viability.

**Access to services** – The ability of a group of people to live safely and happily in a remote location relies upon their access to services. These include access to essentials such as food, water and domestic products, as well as health, technical, energy and communications services.

**Low vulnerability** – Communities often talk about the threat that they feel due to debt, violence, substance abuse or tensions with other communities. A reduction in vulnerability is critical to people feeling happy and safe and to the ability of the community as a whole to sustain itself.

views of people living in different parts of the country or between people of different generations? According to a study by the Centre for Aboriginal Economic Policy Research, the Indigenous population of desert Australia is projected to increase by nearly a quarter over the next 15 years (compared to 1.5% for the non-Indigenous population). There will be a growing number of young people. What will they say about living in small bush communities and how should these views be reflected in public policy?

Complaining about policy, or more specifically funding, is a frequent pastime. If it wasn't for funding, then we could achieve this or that or the other, goes the common refrain. We have to move beyond this to a position of taking some responsibility for policy that supports aspirations but accepts the economic realities.

## So what does a viable community look like?

CAT proposes a set of basic criteria for a viable community. (see box 1) However,

these 'building blocks' to a viable community raise all sorts of questions; e.g. what does access to services consist of and does it matter what quality or choice is available? These questions will be taken up in a future article in *Our Place*.

Viability is central to the way that we think about communities. It is not possible to consider services, infrastructure, livelihoods, culture, communications or many other subjects, without also considering viability.

But any discussion on viability must achieve two aims: to inform and support decision-making by community people themselves, and to sharpen the economic and policy tools available to communities in setting out a sustainable future.

Steve Fisher

*More on viability next issue.*

Steve Fisher is Technology Group Manager at CAT, which gives him an overview of CAT work in Central Australia, North Queensland and NW Western Australia.



JANGANPA MEMBERS, JOHNNY POSSUM JAPALJARRI (LEFT) AND FRANKY JAPANANGKA DEMONSTRATE THE MAKING OF TRADITIONAL TOOLS AT AKALTYE YOUTH EVENT 2003.

## Janganpa – dancing for the future

“Experience the oldest dance of this land as it transports itself into the 21st century” was the grip for audiences at the first production starring the Janganpa dancers to be staged in a contemporary theatre. The group of Warlpiri and Anmatyere people presented a program of traditional dance at the Araluen Centre in Alice Springs in September.

At times the dancers seemed a long way away on the wide stage of the 500-seat theatre but for any losses in intimacy, there are many potential gains in finding a format that might provide a sustainable livelihood.

In this group's experience, niche tourism doesn't make money and Janganpa is wary of the mass tourism package that might reduce their ancestral inheritance to a series of generic gestures.

Many years of work were behind this effort to bring ceremony from its natural setting to the stage without losing cultural integrity. But, as required in modern western theatre, the production was delivered quickly, in a matter of weeks, with direction from Tracks, the contemporary dance company of the NT.

The stage was uncluttered with stripped down indicators of a bush environment; the flickering of campfires reproduced in lighting behind cellophane, shifts in lighting to show a journey, wafts of fake 'smoke'. For the dancers this stage trickery didn't matter. The focus was on maintaining the cultural integrity of song and dance handed down from the ancestors.

The bigger translation was in programming and timing. Out bush, decisions on which dances to perform will emerge from the dynamics of the group on the

day. The name and story of the dance might be announced after it has finished. The performance has a stop, start character as dancers take their ease between dances and discuss what they will do next. This is confusing for an uneducated audience and difficult to market.

To bring their dance to a broader and wider audience, the Janganpa dancers had to program a performance and work with exact timing to meet sound and lighting cues. Janganpa chose dances that could be performed publicly by the group of people involved. Some members were able to draw on their experience in working with national and international film makers and photographers. Since 1995 Janganpa members have worked on feature films, documentaries, television series and commercials. Among the best known are *The Tracker* and *Rabbit Proof Fence*.

However, the transition to the stage took much effort and negotiation. What prompted the investment? Janganpa members are traditional dancers, singers, hunters and gatherers, trackers, artists and craftspeople, and stockmen. They now live in Alice Springs where there is little work, except in producing art and craft. Janganpa offers an opportunity for employment for people going into town. And, if it works, if it can

become sustainable, it's a gift from the elders to the young.

The Janganpa group is providing and creating employment opportunities while offering new incentives to be involved in traditional dance. The Group aims to sustain and maintain cultural heritage, while offering a pathway to a career as a performer.

Dancers in the Araluen production were aged from 16 to 83. The one-hour show is now a framework into which younger people can be introduced so that older people can step back. As the group gains contracts and performs, the elders will continue to sing and direct while young dancers grow into the knowledge.

The show was designed as a series of modules and each is available for separate contract. A convention could contract a half hour women's dance or a 15 minute men's dance. With a product suitable for a convention or big stage audience of 2 or 3000, the performance of traditional dance with cultural integrity becomes economically viable.

The Araluen show included a short film about maintaining and teaching culture. Enjoyable in itself, the film also gave the audience a key into the dance performances. With this production to build on, Janganpa members are thinking about what else they can do to ease an audience into the experience. Projecting the program notes about the next dance onto a big screen is a possibility and can be done in a number of languages.

A DVD recording of the production is now available with an introduction to each dance. A short promotional CD is being produced along with a VHS and DVD of Janganpa performing in the bush.

Janganpa is a business, with some 40 people in the core group. Any Warlpiri and Anmatyere who work with Janganpa automatically become members. Executive members are elected. Johnny Possum Japaljarri (pictured on the cover speaking to Akaltie students) is a founding and executive member.

VAST Film Services, a casting and management agency run by Peter Yates, seeks contract work for Janganpa and sub contracts to Janganpa for the cultural content of tours and events it runs.

Japaljarri and Yates both see the stage performance and its distinct modules as a model that may be useful to other groups seeking to put together performances. In Central Australia they agree, we could never have too many cultural performances.

The Janganpa website is at [www.vast.com.au/janganpa.htm](http://www.vast.com.au/janganpa.htm). Telephone (08) 8952 8233.

Kathie Rea



WASTE PLASTIC PRESSED IN A HYDRAULIC PRESS, READY TO BE CUT INTO SHAPES

## Recycling for waste management and jobs

Earlier this year, CAT and Tangentyere Landcare (part of Tangentyere Council) made a joint submission to the Alice Springs Town Council Waste Management Committee on waste management initiatives for town camps. Authors Trish Morrow and Peter Cowham outlined some ideas for improving waste management for Indigenous residents of the town camps of Alice Springs, while also providing employment opportunities.

The submission includes ideas for small-scale local recycling of plastic, waste oil and crushed glass. The Council Committee was very interested in the recycling proposal and has requested a feasibility study, which is being conducted by Tangentyere CDEP with advice from CAT. Below are extracts from the submission.

### Recycling cans and bottles

Tangentyere Council would like to begin recycling of aluminium cans, scrap metal and glass bottles from the town camps. Funding would be needed to cover the costs of infrastructure to set up this system. Collection containers would be set up in the town camps and a secure area constructed for storage of bulk quantities of collected items. The cost of 50 galvanised collection bins is approximately \$20,000. Without galvanising, 50 bins would cost approximately \$10,000. A new vehicle may be needed to transport the containers.

### On site plastic recycling

Small scale on site plastic recycling could be economically feasible for Alice Springs. This is carried out profitably in developing countries (e.g. Bangladesh) as a cottage industry. In Yorkshire England, the Alternative Technology Centre has a small-scale plastic recycling facility, which turns plastic waste from 20 households into fridge magnets, coasters and mouse-mats. This type of facility could be set up in Alice Springs, on a medium scale, with labour provided by a trainee employed by Tangentyere job shop. The set up costs would be about \$25,000. For the English plastic recycling facility, bread bags (low density polyethylene) and hard plastics such as margarine tubs (high density polyethylene) are collected from 20 households on foot, simply walking door to door to collect the plastics. In Alice Springs, waste plastics could be collected at a central location. Plastic could be recy-

clered into mouse-mats, magnets and coasters to sell to the tourist market.

A very inexpensive, small-scale manufacturing process is used to turn the waste plastic bottles and bags into sheet plastic, which can be cut into shapes with a band-saw or jigsaw to make small items such as coasters and fridge magnets. Alternatively larger, thicker sections of 'plastic lumber' can be formed and used to make items such as shelving or furniture.

### Using crushed glass

If glass recycling proves to be unfeasible due to the high costs of interstate transport, there are numerous possibilities for utilising crushed glass or whole glass bottles and jars. Tangentyere Council could run such a facility as an enterprise employing residents of the town camps. Waste glass can be used as an aggregate in Portland cement concrete.<sup>1</sup> In Florida, glass cullet has been used as a sand substitute for eroded areas of beaches, as

emergency fill for temporary stabilisation<sup>2</sup>. Pulverised glass has been used in landfills, as a covering layer over geosynthetic membranes which are used as liners<sup>3</sup>. This protects the liner from wear, and helps to provide a drainage area for the collection of leachate. Glass can also be used as a daily cover material for landfills<sup>4</sup>.

Waste glass can be used in small amounts to make fibreglass,<sup>5</sup> and pulverised glass can be used for sandblasting, filtering water,<sup>6</sup> hydroponics, septic tank drain fields, jewellery and floor/wall tiles<sup>7</sup>. An artificial stone can be made from crushed glass aggregate, lithium, a superplasticiser and cement<sup>8</sup>.

Glasphalt has been trialled extensively in the USA in highway surfaces. Typical hot mixes contain 5 to 15% glass, with 5% being more common<sup>9</sup>. Recently, Glasphalt was used in Missouri for paving an airport runway<sup>10</sup>. For this application, glasphalt provided better reflectivity and visibility than conventional asphalt, due to its glass content.

### Cooking oil and grease

Currently, some waste cooking oil and grease is being collected by a local business. However, there is much more scope. This waste could be collected from restaurants and fast food outlets by Tangentyere Council CDEP employees and then sold for the manufacture of biodiesel, to local enthusiasts. Waste vegetable oil also can be used as a diesel fuel substitute provided engines have been suitably modified.

### Tangentyere CDEP

Tangentyere CDEP has the capacity to create sustainable employment for Indigenous people and improve waste management in Alice Springs – a triple bottom line improvement for all parties concerned. Building on the success of the Fertile Ground Company's organic mulch facility (*see story, Our Place 19*), there is potential for Tangentyere CDEP to provide a valuable service to Alice Springs by recycling plastic, waste oil and possibly glass.

*The references for this story are on page 19.*

COASTERS MADE FROM RECYCLED RUBBER BOOTS, HARD PLASTIC JUICE CONTAINERS, AND POLYETHYLENE BREAD WRAPPERS.



# Camp ovens

## from car wheels



When the marks lined up, rolling from either direction, they had succeeded in locating points across the diameter on which to weld the handles.

The students also made extension handles to lift the camp ovens from the coals.

To finish the job the group travelled out bush to burn in the steel ovens. (*see box, 10 steps to tucker*) Then it was time for a hearty roast lunch.

'Camp oven training' now is available to remote communities. CAT lecturers assist communities to set up a training space and bring equipment such as welding gear out with them.

Dean Koopman, an admirer of the bush skills of the 'Afghan' cameleer families, says they were the first to use camp ovens made of steel. Cast iron ovens weighed down their camels and were so brittle they broke if they fell from the camel's load.

*ROASTS AND DAMPER COOKED TO PERFECTION IN CAMP OVENS MADE BY THE STUDENTS.*



*KENNY WALTERS USES THE EXTENSION HANDLES TO LIFT HIS CAMP OVEN – AND ROAST – OFF THE COALS.*

**M**aking a camp oven out of old car wheels has provided a group of Alice Springs men with the opportunity to learn basic welding skills and make a valuable asset out of discarded rubbish.

Lecturer Dean Koopman reports that students were surprised to hear their homework on day one was to find two old car wheels. Drawing on available local resources is part of the training in the ATWORK, Aboriginal Technical Worker program.

The rims of two car wheels are cut off to form the lid and the base of the oven. A lip is left on the lid so it sits over the base. (This is to stop dust blowing onto the food inside.) The students then cut two circles from a steel sheet and welded one to each rim. Handles were welded from steel rod and attached to each side.

Making the ovens was a welding challenge as the edges of the wheel rims and the steel circles are thin, at 2.5 mm.

The students worked towards competencies in the Certificate II in Applied Design and Technology: manual ARC welding, measurements and calculations, and occupational health and safety.

The car wheels also became a tool for measuring. Tape measures and rules aren't often handy in communities so the group learnt to use the wheel as its own measure. The handles were to be welded onto the base at opposite points. Each point was estimated and marked with pencil. The students lined up one of the marks and noted its place on the workbench. They rolled the wheel one way and noted the second point on the workbench. Then they rolled the wheel the opposite way to check the marks.

## 10 steps to tucker

### How to burn-in a steel camp oven

All steel camp ovens need to be 'burnt-in' to remove impurities from the steel. Whether made from old car wheels or bought from a shop, a camp oven isn't ready for cooking until it's been burnt in. You will need firewood, cooking oil, and handles or grips for lifting the camp oven on and off the heat.

- 1 Make a fire and keep it burning to produce a good stock of coals.
- 2 Spread out a thick layer of coals about three metres from the fire.
- 3 Put the lid and base of the camp oven on the coals, with the insides up. The heat will open the 'pores' of the steel and let out the impurities.
- 4 Take the oven off the coals, pour on cooking oil and use a rag to spread the oil all over the surface on the inside of the base and lid. The oil may catch fire so don't stand too close when pouring on oil.



## Making camp stretchers in the Tanami

At Yuelamu on the Tanami track, an ATWORK training program became a bed-making workshop. Fourteen double-width camp stretchers were manufactured during the training and the participants continued for some weeks afterwards, making beds for older people in the community with the jigs (formwork) and tooling left by the CAT lecturer.

The bed-making began well into the five-week program, after the students had developed a sufficient level of competence in welding. The community chose to make camp stretchers with fold-up legs to allow for easy moving inside and outside the house.

A design change was made to eliminate sharp edges that could gouge the newly renovated floors in many houses. The leg support brace, typically a few inches up the leg from ground

level, was moved to the bottom of the leg. With this improvement, the bed design featured two long, clean surfaces on the floor instead of four small posts under great weight.

CAT had not trained in Yuelamu for some years, so lecturer Dean Koopman made a prior visit to the community to assess the training site and the available resources. A large amount of 50 x 50 x 1.6 square hollow section steel and two inch mesh was left over from a fence building project. With knowledge of the size of the materials available, Dean was able to build jigs to suit at the CAT Workshop in Alice Springs.

The Housing Maintenance Officer at Yuelamu set up a workshop; cleaning out a shed, bringing in workbenches, finding a suitable power supply and attaching the 15 amp plug required for welding. The Council kitted the young men in overalls, boots and helmets and offered a free pie and drink every day to all those who attended the training. With lunch supplied and hunger pangs at bay, the students had no trouble returning on time after the lunch break.

Training games were introduced early in the program to develop problem-solving skills. 'Spaceship' was a favourite. Using simple components – a handful of skewers and sticky tape – each student was asked to design and build a spaceship that would protect their pilot (an egg) as it re-entered the atmosphere at great speeds; i.e. being dropped from an eight foot step ladder. Martin Hagan won the design competition with starship Yuelamu Enterprise and an unbroken egg.

Four training units were studied; occupational health and safety, measurements and calculations, preparation to welding and cutting, and perform welding and cutting.



(ABOVE LEFT)  
NORMAN HAGAN AND  
MARSHAL DIXON FIT  
COMPONENTS TO THE JIG.  
(RIGHT) GIBSON LONG  
MEASURES STEEL TO BE  
CUT INTO LENGTHS FOR  
THE FRAME

PHOTOS ON THESE PAGES  
BY DEAN KOOPMAN

**5** Put the oven back on the coals, with the oiled side up.

**6** Leave on the coals for 15 minutes.

**7** Repeat steps 4 to 6 until the inside of the oven is pitch black — usually two or three times. The oil replenishes the steel.

**8** Remove from the coals and pour cold water across the inside surfaces. Be careful not to get burnt by the hot splattering water.

**9** Dry the oven and oil the insides again. The cooking surface is glossy and non-stick. It's time for tucker.

Fill the oven. Place on the coals and spread coals over the top of the lid.

**10** When the meal is finished, use dirt or a dry cloth to wipe the oven clean. Rub over the surface on the inside of the base and lid with animal fat or cooking oil to keep it non-stick. Avoid using water and don't use detergents.

NB: Never put a camp oven on or near an open fire as the carbon released in the smoke will get into the steel.

CAMP OVENS SHOULD BE USED ON COALS, NEVER ON FLAMES.



# Better outcomes from public housing transfers

Progressively, governments across Australia are transferring public housing stock to Indigenous community ownership and management. Often, this is welcomed as people strive to gain greater control over their lives, increase their stability and develop a sense of ownership. But there is no well-defined process for transferring houses.

Tania Cobham (CAT Cairns) outlines ways in which the transfer process could be improved in a new paper titled *Towards Best Practice*. Case studies support arguments for change. Below are extracts from the paper.

## A ready market

Statistics highlight the opportunity and a ready market for undertaking housing transfers to Indigenous communities.

Currently, 616 Indigenous housing organisations collectively house approximately one-fifth of the Indigenous population of Australia (Minister for IMIA, 2002). There is a significant shortage of housing for Indigenous people in rural and remote areas, where sharing of dwellings by more than one family is the norm (ABS, 1999). Of these houses 23% need major repairs and an additional 10% need replacement (CAT, 2002).

A much greater proportion of Indigenous people are living in public or community housing than non-Indigenous people (ABS, 1999).

## Current processes

Generally, housing transfer processes are not formally defined and tend to have the following characteristics:

- Transfer of a range of houses to skilled and/or experienced community housing providers
- Some arrangement where the organisation can assess the suitability of the stock to its needs

- The option to not accept unsuitable stock
- Some limited acknowledgement of the need to access recurrent funds or ongoing support depending on the type of social service outcome proposed.

Depending on the situation, the government may choose to transfer ownership of the property or simply the management for an agreed period of time.

## Understanding motivation

There are primarily three reasons why people aspire to own their own home (AHURI, 2002):

- Use value – the ability for owners to ‘do what they want’ and therefore shape their own environments
- Exchange value – owning a home is an investment and a source of wealth that can be passed on to children
- Symbolic value – home ownership offers security, a sense of achievement and social status.

During the transfer there must be room for fostering these sentiments amongst the current or potential tenants. Tenants who feel included and in-control are more likely to respect the house, pay the rent and get involved in organisational activities.

## Self-assessment by Red Shield Housing

Red Shield Housing in Tasmania is a large, well-established, community housing organisation that does not receive any recurrent funding. The State Government has transferred several batches of housing stock to Red Shield.

To assess the quality of the stock it is offered, and thus maintain its viability, the organisation has adopted a self-assessment checklist to gather information and create a ranking. The checklist includes items such as the age of the plumbing, the proximity to shops and services, and the materials used in construction. On one occasion the Government offered up to 50 houses of which only 20 were accepted as viable stock. This illustrates the importance of minimising risk through informed decisions on acceptable housing stock.

## Kuranda Negotiation Table

A group of land trustees in Kuranda were offered their houses in a transfer from the Queensland Government Aboriginal housing agency. At the request of the community, the State Government funded the Centre for Appropriate Technology to facilitate the community decision making and preparation process. During this project it became apparent that it was difficult to get a suitable process or forum for talking with the housing agency.

In the search for a suitable forum, the Government identified an existing process that could be used for the transfer, called the Kuranda Negotiation Table. The Table is convened infrequently, is attended by all government agencies and tackles a broad range of issues relevant to the larger Kuranda Indigenous community. While it is easy for government representatives to identify which discussion to be a part of, community members find all areas relevant to their lives and cannot dedicate sufficient time just to housing transfer issues at this meeting. In addition other community members who are not concerned with the housing transfer attend the 'housing and land' discussion group. This forum is inappropriate and a better arrangement is needed so the Government and community can feel comfortable enough to settle on a deal.

nical aspects of housing management alone are unlikely to succeed. For any project to succeed, people need to have the ability and opportunity to work together to make decisions and to take action on important issues. As part of the transfer of housing stock, a commitment to long term, flexible, accessible and appropriate capacity-building should be established.

### Partnerships

The use of strategic partnerships is one way for groups to share expertise. Beneficial partnerships can be formed between community organisations and housing sector businesses such as maintenance providers, real estate agents or business development consultants. The partnership would be a business arrangement where a contract for service is awarded in return for capacity building commitments from the supplier.

### Room for improvement

Like everyone, community groups and individual members have aspirations for improving their lives. In most cases, the transfer of houses to Indigenous people is initiated by government departments. Although housing issues may be important to community members these may not be their highest priority. This can lead to a diversion of valuable volunteer time and leadership skills from issues considered more important, or a general lack of commitment as people only actively engage with projects that are important to them.

Housing management can be a tool to achieve community aspirations through careful consideration of external and internal priorities. Transfers should include ample opportunity for people to develop and express their aspirations. Through this process the priorities of the community will become clearer and they will be able to decide on the potential benefits of the offer to transfer.

*Towards Best Practice: Getting Better Outcomes from Public Housing Stock Transfers to Indigenous Communities*, the paper from which this article is drawn, includes recommendations on process. It is available from CAT; telephone Leesa Satour on (08) 8951 4311, or download from [www.icat.org.au](http://www.icat.org.au).

*References are on page 19.*

### A negotiating framework

When a community or housing organisation is offered stock there should be an opportunity to consider the offer, discuss any concerns, negotiate the terms of the transfer and finalise the details. This process can be unfathomable for people who have only vaguely considered owning and running their own houses.

### Independent assessment

Conducting a housing assessment as part of the transfer is an important aspect of risk management for community housing organisations. An independent housing assessment provides information on the worth of the asset and a maintenance schedule to allow the organisation to make an informed decision on whether to accept or reject the offered stock.

### Identifying stock

Generally the government housing authority identifies which houses are available for transfer. The reasons for selecting specific houses are varied. It may be that the transfer is identified to benefit the government housing authority (e.g. the stock is too old or hard to let) or is selected primarily for the benefit of the community (e.g. there are strong housing ownership aspirations or the stock is well located).

There needs to be transparency in the information and relationship between the agency and the community to give the housing organisation the best chances of maintaining management of the new stock.

### Design improvements

Housing organisations would prefer design housing stock that is particularly suited to the people it works with. This may include involving the tenants as a group in the design process and even

incorporating the needs of individual members. An inclusive process adds to the sense of ownership; tenants have pride in their homes and the house is better suited to their lifestyle. Specific renovations that may be applicable for Indigenous housing include additional privacy from neighbours, extra facilities for visitors, increased house security etc. (Healthhabitat, 1999)

### Sharing resources

Taking over management of transferred housing stock can be very complex. For new or expanding housing organisations, accepting stock requires rapid development of skills and practices. The agency providing housing and the receiving organisation could share resources for a period of time to make the transition easier. These resources include financial buffers to enable an organisation to work through a transition, freeing some personnel to work alongside the community organisation for a period of time, and administrative assistance.

### Staff development

Groups that take up the challenge of developing a community housing service generally are not experienced housing managers. They are a group of people who want to assist others. The mechanism just happens to be housing.

Training programs that focus on the tech-

## Indigenous housing organisation partners with real estate agent

An Indigenous community housing group in Brisbane outsourced the management of its houses to a real estate agent during its establishment phase. The contract included an agreement that the estate agent employ and train one of the community members for a year. This option cost the group a little more in fees. However, they had the benefit of developing skills with minimal risk to the organisation or assets. This solution does not provide for the range of skills needed by community housing personnel but it is an example of flexibility in management and training.

# Towards full participation — the gender approach

Programs to transfer technology to women have been run internationally for 30 years, with mixed results. Since the late 1980s, specific women's programs have been giving way to a *gender approach*. The aim is the fullest possible participation of both women and men.

International experience has shown that if projects are developed with community participation but without a gender approach, this can lead to gender imbalance. In 1998, a research institute evaluated water projects in 16 communities in four countries in South America. They found that men with higher incomes, who usually exercise community leadership, dominated the discussions of the water project committees. Women did not hold important positions and seven committees comprised men only. (GWA, 2002)

## Gender roles and change

Gender roles can change quite rapidly when new technologies are introduced. Perhaps this is happening in Indigenous Australia? A female researcher visiting one Central Australian community in the late 1980s reports being asked to drive a community man to collect firewood for him, usually the work of men.

Asking about this, she is told that in olden times women collected the wood but 'men had the fire', that is, men cooked the main meals in the camp. In the late 1980s, all firewood was collected with cars or trucks and, as vehicles were exclusively 'owned' by men, it had become a man's job to collect firewood. (Stotz, 1995) In this community at that time, it was the use of a car, rather than tradition, that determined who collected the firewood. However, the car is gendered; owned by men and not by women.

The researcher argues that western things are gendered in the first place because they come into this community via men. Their arrival is negotiated by men, Aboriginal and Western, dealing face to face with each other. The exception is health care, which initially was delivered via women. Perhaps this gender imbalance continues, with men being effectively excluded from, for example, preventative health workshops? The expansion of health facilities and jobs may mean that women have gained 'ownership' of vehicles.

## Three roles

Technology affects women in all areas of their lives. Commentators say that in the developing world, women have three roles; community management, productive, and reproductive. The *community*



'GRAPHIC COURTESY GENDER AND WATER ALLIANCE'

*management* role comprises activities to ensure that scarce resources are maintained for the community; e.g. water, healthcare, education.

The *productive* role is work done for payment, in cash or in kind. It may be maintaining sources of food for sale or subsistence. It may be working in a school or running a restaurant. Technology could help women to set up or improve a business or make their work easier.

The *reproductive* role is childbearing and rearing, and domestic work. The people who directly benefit from this work are members of her household.

Internationally, technology transfer aimed at women has been mostly in support of the reproductive role, with the majority of work going into improving cooking stoves. Within the productive role, the focus has been on food processing, textiles and handicrafts.

### What does that mean?

**Gender** refers to the specific roles and responsibilities adopted by women and men in any society. It is about how we are perceived and expected to think and act, as women and men, because of the way society is organised, not because of our biological differences.

**Taking a gender approach** means that

- attitudes, roles and responsibilities of men and women are taken into account
- it is recognised that women and men do not necessarily have the same access to, or control over, resources
- work, benefits and impacts may be different for women and men.

– from *The Gender Approach to Water Management*, 2002

Development worker, Saskia Everts sees this limitation to only some technologies as partly a result of Western biases as to what is seen as a woman's task. It may be effective to link up with activities that women are used to doing, and with activities that are seen as fitting for women. However, a limited range of activities means limited opportunities for reaching viable markets. Support for women to broaden their activities has the potential to increase market access and earnings.

This separating out of the roles of women can be an imposition on Indigenous cultures. Sinith Sittirak has written about her mother, a Thai woman who keeps house. She uses a home-made rake to tend a food garden of fruits and spices. She wraps food in banana leaves bound with string made from the trunk and burns the husks to repel mosquitoes. The garden is an in-house pharmacy with ingredients for many remedies. She dries fish and chilli in the sun and stores water in jars for drinking. *Reproductive* work, yes but surely *productive* work as well.

Does it matter about the definition? Yes, if development programs target work in just one role. If, for example, irrigation water is available only to *productive* enterprises, women's homestead gardens, common in parts of Asia, may miss out on a new resource.

## Women's enterprises

In developing countries, most women's enterprises are small-scale. They provide work for the women themselves and possibly some family members.

Saskia Everts argues that technology can be both an opportunity and a threat. On the plus side, access to a technology like weighing scales may bring success to a woman's business. On the down side, the introduction of a new technology may displace a woman entrepreneur or force her to market her goods more cheaply. For example, in Kerala India, rural women who sold fresh fish lost their livelihoods when a development program led to factories being built to freeze fish.

To avoid the threats and to use technologies to create opportunities, planners need to work through the implications for both women and men.

The starting place may be a good understanding of the current situation. For example, Everts discusses an interesting difference in the orientation of women and men as entrepreneurs. Women tend to aim for security while men aim for growth. Female entrepreneurs who have the opportunity for expansion, will more often diversify their activities, rather than increase their investment in one specialised activity. This strategy spreads and thus minimises risks. The main aim is stabilisation, rather than maximisation of income.

References are on page 19.



## Technology – women use it every day

CAT has long worked with the perception that a direct transfer of technology from urban Australia to remote communities will, in most instances, reduce Aboriginal participation in technology. Discussion about choices and strong networks are essential to retain participation in using and maintaining technology.

In the mid 90s, CAT began specific efforts to shift its networks towards remote communities and women. The initiatives for women aimed to bring improvements in services, networking to improve awareness of women's issues, greater responsiveness to gender issues in appropriate technology and more interest in technology within women's service organisations.

The major vehicle was the Aboriginal and Torres Strait Islander Women's Technology Network (WTN) and, in particular, activities associated with its national conference, held in August 1996. CAT continues to hear feedback from conference participants to this day.

At its height, the WTN database had 834 entries. The WTN Coordinator, Jenny Kroker, built awareness of Indigenous women's needs amongst her CAT colleagues. It proved an important and effective approach to increasing women's participation across all CAT activities. Witnessing this impact, the WTN identified awareness-building amongst other service agencies and policy makers as a key to maximising women's participation.

An earlier initiative, Women in ATWORK (Aboriginal Technical Worker), was growing alongside the WTN and contributing to its success. Women in ATWORK began in 1995 to facilitate technical training for women. CAT lecturer, Robyn Ellis, visited women's centres to promote training and responded to requests to bring training in design and technology out to communities.

The period saw increased representation of women on the CAT Board. Women were increasing their numbers on community councils. New skills and networks were needed.

The Women in Technology conference aimed to increase the involvement and visibility of Indigenous women in the development and use of technology. The WTN sought to develop a national perspective on current issues. Some 170 women came from all states and territories. They were CDEP workers, ATSIC representatives, training providers, students, health workers, land council members, community workers and community women.

The conference was held in Alice Springs, at the Araluen Centre and at CAT for the hands-on component of workshops. The

Office of Indigenous Women (ATSIC) funded the conference as the official sponsor.

At early planning meetings for the conference, questions had come up: how will remote community women respond to flyers about a technology conference; what is appropriate technology? The planners decided that groundwork was needed to inform women so they could decide if it was relevant to attend the conference, and to inform the WTN about issues and concerns.

Pre-conference workshops were held in Wagga Wagga, Bamaga in Far North Queensland, Thursday Island, Cairns, Mareeba and Port Augusta to demyth the word 'technology'. Jenny Kroker reported that the workshops were successful: participants changed their view of technology from 'satellites and computers? nothing to do with me' to 'hey, technology is all around us! We use it every day'.

"Technology was defined as how we organise what we know, with skills we have, to make something happen. So participants could see that technology is more than products, that it is also processes, such as cooking, and that Indigenous women have been designing and using technology for countless centuries.

"This resulted in the women stating that technology is and always has been women's business."

Robyn Ellis designed the pre-conference workshops and the conference hands-on workshops, based on her training in remote communities in Central Australia. The workshops were a part of Applied Design and Technology, the nationally accredited course developed by CAT.

Conference workshops were held on water, waste, transport, shelter and environment, and communications. A large number of participants wanted to take part in the shelter and environment workshops, indicating a primary concern and priority.

The conference built awareness amongst community women of their relationship with technology, prompting the realisation that there are alternatives and therefore choices. Through hands-on activities, women gained skills and the confidence to be more involved in making decisions about technology.

Delegates identified a forward agenda of



INDIGENOUS WOMEN HAVE BEEN DESIGNING AND USING TECHNOLOGY FOR COUNTLESS CENTURIES. HERE KAY WILLIAMS MAKES BEADS FROM ININTI SEEDS AT WILLOWRA. PHOTO: STEVE FISHER

seeking increased involvement of women in decision making at community level and also at the state and local government levels, where standards are set for water quality, housing design, etc.

A questionnaire gathered participants' thoughts on the conference, and information on the types of technologies used by women in their homes and communities.

Many respondents wanted smaller scale conferences held at various locations. The WTN ran a post conference workshop at Ceduna and another at Hamilton Downs in Central Australia in conjunction with Waltja Tjutangu Palyapayi.

In 2000, the WTN conducted a technology survey on attitudes and perceptions concerning technical issues in rural and remote communities. It focussed on women involved with ATSIC.

Women comprise about 15% of students in CAT technical training programs. In recent years, numbers have been rising. Lecturers report that women are consistent and keen participants.

Kathie Rea

### References

- Kroker, Jenny (1996) *Aboriginal and Torres Strait Islander Women in Technology* conference report, CAT.
- Stewart-Adams, Alison (2000) *Women with ATSIC: Technology Survey*, CAT
- Walker, Bruce (1988) Keynote address in *Conference Proceedings: Science and Technology for Remote Communities 18-19 July 1988*, Murdoch University.



A DIORAMA OF PHILLIP CREEK MISSION. EVEN IN THE 1960s, ONLY WUMPURRANI WITH JOBS COULD LIVE IN TENNANT CREEK.

## Nyinkka Nyunyu cultural centre

Children in a school group rush to a video screen and their gallery guide quickly finishes her introduction to a static display and catches up. “Football is part of our culture now”, she says, as they watch TV reports of several codes, from league to settlement games, and footage of children kicking a ball around.

Meanwhile this writer is reading about women’s ceremonies: “Nowadays we mix ochre with canola oil or dripping. But in the old days we used pirnpiri, the bone marrow in the leg of the emu.” Apparently, when stored high in a tree in a bark cup with a hair string cap, it never dried out.

A girl is describing the exhibits and answering questions from a woman with a clipboard. It turns out the girl is being assessed for her certificate course in Museum Practice at Bachelor Institute of Indigenous Tertiary Education.

A German-speaking family rest on padded benches watching video of men preparing for ceremony and asking questions of a guide. For a modestly priced ticket, visitors are shown around by a personal guide.

Local Aboriginal people also are visiting to view and discuss the exhibits, and the visitors. A display board acknowledges the contribution since 1995 of the whole Wumpurrani community of Tennant Creek.

Nyinkka Nyunyu opened in July and, although it is not yet included in general tourist promotions and brochures, a stream of visitors are finding their way. The striking shape of the gallery building and sweep of the roof draw immediate interest. A garden of bush knowledge has plant identification signs. Significant landscapes are represented and explained. Separate dances areas have been built for the men’s and women’s performances. The centre is near a Warumungu sacred site, the home of the Nyinkka or spiky-tailed goanna.

The gallery exhibits are in a large, open ended loop. Some way

in I realised I was walking against the sequence. I was watching video of a young man speaking about improving relationships with mining companies before I read about the critical role of Aboriginal people in establishing the NT pastoral industry. It didn’t matter. If anything, it brought home more strongly the influence of the past in the experience of the present.

Slides in the ceiling project animal tracks onto the carpeted floor but it wasn’t until the German toddler started a game of jumping from one to another that I saw them. Next visit, I’ll spend more time with the *living in the land* exhibits.

*Getting the land back* is a large wall exhibit; a huge timeline on perspex of the Warumungu land claim, fronting photographs of the campaign from 1978 to 2003.

On the opposite wall is a map of Warumungu country, which extends from Bonney Well in the south to north of Banka Banka Station. It includes Warumungu places and names, dreaming beings linked to those places and English language names. A series of TV size dioramas set into the wall depicts histories and influences on Warumungu lives.

Further along, in a huge display case, fixed behind glass, are shields, spearthrowers, spears, axes, picks, boomerangs and traditional containers. These everyday objects have been returned to the descendants of their makers, from the collections of the South Australia Museum and the Museum of Victoria. The display is confronting for a non-Indigenous viewer and, as one old enough to remember the old style ethnographic displays, it may say as much about my culture as it does about Warumungu.

Terrific videos are running on loop. In one, older people recall their memories of station life at Banka Banka. There’s archival footage from 1968 of men working cattle and women tending food gardens and making bread. The addition of headphones may improve the experience for many visitors as sound can be lost when a large group is nearby.

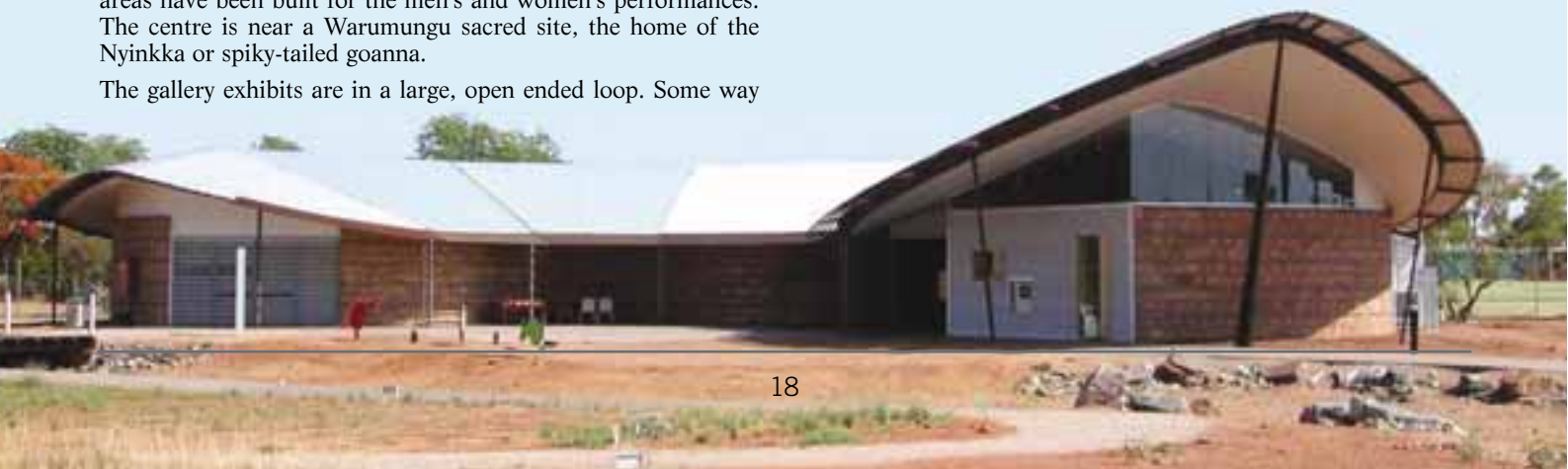
The gallery features self-portraits produced by Warumungu and screenprinted at Julalikari Arts. These are presented as an expression of punttu (family) and accompanied by a brief description of skins and subsections. It’s a great community art project but, as a viewer, I found myself looking for something that may never have been intended; a direct mapping of the portraits into a kinship structure.

The cafe and shop may become attractions in their own right as well as supporting the gallery and other activities. Café patrons can sit beneath another sweeping roof and look out to the garden.

In the large shop, local artworks and craft are prominently on display – many paintings, screen-printed clothes and bags, bush brooms and earrings. Renowned painter Peggy Jones has demonstrated her support by placing a stock of her work and also allowing images of her paintings to be used on Nyinkka Nyunyu greeting cards. Staff have done a great job in gathering relevant products from near and far. The shop is well stocked with books, postcards, scarves, small toys and T-shirts.

Gallery tickets are \$7.50 adult; \$12 adult with guide, child \$3.75 and \$3.75 also for students and pensioners. Entry to the garden is free. Nyinkka Nyunyu is in Paterson Street, Tennant Creek; website [www.nyinkkanyunyu.com.au](http://www.nyinkkanyunyu.com.au).

Kathie Rea



**References for Recycling for waste management and jobs,**  
page 11

1 Polley, Craig, Cramer, Steven M, and de la Cruz, Rodolfo V, *Potential for using waste glass in portland cement concrete*, *Journal of Materials in Civil Engineering*, Vol 10., no.4, pp. 210-219, Nov 1998.

2 Finkl, CW Jr, Kerwin, L, *Emergency beach fill from glass cullet: An environmentally green management technique for mitigating erosional 'hot spots' in Florida*, *National Conference on Beach Preservation Technology*, St Petersburg, Florida (USA), 22-24 Jan 1997.

3 Schucker, B.O. and Buffalini, RJ, *Pulverised glass and landfill liner systems*, *Waste Age*, vol 26, no. 4, pp 251-262, 1995.

4 [www.glassagg.com/glass\\_recycling\\_equipment.htm](http://www.glassagg.com/glass_recycling_equipment.htm) *Glass Recycling Equipment*

5 [www.columbia.edu/cu/record/record2020.17.html](http://www.columbia.edu/cu/record/record2020.17.html) *Glascrete will recycle waste, says engineer*

6 [www.glassagg.com/glass\\_recycling\\_equipment.htm](http://www.glassagg.com/glass_recycling_equipment.htm) *Glass Recycling Equipment*

7 [www.glassagg.com/recycled\\_glass.html](http://www.glassagg.com/recycled_glass.html) *Uses for Recycled Glass*

8 Jin, Weihua, *Artificial Stone Employing Waste Glass*, US Patent Number US 0002308, 27 Jan 2000.

9 [www.vdot.state.va.us/vtrc/briefs/98-r6rb/glass.htm](http://www.vdot.state.va.us/vtrc/briefs/98-r6rb/glass.htm) *Research Brief – Glasphalt Test Sections in Virginia*

10 [www.dnr.state.mo.us/deq/swmp/buys1.htm](http://www.dnr.state.mo.us/deq/swmp/buys1.htm) *MoDNR Missouri buys recycled*



WASTE PLASTIC  
SHREDDED INTO  
CHIPS

**References for Housing Transfer Outcomes,**

pages 14 and 15

Australian Bureau of Statistics (1999), *Indigenous Housing 1996 Census Analysis: Information and Issues*, R Jones and R Kent, July.

Australian Housing and Urban Research Institution (2002), *Australian Housing Policy Project*, fact sheet 4.



AHURI (2002), *Outcomes of Home Ownership Aspirations and their Determinants*, Rosangela Merlo and Peter McDonald, February 2002.

AHURI (2002), *Research project summary, Stakeholder requirements for enabling regulatory arrangement for community housing in Australia*.

AHURI (2002), *Strengthening Communities: The contribution of Housing and Policy Planning*, work in progress report, January.

CAT (2002), *Kuranda Housing Transfer Project*, funded by DATSIP.

Healthabitat (1999), *The National Indigenous Housing Guide*, prepared for the Commonwealth, State and Territory Ministers' Working Group on Indigenous Housing, 1<sup>st</sup> Edition, September 1999.

Minister for Immigration and Multicultural and Indigenous Affairs (2002), *ABS Survey Shows Improvement in Indigenous Housing*, media release, 6 May.

**References for The Gender Approach,**

page 16

Everts, Saskia (1998) *Gender and Technology: Empowering Women, Engendering Development*, Zed Books, London.

Sittirak, Sinith (1998) *The Daughters of Development: Women in a Changing Environment*, Zed Books, London.

Stotz, Gertrude (1993) unpublished PhD thesis, Deakin University, Geelong.

Gender and Water Alliance (2002) *The Gender Approach to Water Management*, WEDC, Loughborough University, Leicestershire.

**Further reading for The Gender Approach,**

page 16

Gender and Water Alliance  
[www.genderandwateralliance.org](http://www.genderandwateralliance.org)

Mainstreaming Gender Equity Programme, Nepal  
[www.mgep.org.np/index.html](http://www.mgep.org.np/index.html)

Aboriginal Planet Business Centre, Canadian Government  
[www.dfait-maeci.gc.ca/aboriginalplanet/750/business/business-en.asp](http://www.dfait-maeci.gc.ca/aboriginalplanet/750/business/business-en.asp)

International Women's Development Agency, an Australian non-government organisation  
[www.iwda.org.au](http://www.iwda.org.au)

RESOURCES

*Consumer justice video*

AFL football legend Michael Long is the face of the Indigenous Consumer Justice Campaign, run by the NT Department of Justice Consumer Affairs.

There are three educational videos, with advice on:

- Buying used cars
- The safe use of debit cards and PIN numbers
- Shopping – warranties and keeping receipts.

Posters have been made to accompany the video.

If you are holding meetings in remote communities anywhere in Australia and would like copies of the video and posters, please contact Marilyn McDonnell-Davis, telephone (08) 8999 6136 and they will be posted to you, free of charge.

*Cost of medicines*

Evonne Goolagong-Cawley is presenting a campaign about the Pharmaceutical Benefits Scheme (PBS), which reduces the cost of many medicines. A booklet explains the PBS Safety Net. If you have a concession card from Centrelink, and you or your family spend \$192.40 on PBS medicines, you reach the safety net and for the rest of that calendar year, you can receive your PBS medicine free of charge. Telephone 1800 020 613 to find out more. There's a website at [www.health.gov.au/pbs](http://www.health.gov.au/pbs).

## BUSH TECHS

BUSH TECHS tell you what we've learnt about working with technology in remote communities. Many are fact sheets. Some summarise emerging issues.

BUSH TECHS are published in each issue of Our Place.

**Pullout BUSH TECHS #17 and #18 from the centre of this issue.**

- #1 Hot water
- #2 Renewable energy
- #3 Stormwater harvesting
- #4 Rainwater harvesting
- #5 Gas fittings
- #6 Carbon farming
- #7 Feasibility of gas and dual fuel
- #8 How to get a telephone
- #9 Disinfecting a rainwater tank
- #10 Creek crossings
- #11 Maintaining your air conditioner
- #12 Choosing the right door
- #13 Choosing a landfill method
- #14 Dust control
- #15 Choosing the right toilet
- #16 House warming
- #17 Landfill design
- #18 Pit toilets



For a free copy of a BUSH TECH, please telephone CAT on (08) 8951 4311.

Our place is published three times a year by the Centre for Appropriate Technology Inc.

To join the mailing list, email [ourplace@icat.org.au](mailto:ourplace@icat.org.au), or telephone (08) 8951 4311.

## CAT PAPERS

Trish Morrow, *Turning Fish into Cash: A Review of the Literature on Livelihoods Opportunities in Aquaculture and Fisheries.*

Tania Cobham, *Towards Best Practice: Getting Better Outcomes from Public Housing Stock Transfers to Indigenous Communities.*

CAT has published reports on a range of technologies and themes. Many are available on the CAT website at [www.icat.org.au](http://www.icat.org.au). Click on a theme on left of screen for a list of documents to download, such as reports, *Our Place* articles, *BUSH TECH* information sheets and audio-visuals.

The CAT themes are building community capacity, community planning, water, telecommunications, energy, housing, community facilities, stoves and kitchens, waste management, transport, and enterprise and training.

For a hard copy of any report, telephone Leesa Satour at CAT on (08) 8951 4311.

## HEAVY METAL

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## TRAINING VIDEO



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Go to work with Aboriginal Environment Health Workers. Filmed on location in remote communities in Western Australia and the Northern Territory, this video brings insights into the challenges and rewards of working for better environmental health. Hosted by Clayton Lewis.

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The environment includes everything around us – the land, our house, the yard, other buildings, the air we breath, the water we drink, other people, the animals we keep, and the ones we'd rather get rid of (the cockroaches, mosquitoes and mangy dogs).

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