

People working with technology in remote communities

ourplace

Number 22

Action to improve viability

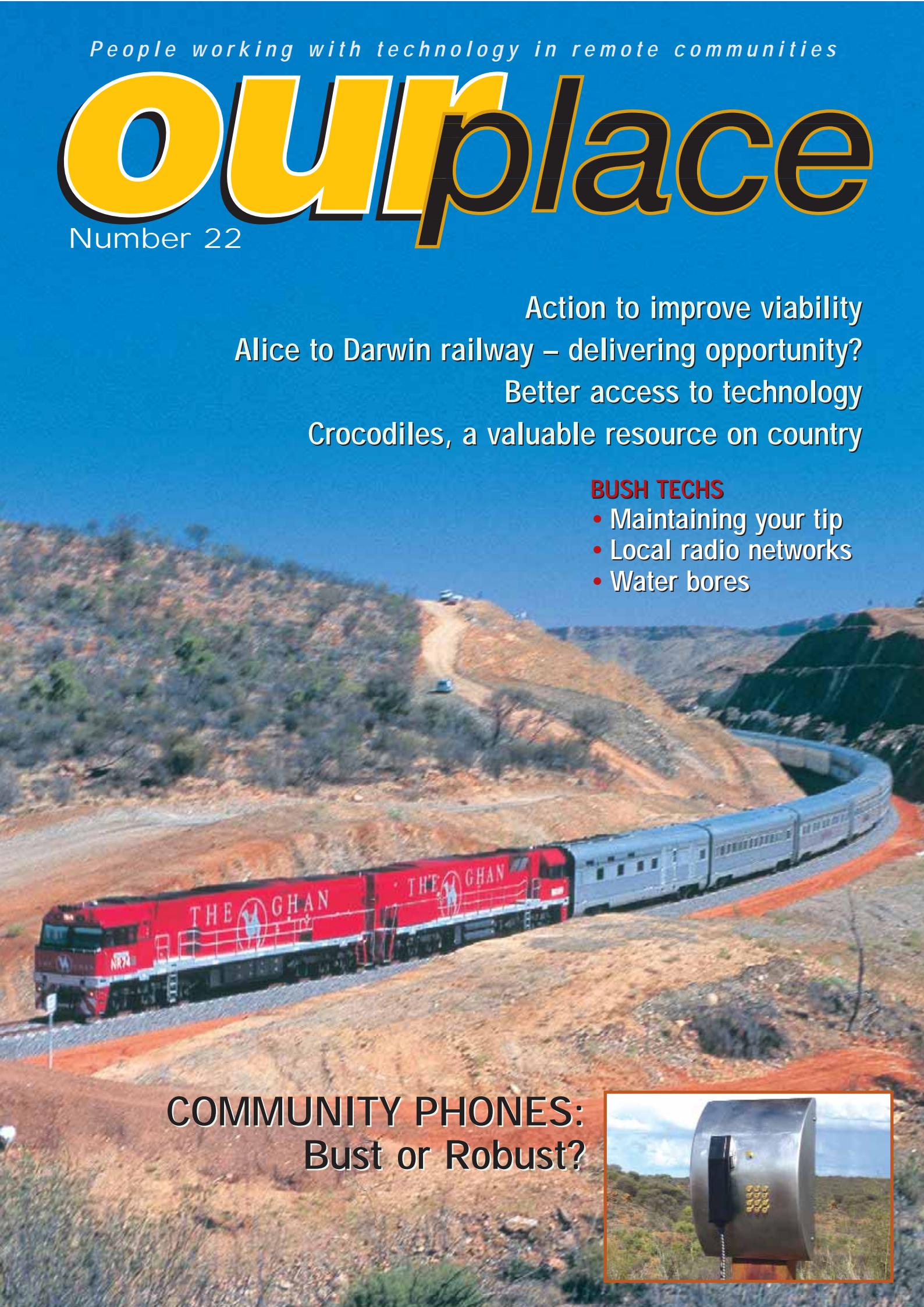
Alice to Darwin railway – delivering opportunity?

Better access to technology

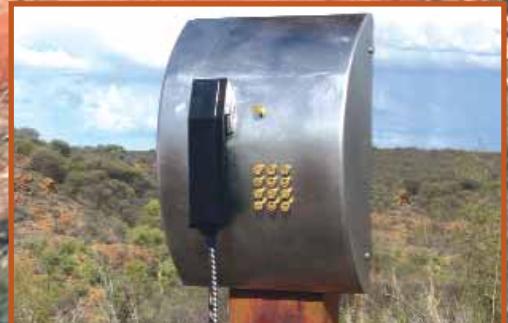
Crocodiles, a valuable resource on country

BUSH TECHS

- Maintaining your tip
- Local radio networks
- Water bores



COMMUNITY PHONES:
Bust or Robust?



ourplace

Number 22

CAT publishes *Our Place* to share what we have learnt. We post 2000 copies directly to a national mailing list and distribute more than 1000 more over time to visitors, at seminars and during community visits.

Back in 2002, Technology Group Manager Steve Fisher led a review of *Our Place*, which found that trying to make the magazine suit everyone meant it didn't suit anyone really well. CAT

decided to aim *Our Place* at some groups of people and find more ways to share knowledge.

Our Place radio is the big success story since then. Each fortnight, Adrian Shaw produces and presents a 20 minute radio show, which is sent on CD to Indigenous radio stations and BRACS networks. Adrian shares the journey behind *Our Place* radio on page 12.

And did we manage to remake *Our Place* magazine to suit some readers very well? A good response to our Reader Survey (see centre pages) will help us to work that out. Fax or post yours back by 2 August to go in the draw for a BBQ made in the CAT Workshop. I look forward to your feedback.

Kathie Rea
editor

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SEE STORY PAGE 11.



PHOTOGRAPH BY ANDREW LANE.

ANDREW CONTRIBUTED MUCH TO *OUR PLACE* DURING HIS FIVE YEARS WITH CAT AS TECHNICAL SERVICES PROJECT OFFICER. ANDREW IS MOVING ON AND HAS TAKEN UP A PROGRAM MANAGEMENT ROLE WITH ARUP CAIRNS.

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Our Place is published three times a year by the Centre for Appropriate Technology, an Indigenous science and technology organisation, which seeks to secure sustainable livelihoods through appropriate technology.

Editorial: Kathie Rea at CAT. Tel: (08) 8951 4339 Email: ourplace@icat.org.au.

Subscriptions: Free to people living or working in Indigenous communities. Tel: (08) 8951 4311 Email: ourplace@icat.org.au

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Looking after the community

Noel Hayes has many years of experience in governing structures. He is a long-standing member and a former chairperson of the Yapakurlangu Regional Council and a member of the CAT Board. Last year he was elected to the Council at Ali-Curung Community, 160 kms southeast of Tennant Creek. In the last issue Noel talked about his work as administration coordinator of the Ali-Curung Council office. Here, Noel talks to *Our Place* about his elected role.



What is your role as a Council member?

Trying to better the community, trying to run the community better I suppose. Trying to get the people to do it, look after the community; take pride in themselves.

We've got a new council so we're hoping to get people, the new council to start thinking to do things now, for the community.

There was a bakery here that burnt down. Is it going again?

That's going again. We got a bakery here. Bake our own bread. Not us, we got people who grew up here, lived here all their life, this Greek family. They've got their own bakery and they got their own little shop on the site. He opens up evening time, every evening. The people tend to go there a lot, all the time, to that shop. They really like it – very fresh, nice bread.

How you go about getting people's ideas about what needs to be done?

We're trying to get the Council to put ideas in, start thinking what they want to do. We're trying to get them to think positive to do things for the community – programs or whatever. Otherwise we won't be going nowhere.

BRACS BUILDING AT ALI-CURUNG.



Do people see you in the street and tell you ideas for the Council?

No, no, no, on Aboriginal communities very rare, from what I've seen anyway, very rare they'll talk to you about anything. Council's got to make that first move really, to start talk and all that and then they might get interested. Like I said, they wait for Council to start doing things

Councils have a large workload. Is training available?

New Council's got to have training – the way the government works, and what their role is, money-wise, all that sort of thing. They don't know that.

They got money somewhere in the government department where you can get people to come in and do training. I think it's called 'your role as a councillor'. They got books on it and all, probably videos too. People go there to teach them the basics, give them some idea because, some of them, they just don't understand. Some of them are old, some of them never had much education, like all over the place in the bush, the community people just don't know. They just leave it up to the whitefellas and a few smart blackfellas I suppose, that's all. They don't understand.

Employing people from outside the community must be difficult to manage?

Like all Aboriginal communities, someone comes in, you know, they seem a nice enough person, well they just sort of embrace them and take them in. That's why a lot of them end up in all this trouble, some of these communities. Nobody knows anyway until it's too late, all the problems they run into, happens all the time.

It's a big role for the Council members, to be supervisors?

Yes, they don't understand and they don't want to do it anyway. They just go to the meeting, and listen, have a few words to say on something that they're not happy about, and agree to things. That's all they do. That's what I say, anyway; they got to have a bit more training so they can learn all these little bitty things

I think we're going to have a training session soon for our new council. Then we might come down (to Alice Springs) for a trip, visit some other places, see how they're going. We've already talked about it, me and the CEO. He said no worries, we'll do that.

How did you first learn about how it all works?

Well, I did it myself. I just got interested and did it myself. I didn't wait for people to tell me what to think. I went and did it myself, learnt myself. A lot of our mob just sit back and let people do it for them. They can't get out of the system, to think for themselves; they always got to go and ask someone else. A lot of the councillors come and ask me. I say you people got to think for yourself, you all went to school.

Have you talked to a lot of people about what's happening on communities?

Yeah, when I was (chairperson) at ATSIC, I tried to get a lot of things going. I'm still on ATSIC regional council and I've still got a lot to say about all our communities out the bush here. Still have my say about how we're going to try to help these people in communities.

Tuckerbox workshop

Kitchens could be safer and stoves last longer if community stores were better stocked with pots and cooking utensils.

Participants in a food handling workshop in Central Australia said they would like a greater variety of cooking equipment to be available in stores. They also agreed that more women are needed on store committees to voice this consumer demand.

CAT joined Waltja Tjutangku Palyapayi, an organisation for families in the central remote area, in presenting the three-day workshop for women who work in food preparation for child care, aged care and community nutrition programs.

Waltja Tjutangku Palyapayi has written to councils and stores at each community to pass on the views of the women. The participants also shared ideas on making kitchens safer and appliances last longer.

The 20 workshop participants were aged from 17 to 57. They worked in language groups – Luritja women from Mt Liebeg and Kintore, Warlpiri women from Yuen-dumu and Nyirrpi, and Anmatyere women from Laramba.

CAT lecturer Robyn Ellis led training in carpentry techniques and using hand and power tools. Each participant made and painted-up her own tuckerbox and took it home for food storage. All participants gained credit for units in Certificates I and II in Applied Design and Technology. Some women were keen to learn more so they could make repairs to buildings and equipment and improve safety at their services.

In food technology sessions, CAT researcher Trish Morrow shared information about best practice utensils, stoves, refrigeration, food storage and kitchen design.

Discussion on whether women might be interested in buying second hand kitchen gear when they visit Alice Springs has inspired Yuendumu Women's Centre workers to set up a second-hand store.



(L-R) TREVOR HADDON WITH SOME OF THE STUDENTS WHO MADE THE TRAINING VEHICLE: DION BROOKING, ANDREW MCKINLEY, DAVID GRANT (SEATED), SCOTT RIVERS AND DAVE WILLIAMS.

Model T for training

With the addition of faulty globes and fuses, a year-long project to make a training vehicle was completed. Tracking down the electrical faults will offer a challenge to future students.

During 2003, thirty Automotive students made the training vehicle under the guidance of lecturer Trevor Haddon.

All vehicle systems are exposed so students can see the connections clearly as they work on the vehicle. Then, as they work on finished vehicles, they can refer back until they can easily 'see' the moving parts beneath the floor and panels of any vehicle.

Early in the year, an F series Daihatsu 4WD was bought from the wreckers and students stripped it down to a bare chassis. All mechanical parts were stripped, cleaned and re-assembled.

Parts of the vehicle were sectioned to reveal moving parts inside the housings. All parts were colour-coded into their respective systems groups; e.g. red for braking, dark blue for steering and light blue for cooling.

Certificate II students completed the electrical wiring, including the starter circuit. The wiring is fully exposed so future students can follow the trail of wiring down the vehicle. Understanding the electrical system is a standard component of the Certificate II course.

A group of Auto students completed a short course in welding and built a rolling frame so the vehicle can be wheeled around the workshop and outside.

The training vehicle will be used a teaching aid for students working towards their Certificate I or II in Automotive.

Bushlight – electricity made from the sun

Improved reliability is being built into the renewable energy systems installed in the Bushlight project.

The first Bushlight Household systems are being installed in small communities across northern and Central Australia.

Bushlight Household systems are built inside an aluminium case, which is insect proof and vermin proof. The cases have a unique ventilation system that keeps the temperature down while keeping out the

dust. Cooling improves the life and reliability of components. Fans turn on if required.

The system cases are mounted on a galvanised steel skid so they can be transported easily and safely.

Bushlight systems are a standard design for easy servicing and maintenance. However, each system is customised to match the energy use of a specific household.

Outstation residents work with Bushlight staff to identify what kinds of fuel they have available and how solar power could be used in each home. Appliances such as a fridge, freezer, fans, lights, TV and washing machine all can be used with the solar energy system.

Solar systems can bring low cost, 24 hours a day electricity and reduce reliance on diesel-generated power, which is expensive and so, usually run for only part of the day.



EVELYN SCHABER,
COORDINATOR OF BACHELOR
INSTITUTE IN CENTRAL
AUSTRALIA; HAROLD FURBER,
CHAIR OF THE DPC
MANAGEMENT BOARD; PETER
TOYNE, MINISTER FOR
CENTRAL AUSTRALIA; JAMES
BRAY, CHAIR OF THE CAT
BOARD; ROSE KUNOTH-
MONKS, DEPUTY CHAIR OF THE
BACHELOR BOARD AND JENNY
KROKER, EXECUTIVE OFFICER
DPC, INSPECT THE DPC SITE.

Construction of Desert Peoples Centre begins

A new approach to education and training will distinguish the Desert Peoples Centre, which will begin operations early in 2006. Construction of stage one has begun in the Desert Knowledge Precinct in Alice Springs.

The Desert Peoples Centre (DPC) sees its role as ensuring that Aboriginal desert peoples fully participate and share in the desert knowledge economy and the benefits of its development.

The DPC aims to be a coordinator and broker of services. It might, for example, be able to assist the viability of a potential horticulture enterprise by making the link between anticipated new jobs and the local labour force, and then provide training on site to skill up local people and fill gaps.

The DPC facilities at the Desert Knowledge Precinct are designed for 1,400 full-time students. Assuming many students will be part-time, the number of individuals to benefit will be much higher.

The NT Government announced capital funding of \$18.8 million in February. This includes an \$8.4 million Federal Government grant, which was previously announced.

The NT Government has backed the business case presented by the management board of the DPC Inc., which was established as an independent organisation in December 2002. Board members are drawn from the DPC founders – CAT and Bachelor Institute of Indigenous Tertiary Education.

The DPC board told the government that "by any measure – educational, social or economic – education and training in Australia is failing large numbers of Indigenous people, but particularly the Aboriginal desert peoples".

"Whilst participation rates in VET are

high, this is neither translating into increased economic participation nor improved social cohesion and well-being."

The DPC board plans a new approach that builds on the experience of its founders and further develops education methodologies such as 'problem solving' learning which is developed around a specific community project; both ways learning of Aboriginal and western knowledges; and 'just in time' training.

The DPC plans to go beyond conventional educational activities, which "on their own have done little to address the dire circumstances of Indigenous peoples and communities".

"Real outcomes for Indigenous peoples and particularly remote communities are more likely where economic or livelihood potential is an explicit focus, where education and training responds to local aspirations and where there is continuity from initial ideas through training,

through operations, and through brokering of a range of services."

Education and training will be critical and a large part of what the DPC does day to day. Both CAT and Bachelor Institute will continue to offer their own academic programs. The Alice Springs based staff of BIITE and CAT will relocate to the DPC site and cooperate to develop new programs and extend access.

Stage one of the construction program includes a library which will be shared by all organisations in the new Desert Knowledge Precinct, which is between Heavitree Gap and the airport in Alice Springs. All contractors will be expected to maximise Indigenous employment.

The second stage of development will include a cultural centre and headquarters for Desert Knowledge Australia, the umbrella network for desert initiatives.

For more information on Desert Knowledge, view the website at: www.desertknowledge.com.au.



ROSE KUNOTH-MONKS, A MEMBER OF THE DPC
MANAGEMENT BOARD REPRESENTING BACHELOR
INSTITUTE, SPOKE AT AN EVENT TO MARK THE BEGINNING
OF THE CONSTRUCTION PROGRAM. SHE ADDRESSED
HERSELF IN PARTICULAR TO THE YOUNG STUDENTS OF
THE CAT ATWORK PROGRAM WHO WERE PRESENT:

"A catalyst in education for Indigenous people is long overdue. I am very, very pleased, grateful, to the government of the day for listening to us, hearing what Aboriginal people want. We have years of catching up to do. I really want to see this go ahead and go ahead with a different teaching model. Once we were told what we wanted. Today we're asking for what we need. Aboriginal people must go out and get it. I didn't have this chance but our young people of today do."

Telecommunications



Families living on country have daily experience of dealing with the difficulties of suburban pay phones and standard home handsets in remote areas. They found that the phone system, with its electronic components and vulnerability to the harsh elements, was not sustainable technology.

Families living on country shared this knowledge with CAT.

The current situation

Standard coin operated pay phones usually are installed only in settlements with more than 20 permanent residents.

Standard phone cards do not last well in remote areas. Bent cards cannot be used. Dust and other materials can block the card and coin tracks of pay phones.

Telstra has been promoting the use of Communic8 – a system where you purchase a card from a reseller, dial a number and then enter the pin that is on the card. This has worked well, as people can share the card if they wish, and also

use any landline phone without incurring costs to the owners.

For smaller communities and outstations Telstra has been installing standard rental handsets into homes and also into the local community store where this is possible.

A recent study* found that in many remote settlements, at any given time, the payphone is broken, awaiting repairs, as the complex electronics simply fail to withstand the environment.

Often the problem is not the line but the phone itself.

PROTOTYPE OF THE ROBUST PHONE. IS THIS END OF THE BUST PHONE? THE BACKING PLATE (LEFT) IS FIXED TO THE WALL OF A TELEPHONE BOOTH. A STANDARD HANDSET IS PLACED ON THE PLATE AND THE STEEL CASE IS SCREWED ON TO THE PLATE TO CREATE A PROTECTED ENCLOSURE FOR THE HANDSET.

A design group of CAT staff meet monthly to work on designs that could deal with problems and meet specific needs in remote settlements. One outcome is a robust phone casing. The breakthrough came when designer Garry MacGregor took his focus off the phone itself and looked at what was happening around it.

Setting out the problem

The main fault with the standard rental handset is its inability to withstand the harsh environmental conditions in many remote areas. Standard handsets cannot be located outside in either sun or rain. They are not strong enough for handling by many people and so the cord often breaks, keypads jam, or the handset cracks.

Put simply, the touchphone is not rugged enough to survive. The easiest solution for Telstra has been to replace the phone. Specialist staff may travel great distances to repair or replace a phone.

just got tougher

'Our aim was to make a telephone that a community person can repair – not a phone that doesn't need to be repaired, which is impossible.'

designer Garry MacGregor

Design

The CAT design team set itself the task of finding a simple solution to a complex problem. The group set some parameters.

- Any capable person would be able to perform repairs; i.e. no AusTel certification would be required.
- The design would use standard components.
- Manufacturing techniques would be inexpensive.

The result of the initial design process was a steel shield to house a Telstra touch-phone. The design was a conceptual leap. Rather than trying to seal the phone to protect it from the elements, a steel case was built to protect the phone.

The case is long lasting. If the standard handset inside should fail, an authorised person in a community could simply open the enclosure and replace the handset.

The case was manufactured in the CAT Workshop from 2.5mm sheet metal.

The steel enclosure creates a protected area for the phone. Water and grit simply fall through. The unit is designed so that high strength cleansing materials can be used to remove any graffiti, or blockages such as chewing gum.

THE SINGLE BUTTON AT THE TOP DIALS AN 1800 NUMBER. THE CALLER IS THEN ASKED TO PUSH IN THEIR INDIVIDUAL PIN NUMBER AND THE PHONE NUMBER THEY WISH TO CALL. THE COST OF THE CALL IS SENT TO THE CALLER'S OWN PHONE ACCOUNT.

Specifications (prototype)

Specifications for the robust phone are:

Height:	400mm
Width:	300mm
Depth:	150mm
Weight:	18kg
Materials:	Stainless steel and brass
Electronics:	ATLINKS/TELSTRA T1000s
Handset:	T1000

Testing

The phone case was subjected to a series of tests to replicate the most demanding conditions. The biggest problem was with heat – on a 35 degree day, the internal temperature of the case was 65 degrees. That was in the sun. (The standard Telstra handset is not designed for temperatures above 55 degrees.) In the shade, of course, the internal temperature dropped.

A better model

Using computer modelling, the design was refined as a smaller unit and designed for manufacture from 3.0mm stainless steel. The buttons were completely redesigned into a single piece. This adds to the work in assembly but the unit will be less susceptible to damage. The buttons are larger than on a typical pay phone (approx. 13mm in diameter) and have more travel to allow a greater feedback. At 8mm, the numbers are much larger and protrude from the button by 1mm. These changes should improve access for people with visual or physical disabilities.

The most difficult component to specify was the return springs for the buttons as these require a combination of strength and softness.

The design was a conceptual leap. Rather than trying to seal the phone to protect it from the elements, build a steel case to protect the phone.

Telstra trial

Telstra plans to trial the robust phones in remote communities around Australia in coming months. A test run of 21 units is being manufactured in Hawker, South Australia to specifications provided by CAT. The robust phone can be installed in existing payphone cabinets.

Telstra could save many thousands of dollars and better focus the time of specialist staff. Currently, Telstra service technicians may travel hundreds of kilometres by road, or even charter a helicopter, to repair payphones. The fault can be as simple as a jam in the coin tracks.

The robust phone case could enable Telstra to again provide a public phone in places where the high cost of frequent repairs had led to its removal.

A dial-up card would remove the cause of many repairs because there are no coin tracks or card slots that could become jammed with bent cards, dust, leaves or other material.

For the caller, coins obviously are handier than a phone card that has to be purchased in advance. But, neither is of any use if the phone is not working. The trial of the robust phone will include a survey to ask our families living on country if the card system works for them.

*Department of Communications, Information Technology and the Arts (DCITA) 2002, *Telecommunications Action Plan for Remote Indigenous Communities – Report on the strategic study for improving telecommunications in remote Indigenous communities*.

For more on telecommunications, see *How to get a telephone*, BUSH TECH information sheet # 8, available free from CAT; telephone 08 8951 4311.





Visions for our communities

How can families live successfully in remote communities? What makes a community viable? In Our Place 21, Steve Fisher outlined an approach to those questions. Here we present a brief introduction to some actions, which may add to the discussion. Few people are using the word 'viability' but in giving their views, key issues keep coming up. CAT proposes seven building blocks to viability: *effective governance; expressed aspirations; reliable infrastructure; livelihood activity; assets and resource flows; access to services; and low vulnerability.*

Action 1: Community Working Parties, NSW

Wilcannia Community began the movement and, over the past ten years, Community Working Parties have been established in 16 communities in the Mardi Paaki ATSIC Region. The philosophy behind the movement is that decision-making should be shifted from centralised control out to where people live. "The starting point is what the people themselves determine is necessary to improve their livelihoods and well-being." Mardi Paaki commissioned a governance study in 2002. Below are extracts from a booklet produced as a resource for the Community Working Parties.

The tools of governance for the Community Working Party, now and into the future, include:

1. Community Profile – maintained by the Community Working Party and formulated in conjunction with government agencies and the private sector delivering

services in that community. It would describe the history, contemporary status, culture, heritage, environment, identity, character, personality, demographics, social and economic conditions, community assets, infrastructure and services

2. Community Plan – builds on the Community Profile and provides a framework for all community, social and economic developments in the community. The Community Plan is maintained by the Community Working Party as a rolling five year plan and formulated in conjunction with government agencies and the private sector delivering services in that community....The Community Plan would be common to all stakeholders and provide the basis for all investments in that community....
3. Community participation in the work of the Community Working Party.
4. Exercising of community control by the Community Working Party.
5. Acceptance and discharge of responsibilities and obligations that go hand in hand with the Community Working Party having the right to community gover-

nance and enjoying a respect and regard for this enhanced status.

6. Coordination responsibilities in the community in respect of works and services that are provided by all spheres of government without detracting from their respective responsibilities.

7. Service agreements and service contracts, in the context of the Community Plan, with Aboriginal organisations and non-Aboriginal service-providers for the delivery of services funded from all sources on a purchaser/provider basis.

8. Pooling of funds to ensure more effective coordination; integration of programs and services; and to undertake devolved programming from government agencies.

9. Feed the 16 Community Profiles and Community Plans into a Mardi Paaki Regional Profile and Regional Plan....

10. Capacity development to provide the skills mix to monitor and manage strategic, operational and development work.

– *from Resource Kit for Community Working Parties*, by Michael Stewart and Patrick Bradbury for Mardi Paaki.

Action 2: Gerhardt Pearson, Cape York

Executive Director Gerhardt Pearson outlined the program of the Balkanu Cape York Development Corporation in a speech to the 'Pursuing Opportunity and Prosperity Conference' in Melbourne in November. Below are some extracts.

Our program in Cape York Peninsula is based on a vision for the future of our children and young people. Our vision is for our children to be bicultural and bi- and multilingual. We want them to have one of their feet planted squarely on their homeland with their people, and the other in the world of opportunity and mobility. We want them to embark on what we call 'orbits', where they see Coen or Aurukun or Lockhart River as their home base, and they 'orbit' to Cairns or Sydney or New York in pursuit of their education, employment, sporting and artistic careers.

Our responsibility as leaders today is to

lay down the foundations for each and every child to fulfil their potential and to realize their talents. Rather than fearing mobility, our message to our people is that mobility does not necessarily mean that our children will lose their identity and culture....

Not all our children will be mobile. Some orbits may be temporary and more modest than 'Cape York to New York'. Maybe employment at Comalco Bauxite Mine in Weipa will be the orbit for our future young tradespeople and engineers.

For others, we will need jobs and economic activity generated within our region and in our home communities. Without economic activity and gainful employment, then our communities will not be socially or culturally functional – that is one thing we are convinced of....

We will need to start small, because we come from such a low base in terms of skills, experience and know-how. But the creation of an economic context through the development of industries of viable scale is a question of broader regional development. And our challenge is intimately linked with the regional

development challenges facing the non-Indigenous communities within our region....

On enterprise development: There are many people who are capable of taking up employment and operating a small business. They need support. We are providing sustained support to individuals and families who wish to develop businesses. We provide business planning expertise, mentoring and other support services through a network of Business Hubs. Essentially the Business Hubs are incubators for small business....

We are still at the early stages of our ventures, but we are able to say that our partnerships with the private sector are absolutely key. Not because the volume of their financial investment comes anywhere near that of governments, but because they give us people with skills, networks, information and relationships that we are desperately deficient in."

– The full text of the speech *Man Cannot Live by Service Delivery Alone* can be downloaded from the Balkanu website at www.capecyorkpartnerships.com/media/documents/alldocs.htm.

Action 3:**Employment, Western Australia**

The State Sustainability Strategy launched by Premier Gallop in September includes an action plan for government agencies. The Department of Industry and Resources is instructed to "work with Indigenous and industry stakeholders to meet jointly agreed targets for Indigenous employment in major new resource development projects". Argyle Diamond mine had set an example with a threefold increase in Indigenous employment in three years (from 4.6% of the workforce in 1999 to 13.5% in 2002). Meanwhile, the Department of Conservation and Land Management began a 10 year plan.

D'an-joo Dabacaan' — meaning 'together, steady, steady' — describes the Department of Conservation and Land Management's approach to ensuring that Indigenous people are strongly represented, and involved, in conservation and land management.

The Department recognises the unique role and expertise that Aboriginal people can have both as 'traditional owners' with a cultural responsibility to care for country, and as managers of conservation lands and waters for the State.

To achieve a just and equitable Aboriginal employment outcome on conservation lands and waters, CALM has initiated the Mentored Aboriginal Training and Employment Scheme (MATES). This is a multi-faceted employment and training program in conjunction with non-government training providers and land management organizations.

This bold approach has seen CALM embark on a 10-year plan to ensure Aboriginal people make up 10 to 15 per cent of its full time workforce.

The Federal Department of Employment and Workforce Relations has welcomed the MATES program and committed \$1.2 million over five years to the initiative.

- Department of Conservation and Land Management website, WA Government, www.calm.wa.gov.au/projects/mates.html
A sustainability website is at www.sustainability.dpc.wa.gov.au.

Action 4:**John Ah Kit, Northern Territory**

The NT Government launched the Building Stronger Regions – Stronger Futures strategy last May. Below are extracts from a statement by John Ah Kit, Minister for Regional Development.

The Territory's Indigenous population is remarkably decentralised, divided between nine Aboriginal townships of between one and two thousand; 50 communities between 200 and 999 inhabitants; and a base of 570 widely dispersed communities composed of populations less than 200 on outstations, pastoral excisions and town camps.

Of greater significance is that 72% of our Indigenous population lives on Aboriginal land under Commonwealth or NT tenure....

Another characteristic of this widely dispersed population is its persistence. Despite an undoubted drift into towns and cities, the proportion of Aboriginal people living in remote communities remains high. There is no evidence to suggest that there is likely to be any significant migration away from traditional lands – even assuming jobs were waiting for people in the towns....

However, such a decentralised population presents considerable barriers to social and economic development. Aboriginal people are distant from most mainstream economic activities and there is a chronic shortage of investment in infrastructure and enterprise....

We must build stronger regions if we are to realise stronger futures for all Territorians.

To achieve this, we must abandon the myth that the discrete community can be regarded as a viable unit in terms of service delivery in the Northern Territory.

This is a completely false view, that Aboriginal communities, from outstations and pastoral excisions, to larger communities and townships – through indeed to inhabitants of towns and cities – exist in splendid isolation from each other.

It is based on colonialist notions encouraged by the days of the mission, the settlement and the pastoral property. It is an idea designed to divide Aboriginal people from our lands, our languages and our ceremonial connections.

It is an ideology that deliberately denied the fact that Aboriginal people of what is now known as the Northern Territory have always worked together – socially, culturally and economically – as a series of overlapping and interconnected regions."

- The *Building Stronger Region Strategy* can be downloaded from the NT Government website at: www.dcdsca.nt.gov.au

**Action 5:****Wongatha-Wonganarra, Western Australia**

Wongatha Wonganarra Aboriginal community began a new stage in its development with a by-laws and land transfer ceremony in September. Tom Stephens MLC, Minister for Goldfields-Esperance, WA Government, spoke at the ceremony.

Working with the Department of Indigenous Affairs, the Wongatha-Wonganarra Aboriginal community has devised a plan to enact a special set of local by-laws, which the community can police.

Under the plan the community is responsible for a range of matters including entry into community land, use of vehicles and control of traffic, damage to grounds and plants and offensive and disorderly behaviour....

An important aspect of these by-laws is based on the community's desire to introduce restrictions on the possession and use of alcohol on its lands....

An important part of the process is the transfer of land that constitutes the community.

The transfer is an important aspect of the covenant between the State Government, the Indigenous community, the wider Laverton community and others.

I am therefore very pleased to be able to announce today the completed transfer of this land – five reserves in total – from the Aboriginal Lands Trust to the Wongatha Wonganarra Aboriginal community.

I ask Bruce Smith to accept the certificates of crown land title in his role as chairman of Wongatha Wonganarra, to accept on behalf of his community."





Finding a way: supporting community initiated service delivery

Lack of access to critical services is a major contributor to the problems faced by many people living in remote communities. As Laurence Wilson explains, some people are developing their own initiatives. A small amount of support, allocated strategically, may make a big difference.

Lack of access to critical infrastructure, health and social services is a major contributor to the problems faced by many people living in remote communities. Commonwealth, State and Territory governments all try to improve this situation with programs aimed at improving people's access to critical services. However, a general lack of real improvement in people's health and wellbeing shows that these programs sometimes fail to meet the actual needs and circumstances of people in remote communities.

Faced with poor access, some people in remote communities are developing their own strategies to access important services. These strategies emerge in direct response to the real service needs and priorities of community members. Sometimes these services are provided informally by an existing community organisation or institution. However, the organisations rarely are resourced to provide these additional services. Consequently, the level of service may be limited and may fall short of meeting actual community need. The low resource base often leaves these initiatives vulnerable to failure owing to changes in community circumstances.

At times, the informal service strategies actually succeed, where official service strategies fail.

Increasingly, people in remote communities are using the internet as a tool to access a range of services, especially internet banking. In one community CAT staff visited last year, funding had been received through the Commonwealth's

Networking the Nation Program to provide equipment for residents to use to access the internet. At the time, no suitable location could be found for the equipment, so it ended up in the Community Council office, where it was generally inaccessible to community members.

Meanwhile, community internet access was being provided in an informal way at both the school and the adult education centre. As these institutions are not directly resourced to provide public internet access, the service was offered only on a very limited basis. Despite this, there was strong and growing interest from community members in using the service.

The community school made its internet connected computers available to community members for one hour each day during school time. The school was fortunate in that they had a language and literacy worker who was able to support the limited public access service as part of wider duties.

The adult education centre is funded by DEET and a church based organisation and is only open in the mornings. The adult educator has been allowing people to visit the centre and use the single computer connected to the internet, in order to access banking and other financial services. This informal service is growing in popularity with community members, especially young women. The adult educator is employed only on a part-time basis and mainly to run classes, so his ability to respond to the needs of those using the internet is limited.

With a small amount of strategically allocated support and resourcing, such informal service initiatives could be

strengthened and expanded to realise their full potential.

For example, in one community the women's resource centre initiated a nutrition program that provides school breakfasts and lunches, meals for the aged, nutrition education of mothers and caregivers, and supplementary feeding programs for 'at risk' children. The women got the program started with very basic cooking equipment such as domestic pots and recycled tins.

In this case, the fledgling program was given some simple and targeted support from the Fred Hollows Foundation. The Foundation was able to provide much needed kitchen equipment and large pots, allowing women to cook meals on the scale required. This cost just a few hundred dollars. The women also were able to draw on the services of a nutritionist.

This simple, yet carefully targeted support from the Foundation led to expansion of activities and increased community involvement in the Centre, which now provides nutritious meals daily for about 120 children and caters for community events.

These examples illustrate the important role that small, community initiated service projects can play in meeting some service needs. By their very nature, these initiatives will tend to operate with limited resources and provide a limited level of service. In some cases these are successful where other, more formal, approaches have failed. Strategic provision of resources by governments and others, aimed at supporting and strengthening such initiatives, might be all that is required to move a fledgling community initiative toward a viable community service. Support may come in a variety of forms (e.g. training, advice, networking, etc.) and should not be restricted to funding. Often what is needed to make an initiative more effective is simple, practical and inexpensive.

Reference

The Fred Hollows Foundation (2002) *Submission to the House of Representatives Standing Committee on Aboriginal and Torres Strait Islander Affairs: Inquiry into Capacity Building in Indigenous Communities*, October 2002.

Laurence Wilson
is a researcher
based at
CAT Alice Springs



All aboard?

Indigenous Territorians were prominent among the well-wishers at railway stations in Alice Springs, Tennant Creek and Katherine as the first freight and passenger trains headed north from Alice Springs to Darwin. Expectations of economic growth and new opportunity ride with the transcontinental railway. But have Aboriginal people secured a stake?

Major developments – mining, gas and oil exploration, and large construction projects – are underway and planned for the NT in the next few years. Most are on Aboriginal land.

The scale of the Alice Springs to Darwin railway project and the political investments in its construction gave rise to a special opportunity. Here was a chance to demonstrate how Aboriginal people could fully participate and share in the benefits of major projects.

Indigenous people make up more than 30% of the Territory population and many live in remote areas where the major developments are located.

Were hopes realised? In many ways, yes. Historic land negotiations were accomplished. Promises were kept (and exceeded) on Indigenous employment and training. Partnerships were built to assist transitions from training to work.

Where there was disappointment, it was regional with the logistics of railway construction creating its own impacts. Jobs were concentrated in construction hubs at Katherine, in particular, and Tennant Creek, with crews travelling north and south. By the time construction crews turned further south, for Alice Springs, they were well-practised teams with no vacancies.

The very success of the project reinforced this regional inequity. In a big project, a very large turnover of staff is expected. It didn't happen. According to Bob Kuch, Superintendent Asia Pacific Transport, there was a marked lack of drop off. Retention in training also was high. And the Northern Land Council reports that in the Top End, the completion rate for Indigenous people in access training was well above the rail project average.

The down-side was that some people at the south end of the track lined up for training with no jobs eventuating – same old story. As the networks and experience

developed in the north play out, as hoped, in greater opportunity, the loss could compound for those who missed the train.

The railway carves an industrial corridor through Aboriginal land, land under claim and land in which people hold native title rights. The corridor traverses the traditional country of 17 language groups. Negotiations on acquisition of 1420 kilometres of land for the corridor were bound to be complex. Their successful conclusion in an agreement between the NT Government and the Northern and Central Land Councils, was seen as evidence of growing maturity in the Territory polity.

The land access agreement includes protocols governing access, compensation for buildings and other infrastructure destroyed, a direct stake in the railway and protection of sites of significance.

The land councils won agreement from ADrail (the design and construction contractor), and its main subcontractors, on employment and training of traditional owners and other Indigenous people. During the two-year construction phase of the railway, the land councils identified recruits, matched training to opportunities and mentored employees.

Chief Minister Clare Martin reported to the NT Parliament that 130 Indigenous Territorians were among the 1450 construction staff and contractors who worked on the railway. Oddly, this is a low figure to quote. The Northern Land Council alone placed 150 people, either with ADrail directly or with subcontractors manufacturing sleepers and providing camp services.

Austrack set up factories in Katherine and Tennant Creek to make the concrete sleepers on which the rails were laid. Fifty Indigenous people were placed in Katherine and 21 in Tennant Creek, maintaining Indigenous participation rates of around 40% and 20% respectively. All received nationally accredited training on the job.

The other two main subcontractors, quarry operator Roche Ltd and catering company Morris Ltd, reportedly exceeded their agreements to provide 20% Indigenous employment.

Meanwhile, there were small contracts. Some communities fenced their own land on the railway corridor. On at least one pastoral property, men from the nearby community were subcontracted to do the fencing.

Where to from here?

The railway brought real jobs and real qualifications. Of people referred by the NLC, 265 successfully completed nationally accredited training with the Territory Construction Authority (TCA), the peak industry body. Many of the same skill sets will be applicable in new big projects.

The NLC built a dynamic employment and training unit on the back of the railway project. It has expanded its training program with the TCA, and formed new partnerships with Jobfind and Group Training NT to coordinate training to work transitions. Its employment database holds the work histories and qualifications of 800 people.

Tourism services in Alice Springs and Katherine can expect to benefit from the twice-weekly passenger service by catering to transit passengers during their four-hour stopovers. Alice Springs Desert Park was quick to assemble a package with a local caterer and bus transfer groups. In Katherine, the local industry has responded with standard off-train tours to Katherine Gorge. More business will shore up existing jobs for Indigenous people and hopefully provide more.

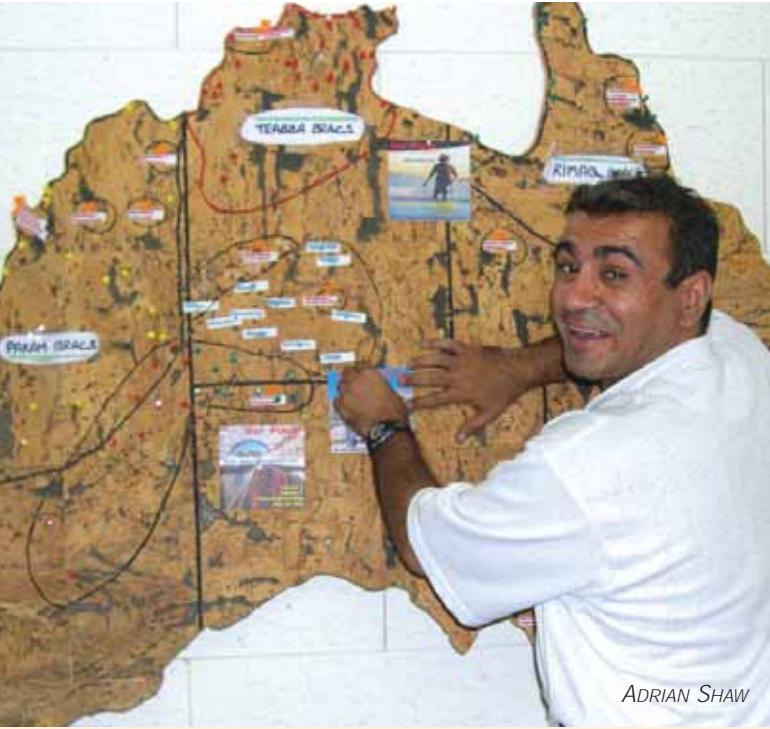
Great Southern Railway, the passenger operator, employs its staff out of Adelaide. FreightLink, the freight operator, employs only a handful of highly experienced logisticians in the NT. Faced with the recognition that it would not be employing locally, the company looked to the long-term and established two annual \$5000 study scholarships.

FreightLink describes itself as a rail operator of the new transcontinental freight link between Asia and Australia's southern states. Expectations of valuable markets for out of season fruit are boosting interest in horticultural enterprise.

Photo and story by Kathie Rea



FIRST PASSENGER TRAIN, 10KMS NORTH OF ALICE SPRINGS.



ADRIAN SHAW

Our Place radio: a journey in the making

The *Our Place* radio segment is becoming much talked about and appreciated. Each show presents the voices and perspectives of Indigenous people along with commentary on a specific technology theme. The show is broadcast across mainland Australia and in the Torres Strait Islands through the National Indigenous Radio Service, its member stations and BRACS networks. Here, Adrian Shaw, producer and presenter, reflects on the second year of production.

Getting each segment produced is a journey in itself. In my earlier jobs, producing documentaries for Indigenous radio stations, the journey of creating a documentary would go on for six weeks and sometimes three months. In producing the *Our Place* segments, I have a new challenge – to create a new story on the sustainability of remote communities – every two weeks. Whether it is on how community people have created a livelihood for themselves, or how a service provider is, maybe, not being supportive enough, it's quite challenging to create a new segment each fortnight.

We produced 22 national radio segments in 2003. These are some of my personal experiences in covering these stories.

Being invited out to the Ikuntji community (more commonly known as Haasts Bluff) west of Alice Springs, was somewhat of an uplifting experience. I found out how much people really want to help in times of hardship. I couldn't know that in the process of getting interviews at the arts centre, the health centre, the child-care centre and the Old Station House about their nutrition program, I would get three flat tyres.

When I got my first flat, elders from Ikuntji offered their help. But they couldn't even get the tyre off. What made me feel good was their incredible sense of humour, with all of us roaring in laughter that we couldn't change tyres. Then a man who was a contractor at Ikuntji lent me his tyre to get to Ikuntji. After getting the interviews at Ikuntji the next day, the community lent me a tyre to get home to Alice Springs. I blew this tyre just before arriving at Glen Helen. This was my second blow out. So

I then put the other tyre back on that the contractor lent me. I blew this one just past Glen Helen. So three blown tyres and sitting there in the hot sun; finally, I was rescued by my manager, Steve Fisher.

The best part about the Ikuntji experience was that I was able to record young kids playing Aussie rules football, as they called for the footy in their language. Editing this material together was a lot of fun.

Another great experience in collecting stories for *Our Place* radio was in producing segment 6, *Telephones in Remote Communities*. All the team work, from staff of the Central Land Council and also CAT staff and interpreters, made the production of this segment possible. This story was about how Aboriginal people who live in remote communities find it difficult to get the telephone connected because of Telstra's policy on remote Indigenous communities.

Going to the community of Titjikala with Sandy Marty of the Central Land Council was another enjoyable experience. Who could have known that recording Margaret and Daisy Campbell speaking in the Luritja language at their outstation of Ritjinka would collect two national awards for coverage of Indigenous affairs. The first was Best Report in the country at the CBAA (Community Broadcasting Association of Australia) awards. The second was a high commendation in the Human Rights Awards of Australia. Not only that, but both the ladies interviewed knew an uncle of mine, and also my father and my grandmother. So this professional experience also became a personal experience.

There were other stories from around the country, which we recorded over the phone system in our studio. In covering stories Australia-wide on remote Indigenous communities, we work within the constraints of deadlines and budget. We can't travel all the time, so we use this phone system as a tool to get national stories produced on time for the radio stations.

One of these stories featured Steve Johnston of Vanderlin Island in Arnhem Land, who had his own wind turbines constructed. What made this story so enthralling was that he got a friend from Victoria to ship the turbine system up to him. All because he wanted to have consistent energy for his home – to freeze his food and cook a good dinner at night.

Another example is from the Kimberley. We interviewed Benjamin Laurel from the Kadjina community about the importance of their new landfill, more commonly known as the rubbish dump. He explained that because the CAT Derby team had constructed a landfill, this would help his community to improve environmental health. He was proud of the fact that now cattle and horses would not get their hooves cut on broken glass and sharp tin. And the new fence around the landfill has made a huge difference in containing waste.

Our Place radio will continue to get good positive stories from remote Indigenous communities about sustainability. Whether it is by travelling to remote communities for interviews, or conducting interviews over the phone, *Our Place* radio is set to continue as a strong voice for Indigenous people who live in remote Australia.

OUR PLACE
RADIO, ONCE A
FORTNIGHT ON A
RADIO STATION
NEAR YOU.





DEAN AND BANJO READY FOR A DAY'S WALK.

CAT visitor to arrive on foot

Cameleer Dean Koopman will visit communities to ask how CAT can help during a solo walk across the continent, from Broome to Melbourne.

Dean expects to visit communities in the North West of Western Australia and Central Australia. He will talk about how CAT may be able to assist and refer people to CAT staff in Derby and Alice Springs.

Dean's long desert walk began in April. Three camels carry food and gear, while Banjo the blue heeler will help Dean fend off any wild bull camels that have a mind to attack the team.

The Transcon-Camel Expedition is a solo, non-stop journey, which will cover over 5000 kilometres in around nine months.

Dean obviously has a plan but the exact route will depend upon many variables. The most crucial is the weather, which governs the availability of camel feed. If food is scarce, the expedition will head hundreds of kilometres in whichever direction to sustain a healthy diet for the camels. The strength of the recent wet season in the north will determine the expedition's route through the Great Sandy Desert.

Approvals are of course being sought from traditional owners, and their guidance on which paths to take to respect important sites.

A boilermaker by trade, Dean was employed by CAT as a lecturer in the

Education and Training section in 2003. He delivered training programs in Alice Springs and in remote communities in Central Australia. Dean introduced the welding exercise of making a camp oven out of old car wheels. (see story, *Our Place* 21) He is taking such an oven on the expedition.

Dean will radio in to his communications centre in Alice Springs each week. When the expedition will be travelling by a community, CAT will telephone ahead to let people know a representative is on his way and that residents and technical staff can talk to him about how CAT might work with them.

Dean hopes to walk well beyond the reach of roads, in Western Australia in particular. He may visit communities that have no ground access, except on foot or by camel.

Dean is studying topographical maps and

Are there stories of great walks in your family?

Our Place would like to hear them. Telephone Kathie on (08) 8951 4339.

will look to the sun and stars for navigation. As he explains, at a walking pace (rather than a driving pace) he can see the better part of a day's distance ahead, so will start each morning by checking features against the maps to set the day's route.

And the shortest route won't necessarily be the best. Dean will look after his camel mates by leading them across comfortable terrain. Sand is best for their sensitive feet and flat ground is easier when carrying a load, so the expedition is likely to walk wide around a hill rather than go over the top.

The kilometres on foot don't worry Dean. In 2000, he walked from Mt Isa to Melbourne in the company of a cattle dog.

For this expedition, Dean has learnt a new profession – cameleer, and built his knowledge of the desert. Life experience and bush skills have equipped him for this trip, he says, and it's evident in his careful preparation. From constructing pack frames to fit the length and girth of the individual camels to making wooden storage boxes; every piece of leatherwork, metalwork and carpentry has been studied and worked up over many months.

Dean is drawing extensively on the technologies employed by the Afghan cameleers and their Aboriginal families in bringing supplies inland in the years before road and rail transport. He has laboured in their wake to create a camel pack array in the traditional Afghan style. The camel expedition making its way across the deserts is a mobile tribute.

A newer technology, solar panels, will be mounted on top of the traditional lacquered boxes to generate power for the HF radio. Each camel will carry about 300kgs.

The Transcon camel expedition is raising money for the Royal Flying Doctor Service. For news and updates on the route, visit the expedition website at www.transcon-camel.com.



Better access to

At Willowra, Committee member Dave Presley keeps a tractor maintained for CDEP projects.



Technology is central to the way in which we live. It is all around us in ways that we often take for granted, such as the utensils we use for cooking, the radio we listen to, the construction of buildings and the way in which we get work done. People appreciate technology because it can save labour, improve the quality of our lives and help us make a living. So, what is *appropriate* technology? Steve Fisher explains.

CAT defines appropriate technology as the range of skills, techniques, knowledge, organisation and equipment that people use to achieve a task. It is much more than simply hardware since nobody can gain the best from a technology such as a tool or a solar system without sound skills, proper information and knowledge and a way of organising themselves.

Too much push

People living in remote areas often talk about the improvements that they want to achieve in their communities. Many of these improvements rely on better access to technology for communications, transport, building, electricity and the range of

services that people need. Understanding what better access means in practice is critical to achieving it.

The trouble is that outside agencies and service providers too often characterise communities as passive recipients of a benefit delivered from outside and for which the locals should somehow be grateful, even if the benefit is not quite what they wanted. I went to a conference on telecommunications recently where a speaker from a state government introduced himself as part of the 'own the roads, build more infrastructure' opinion group. This is 'technology-push' since it implies that more infrastructure is enough.

Access to and uses of infrastructure are far more critical than the wires or the

Technology for crossing creeks

Box 1

An example that we use often in CAT is the creek crossing. There are many technologies available for crossing a creek in a way that withstands the wet season in tropical regions and ensures that people living in a community in, say, the Kimberley or the Top End can remain there all year round. *BUSH TECH No. 10* describes bridges, culverts and causeways as the three technologies suitable for remote areas of Australia. (See *BUSH TECH No. 10*)*

In order to choose the right creek crossing for them, a community or a resource agency will need to have:

- The necessary information on the options available (which is where Bush Techs come in) and the knowledge on how to maintain the one that they select;
- The availability of the option they choose in their location, which might be difficult if contractors don't have the required equipment or the skills;
- The funds to pay for the crossing type that they want, or a lower-cost alternative.

The outcome for the community will depend on how these questions of access are tackled and the choices made along the way.



technology: how appropriate

satellites themselves. Witness the thousands of rural people in Asia who live close to or under power transmission lines but have never as much as switched on a light in their homes since the service is unavailable or unaffordable.

Limits to markets

What makes technology ‘appropriate’ is its relevance to the circumstances of the users of that technology – their social, environmental, cultural and economic conditions. This is critical to people living outside the mainstream, where markets are small and therefore the incentive for commercial research into appropriate technology is weak and the number of products, techniques and so on may be very limited and unsuitable for the conditions.

A few years ago, a chocolate company invested over \$50 million in the research, development and marketing of a new chocolate bar. They considered the returns to be worth the investment since the potential market for the chocolate bar was huge. The same is not true of investment in low-cost, affordable, reliable and accessible technologies for small markets such as those presented by remote communities. As a result, many communities see access to technology as a primary concern for them and one that market forces will not necessarily solve.

Different kinds of access

There are three aspects to the notion of access to technology, which can be illustrated with the example of a pen, which is a technology for writing.

Let's start with physical availability. If a pen is handed to me, then it is physically available. However, if I have to buy it, then the cost might be a problem.

Which is the second aspect – affordability. The technology may be fine for what I need, but not if I do not have the money to pay for it.

But if I can afford to buy the pen, but don't know how to use it then it is pretty useless to me. I need knowledge or information. In fact, I also need this at the outset so that I know which pen to choose.

There are many examples of how an analysis of access to technology helps us to work through the complications of achieving the best outcome in a remote location. See boxes 1 and 2 for some practical illustrations.

Box 2

Telephones everywhere, but not one we can use

In countries like Australia, there are more telephones than people. But in remote areas, families often struggle to obtain and then maintain their telephone service. Last year, a family at an outstation felt that they were well-established and could organise for a telephone to be installed. They tried to get information but found it very hard to understand the Universal Service Obligation or USO set up by the Commonwealth Government. The USO provides for everyone to have access to a telephone service wherever they live.

It took some time for the people at the outstation to get the advice they needed on fees for extending the telephone network, trenching, choosing the right plan and making the arrangements for the account to be set up. CAT helped them achieve this. What we learned is summarised in BUSH TECH No.8: ‘How to get a telephone’.

At a different outstation, one of the residents said: *“We waited for a long time for the telephone. For the telephone we rang up about one year. We spoke for one year straight, nothing came of it. ... You and I have waited for the telephone for a long time haven't we? We talked and talked for the telephone for a long time, but nothing. We are happy today because we are talking about it. Maybe they will put in our telephone or maybe we might be waiting for a long time again. Maybe later this will happen for us, for our family, but we would really like to have a telephone so we can ring from here.”*

Once telephones are installed, they can be unreliable. In communities further north, the payphones have always had technical problems due to the coins being dirty and clogging up the mechanism or the wrong coins being used. Telstra staff fix it but it soon breaks down again. CAT is working with Telstra to address technical problems like these. (see story pages 6 and 7)

Barriers to access

There may be obstacles or barriers that have to be overcome for people to be able to use technology. Here are some examples.

Language The information we need is not available in a language that we can understand or is full of difficult technical terms and jargon. Mobile phone plans are typical examples.

Confidence We do not have the basic knowledge to even start to maintain or fix a technology. Solar systems are good examples; also water bores.

Suitability There are lots of options available and we know where to get them, but they are not strong enough for the place where we live; e.g. some housing materials.

Mobilisation Understandably, the costs of mobilising contractors to work in remote areas is often high. So we have to think about ways in which more than one job can be done at the same time. But it could be that the money is not available for more than one project.

Several instances of barriers to telephone access have arisen in Central Australian communities recently and these are summarised in box 2.

Anyone living in a remote area puts effort into securing what they need to live happily there. In small bush communities, this can be difficult and expensive. For this reason, finding the best ways to access technology for communication, housing, waste management, transport and a host of other needs is critical. This involves understanding and overcoming barriers of cost, information and availability, and helping people make the best use of the technology options. It calls for more than simply funding and pushing technology and infrastructure into remote areas.

*BUSH TECH #8 *How to get a telephone* and #10: *Creek crossings* are part of a series of information sheets on technology. See back page for a full list. BUSH TECHs are free for people living or working in Indigenous communities; telephone CAT on (08) 8951 4311.

CROCODILES

PHOTO: TOM REA

Safari hunting – a new livelihood?

The Northern Territory Government wants to include game hunting in its new management plan for saltwater crocodiles. The Federal Government has to agree for it to go ahead. Internationally, hunting is often part of wildlife management strategies. Safari hunting could provide livelihood opportunities in some remote communities. But animal welfare groups are creating a powerful lobby of opposition. It's a complex issue and, as Kathie Rea reports, the dispute is as much about culture as conservation.

Trophy hunting of crocodiles has been banned in the NT for more than 30 years. Now, the Territory Government is proposing to issue permits for sports hunters to shoot - or harpoon and shoot - 25 big saltwater crocodiles a year. It's part of a broad management plan for the species in the Northern Territory.

The Parks and Wildlife Service plan describes safari hunting as a form of 'wild harvest'. Since 1997, it has issued permits for wild harvest. Permits to safari hunt 25 crocodiles of four metres minimum length would draw from the same annual quota. A crocodile taken as a trophy may have ten times the value of a crocodile taken for its skin and meat.

Unchecked harvesting can threaten crocodile populations. The decline in crocodile numbers prior to 1971 bears witness, as does the swift rate of recovery since protection. (see box 1) Importantly, it is the survival of breeding habitat in the NT that has allowed crocodile populations to climb back since protection.

While animal welfare groups oppose hunting, the issue is more complex for conservationists. There is a compelling view, more popular overseas than in Australia, that putting a price on wildlife, creating wildlife industries, will assist protection of species and conservation of habitat.

Landowners who can sell eggs, hatchlings or adult animals to a crocodile farm, or harvest animals directly for skin and meat, gain financial benefits from protecting crocodile habitat on their land. If hunting is approved, they might negotiate a fee with an outfitter or operate a safari business themselves. Trading in wildlife can be a viable alternative to land uses such as pastoralism and horticulture, which require destructive practices – introduction of exotic animals, large scale clearing, etc.

The NT draft management plan is hands on and based on sustainable use of native plants and animals. It encourages a human presence on land. In this, it draws on a perspective that's been slow to grow in mainstream Australia; evidence perhaps of a continuing hangover in the national psyche of 'terra nullius' – the doctrine of the 'empty land', the unpopulated continent ripe for European development. While the legal myth of terra nullius was overturned by the High Court's Mabo judgement in 1992, it's no great surprise that colonial views of Australia as an untouched wilderness linger on in the mainstream culture.

Of course, in the NT, as elsewhere, native plants and animals have been used as resources in human economies for many thousands of years. Land and wildlife management, and trade by Indigenous peoples have, in part, created the environments we now treasure for their wildness.

Aboriginal landowners are the major owners of most wetland areas that crocodiles inhabit in the Top End. John Daly, deputy chair of the Northern Land Council, has spoken out in favour on hunting on behalf of some landowners. "Aboriginal people have been hunting crocodiles in a sustainable way for thousands of years and this is yet another opportunity for us to play to our strengths, to build up independent economic bases in our remote communities."

The NLC is calling for the introduction of a pilot scheme of safari hunting – operated by traditional owners on Aboriginal land, and limited to the Australian market. Aboriginal organisations with expertise in crocodile hunting and harvesting could be allocated safari licenses. For example, Bawinanga Aboriginal Corporation at Maningrida and Murwangi Community Aboriginal Corporation at Ramingining both collect eggs for sale to crocodile farms. At Maningrida, the eggs also may be incubated and sold as hatchlings.

The draft NT management plan notes that Aboriginal landowners currently run pig and buffalo hunting operations. Local NT and interstate hunters pay trophy fees to shoot these exotic animals. The addition of crocodiles to the trophy list is expected to be a drawcard for international hunters.

An animal taken is the hunter's trophy but the potential income from the hunt is far more than the trophy price. Hunters support more unusual trades such as skinning, taxidermy and tanning. The hunter may organise a full mount, which is the animal completely stuffed, or take home just the flat skin with the skull mounting. Hunters may pay for hunting guides at a daily rate, and accommodation. They feed money into the travel industry and many tourist services.

Trophy prices from AUD\$4,000 to

AUD\$12,000 have been bandied about in the general media. A survey on the internet suggests the price might be closer to the low end. For example, the trophy price for a cheetah or leopard is US\$3,000 at Klawerberg Game Ranch in Namibia and US\$900 for a blue wildebeest, kudu or zebra. Presumably the price for a saltwater crocodile, a great predator, is more comparable to the big cats than the grazing animals.

Alligator hunts in Florida, USA, are priced from US\$1,000 to about \$2,500, according to professional hunter and outfitter Fred Williams. Saltwater crocodile hunting is, of course, an untested market. The opportunity is unique and, with only 25 permits available per year, scarcity may drive up the price. Florida, for example, also has saltwater crocodiles but the population is numbered in the hundreds, highly protected and not expected to be available for sports hunting for decades.

Alligators also were protected in Florida, until about 10 years ago. Fred Williams reports that the game department began allowing hunting when growing populations caused many problems in suburban areas. He believes that controlled, limited sports hunting has helped but it started too late and it will take a long time to balance the habitats. Williams describes this as "a failure of wildlife management".

In the general media, harvesting of crocodiles is frequently referred to as 'culling'. Good management and controlled harvesting, which may include sports hunting, aim to eliminate large-scale culls. The mass slaughters of kangaroos in southern Australia, for example, and the spectacle of hundreds of hunters on free hunts offer a visual snapshot of poor management.

Culling is unlikely to arise in managing saltwater crocodiles. Large males are highly territorial. Crocodile researcher Adam Britton says they do not always fight to the death – as missing limbs and tails show – but are capable of doing so if neither backs down. Large crocodiles may tolerate smaller crocodiles if food is plentiful. If not, they prey upon hatchlings and juveniles and competitively exclude smaller crocodiles. Nature doesn't get much more 'red in tooth and claw' than with the saltie. A large crocodile is a magnificent survivor.

While growth rates vary, a four metre crocodile in the wild usually is at least 15 to 20 years old. As females rarely grow larger than three metres, a four metre crocodile will always be male. Adam Britton says that finding crocodiles of that size is not very difficult as they are common enough. Although wary, many can be approached quite closely by experienced operators in a boat at night. The greater challenge will be getting near the larger and older crocodiles that remember the hunting days of the 1960s.

Hunting has its own cultures. The 'gentle-

man's hunts' in Europe with their lavish lunches; the local sports hunters who spend hours, days, weeks, scouting in advance of the seasons; the African spot and stalk safari in the zebra stripe 4WD. Whatever else may be said, the rituals of each create fuller experiences.

Notigi-Portage Outfitters in Manitoba Province, Canada invite hunters and fishers to share an Indigenous hunting culture. "Imagine a hunt through the skilful and knowledgeable eyes of the Cree. Learn the Indian ways of nature, wildlife, culture and the land they love so well." The business is owned and operated by the Nisichawayasihk Cree people of Nelson House community. It employs licensed Cree hunting guides and offers a guide training program. Manitoba hunting regulations require that non-residents are accompanied by a licensed guide.

According to Fred Williams, the 'guided hunt' with a professional guide or outfit-

ter is the key to attracting sports hunters – rather than mates out for a drinking weekend, who may be a danger to each other as well as a liability to wildlife and habitat. "Some first time international hunters may wound an animal, or a bird, but the hunt stops then and there until the professional hunter locates that animal and puts it down." Guided hunts run from 'affordable' (assuming people have the capacity to save for a year or two) to very expensive.

Indianhead Ranch in Texas, USA, looks like an affordable outfitter. The pitch on its website is to ordinary Americans. The photo gallery of hunters with their trophies includes men and boys of all ages (even under 10) and a good sprinkling of women. Visitors have a professional hunter with them at all times – driving, spotting, stalking and evaluating the size of their trophy. Native American archaeological sites and cave paintings are among

Box 1

Harvesting crocodiles in the Top End

Traditional harvest of crocodiles and their eggs by Aboriginal people for food, ceremonial and religious purposes is legal in the NT.

Commercial hunting of *Crocodylus porosus* (saltwater crocodile) took place in the NT from 1945 until 1971 when the species was protected. A sharp decline of the *C. porosus* population is evident in the reduction of skins produced during this period. An estimated 87,000 skins from the NT entered trade between 1945 and 1958 and only 26,000 between 1959 and 1971.

After protection in 1971 the population in the NT increased from 3,000 non-hatchlings (individual animals greater than 0.6 metres total length) in 1971 to between 30,000 and 40,000 individuals in 1984.

Crocodile farming in the NT began in 1980. Currently there are six crocodile farms in the NT, which held 18,383 *C. porosus* on 31 December 2002. Wild harvest of eggs is crucial for stocking the farms. The total number of eggs collected has increased from 135 in 1984 to 17,536 in 2001/02, with a high of 29,044 in 1995/96.

Adult and juvenile crocodiles have been removed from the wild over the past two decades to stock farms with breeding animals. Since 1997 adult crocodiles have been harvested from the wild for direct skin and meat production and for the production of souvenirs. In that year 17 individuals were taken; in 2001 the number was 158.

Adult crocodiles also come to the farms as 'problem crocodiles', which are removed from areas where they are considered to pose an unacceptable risk to people and livestock. In some areas, such as swimming areas in national parks, all crocodiles are considered problem crocodiles. Specialist staff of Parks and Wildlife remove the crocodiles or, in remote areas, issue a permit to a landowner to do so. Most problem crocodiles are bought by farms, where they are used as breeding stock or processed for skins and meat along with farmed animals. Some animals die during capture. Some are successfully relocated. The number of problem crocodiles removed increased from 135 in 1996, when the program began, to 150 in 2002.

In 1994, the crocodile population was estimated to be between 70,000 and 75,000 non-hatching individuals. Growth has slowed and is levelling, suggesting the population is close to full recovery. Monitoring is now done by spotlight surveys of the size and age structure of crocodile populations. Rivers in which the majority of crocodile harvesting occurs are monitored and the results are used to set harvest quotas.

Information drawn mainly from *A draft management plan for Crocodylus porosus in the Northern Territory*, Parks and Wildlife Service NT, which references, in particular, research by Grahame Webb and Charles Manolis over three decades.

Box 2

Biodiversity, sustainability – and animal welfare

Saltwater crocodiles (*crocodylus porosus*) are protected in the NT under the *Territory Parks and Wildlife Conservation Act 2000*. Protected wildlife cannot be taken or destroyed without a permit issued by Parks and Wildlife. Trade in live or dead crocodiles, crocodile eggs or parts of crocodiles is an offence without a permit. Parks and Wildlife regulate harvesting and farming of crocodiles through the terms of its permits.

The NT *Animal Welfare Act 2002* prohibits neglect or cruelty causing an animal unnecessary suffering. Crocodiles are classified as stock animals, which means that regulations about confinement and transport of animals do not apply.

All crocodiles are listed on CITES – Convention on International Trade in Endangered Species of Wild Fauna and Flora. Australian crocodiles are among those listed as not threatened by trade if it is strictly regulated. Australia's obligations as a signatory to this international treaty are included in the *Environmental Protection and Biodiversity Conservation Act 1999*.

Under this Act, Federal Environment Minister, David Kemp has to approve wildlife trade plans. The Minister is ready to approve most of the NT Government's draft management plan but questioned recreational hunting for profit (safari hunting). An NT Government delegation visited Canberra in late March to put its case.

The 1999 Act was not around when the NT Government's previous five year management plan for saltwater crocodiles was approved. Wildlife management plans in the NT are based on the principles of conservation of biological diversity, survival of wildlife in its native habitat and sustainable use of wildlife and habitat. 'Humane treatment' is an additional perspective. The Minister's caution and the vocal response of animal welfare groups to the hunting proposal sent Parks and Wildlife staff trawling through the draft management plan, applying an additional benchmark test.

the attractions at the ranch, but it would appear that Native Americans have been alienated from this land.

International game hunters find out about reputable outfitters via hunting journals, word of mouth and hunter's conventions. The annual Safari Club International (SCI) convention in Reno, Nevada, draws some 25,000 big game hunters. SCI acts as a regulator as well as promoter of sports hunting. It has an ethics committee (with teeth) and runs professional qualifications and awards systems.

While mainstream Australia has built strong cultures around taking vertebrates from the wild (recreational fishing), hunting with weapons is underdeveloped in comparison with the USA, Canada and New Zealand.

Hunting is huge in parts of the USA and, not surprisingly, intersects with the pro-gun lobby; e.g. memberships of the National Rifle Association. In Pennsylvania, hunters took a staggering 464,890 whitetail deer in a series of seasons running from early October to January. Nevertheless, the deer are plentiful. Whitetail populations exploded in the twentieth century and are now beset with diseases such as Lymes Disease and Chronic Wasting Syndrome. It's another failure of wildlife management; evidence again of the need for a continuous human presence on land.

Concern about the spread of disease in captive animals has put an end to any suggestion of farming deer in Manitoba, Canada. The whitetail deer take by

licensed hunters in the province seems almost modest in comparison with Pennsylvania – currently, 25,000 to 30,000 a year, depending on the abundance. This is in addition to the harvest of Indigenous people who can hunt without a licence. However, the hunting culture is strong and highly regulated. Hunters are obliged by law to use the meat of hooved mammals they kill. Gun laws are very strict; for example, all guns must be locked in a transportation case within half an hour after sunset and half an hour before sunrise. Hunters also can use bows and there are laws for this as well.

Hunting may be enabling viable tourist businesses in the most remote areas of Canada. For example, access to Main River Safari lodge in Newfoundland is by air only. Visitors come for game hunting in autumn, snowmobiling in winter and spring, and fishing during the summer. All are pitched as wilderness experiences and the link is seamless. Hunters are ecotourists at Main River.

In its submission to the governments, the NLC points out that a large proportion of the Aboriginal people involved in the crocodile hunting industry prior to 1971 were also strongly involved in local systems of Aboriginal law and ceremony. Their participation suggests "a degree of compatibility between at least some forms of commercial utilisation and Aboriginal cultural precepts".

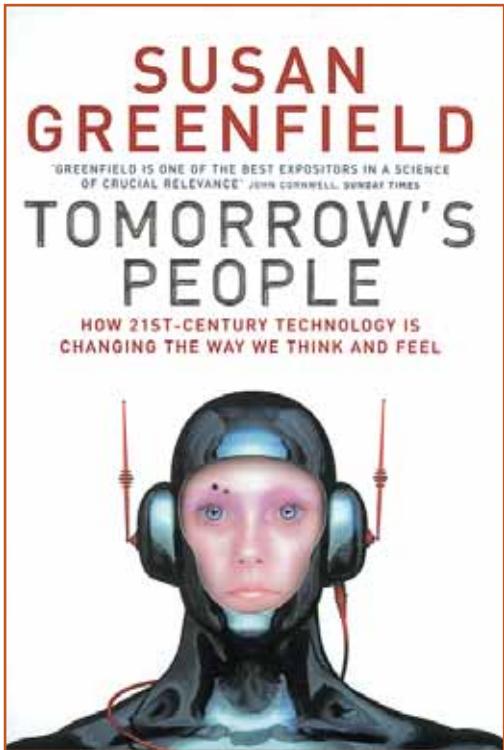
Collecting eggs is one thing; half may be destroyed by nest flooding anyway. A four metre crocodile is one in a thousand. He may have lived for 20 years and be known to people sharing a river or swamp. It is sad to see such a great creature fall.

A trial of safari hunting should be held and evaluated on ecological grounds (like the impact on habitat), economic grounds (whether it assists Indigenous livelihoods) and also for its cultural impacts. That 'degree of compatibility' to which the NLC refers may be put under pressure and the lived experience of those to whom the crocodile matters most needs full consideration.

References on page 19

SHOOTING INTO THE WATER WOULD NOT BE PERMITTED.





Tomorrow's People

Explanation for the difficulties I had with this book happily can be found within it. I have a mature brain – the neuronal connections are well established. The author, neuroscientist Susan Greenfield explains that a young child will absorb any incoming information with scant sales resistance but the older we are, the more any experiences will be measured up and evaluated by a less accepting, mature mind.

Greenfield would have it no other way. Our brains are marked, literally, by everything we do and everything that happens to us. This is our individual uniqueness, which may be at risk as developments in genetics and computers combine to make us more similar to others in gene pool and mindset.

Greenfield declares her book is not a catalogue of 'wow' phenomena and inventions, but rather the beginning of understanding how we might change the way we think about ourselves and how the boundary between ourselves and the outside world might start to blur.

I quite enjoyed the 'wow' factor – step by step detail on how the brain operates and imaginative (not necessarily original) ideas about how new technologies might be used to improve or control lives, or, as is likely, for amusement of the wealthy in the West.

It is the 'understanding' Greenfield presents that this mature brain wrestles with, which is probably fine with her because the Oxford professor and director of the Royal Institution of Great Britain wants to encourage public debate.

But, in those sections where previous experience and other reading gives me a means to evaluate (e.g. material in chapters on reproduction, education and terrorism), I found Greenfield's 'beginning of understanding' often amateur, a-historic, dated or socially conservative. Greenfield presents her views in a context of futurist science not the ideologies and contexts with which they are connected. At the end of the day, this book is a subjective and imaginative story that might have worked better in the medium of a well-researched novel.

Greenfield roams widely in each chapter, drawing pictures and calling in snatches of research, philosophies and novels – none held for long enough for an audience to get bored. And the read is entertaining but this jumble of ideas tends to suffocate the clarity that is there in her explanations of neuroscience. As a whole, it's hard work and this is not helped by Greenfield's habit of depositing new jargon and acronyms into the text as though these were precious gems of understanding – like cyber-passivity and partial virtual reality (PVR). This book needs a good edit.

But there is much in here to think about. For example, how would our lives be different if we had miniature devices patrolling our bodies to give early warning of health problems or deliver just the right amount of medication to just the right place?

In England, Professor Greenfield is a popular speaker and presenter of television and radio programs. She may visit Australia again this year. Hear her talk if you can.

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Kathie Rea

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CENTRAL AUSTRALIA

HEAD OFFICE
32-36 Priest Street
PO Box 8044
Alice Springs NT 0871
Telephone (08) 8951 4311
info@icat.org.au

NORTH QUEENSLAND

7/330 Sheridan Street
PO Box 6182
Cairns QLD 4870
Telephone: (07) 4031 0505
Fax (07) 4031 0431
nq@icat.org.au

NW WESTERN AUSTRALIA

3/68 Clarendon Street
PO Box 1304
Derby WA 6728
Telephone (08) 9191 2585
Fax (08) 9191 2598
derby@icat.org.au

TOP END NT

GPO Box 2875
Darwin NT 0801
Telephone (08) 8981 7599
Fax (08) 8981 7233
darwin@icat.org.au

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