

ourplace

NUMBER 32

ABORIGINAL LANDCARE EDUCATION PROGRAM

Participatory
technology design
for sustainable
livelihoods in Nepal

Water on Country

The future of
Indigenous housing



Our place

Contents

NUMBER 32



3

3 BUSHLIFE

Lachlan Thompson: Mechanic and Mentor
Lachlan Thompson shares the interesting pathway leading to his role as a trainer working with CAT and the challenges of being a mentor to young Aboriginal people entering the workforce. Story by Colleen Danzic

5 NEWS

7 EDUCATION AND TRAINING

Aboriginal Landcare Education Program
Greening Australia's Northern Territory Aboriginal Landcare Education Program (ALEP) supports Aboriginal communities across the Top End to deliver social outcomes through landcare projects. Story by Greening Australia

10 LIVELIHOODS

What next for CDEP?

The Rudd government has recently reinstated CDEP in the Northern Territory and a 'new' CDEP program is to be implemented from July 2009. Metta Young analyses the issues surrounding the program.

12 PROJECTS

Water on Country

Sonja Peter takes us on three journeys to find out more about traditional water sources, water management and their importance to Aboriginal people.

BUSH TECH LIFT-OUTS

- Removing scale from household fittings and appliances
- How to get a satellite Internet connection

14 OUTLOOK

Tomorrow is today

What will be the key drivers for sustainable Indigenous housing into the future? In this story Bruce Walker, CAT's CEO, outlines the challenges and the opportunities in a new approach to housing for Indigenous people in remote areas.

17 INTERNATIONAL

Participatory technology design for sustainable livelihoods in Nepal

This article looks at two experiences with the NGO, Integrated Development Society which lend insight into the use of livelihoods approaches in Nepal and how to maximise the benefit from technology development. Story by Helen Salvestrin

19 BOOK REVIEW

Neil Willmetts' guide: *How to Start a Successful Aboriginal Business in Australia*. Review by Metta Young



7



12



14



Our Place

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Opinions expressed in Our Place are those of the authors and not necessarily those of the CAT Board or staff.

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

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Lachlan Thompson: MECHANIC AND MENTOR

Lachlan Thompson is a fully qualified Automotive Mechanic and Trainer working with The Centre for Appropriate Technology's (CAT) Technical Skills Group. In 2003 he was awarded Indigenous Apprentice of the Year at NAIDOC week in Alice Springs. He recently completed a Supervisor's course, and his achievements in his automotive career have led him to become a mentor to young Indigenous people seeking skills and employment in the Automotive trade.

THE JOURNEY TO CAT

Lachlan looks up to his father as a role model with a strong work ethic. His father worked all his life from the age of twelve and was never without a job. Lachlan is following in his footsteps.

Lachlan was born in Mount Isa but when he was three years old his family moved when his father got work in South Australia. Lachlan did most of his schooling there.

Being an adventurous person, after leaving school Lachlan travelled around Australia doing a wide variety of jobs including seasonal work, working as a plant contractor, fencing work, and station work to name a few.

He did a pre-apprenticeship in Automotive for Indigenous people at TAFE and was offered an apprenticeship but left to take up a well-paying job in Cooper Pedy. He still had a love of mechanics and kept his skills up working on his own vehicles and private mechanical jobs. He again worked in a variety of jobs before going to the National Railways as a Plant Operator for ten

years. He left the railways and headed up to Alice Springs to visit family and ended up staying.

Lachlan first came to CAT to do the Certificate I and Certificate II courses in Automotive in 1998. After completing both courses he gained employment as a Trades Assistant in the Tangentyere mechanic shop, then became a CDEP supervisor. Later he completed his Automotive apprenticeship as a mature age student and became Fleet Manager at Tangentyere. Due to family problems Lachlan left this position to move to Adelaide, but after a short period of time he came back to Alice. Hearing that there was a Mechanical Trainers position available at CAT he applied for the job, and three years later is still here.

TRAINING AND MOTIVATION

Lachlan really enjoys training young Indigenous people in automotive skills, and knows what it takes to keep them interested in learning.

'I like training young fellas. Even back when I was with Tangentyere I used to

get school guys wanting work experience and I enjoyed training them, showing them new skills and how to save money.

'I praise them up, when they are doing something good, they like that, they like to hear it and it gets them motivated for the next day. They come back the next day all smiles.

'I try to give the trainees stuff that they are interested in, and make it as hands on as possible so we don't lose them. If you give them too much paperwork they feel like they are back at school again. So we give them a variety of projects to work on, and when they get a car fixed and its up and running they're real proud. They think "we have done that", and you give them that edge, then they'll go out and work on their car and their family's cars. They think: "we have got a car going before — we can do this!"'

Lachlan wants to pass on good work ethics to his trainees. Working in an automotive workshop can be dangerous and he impresses upon his students how to use the tools and equipment properly.

He also shows them how to save



ABOVE: left to right — Joseph, Robert, Roy, Terry Abbott, Rowan, Edward, Callam, Blair and Lachlan.



RIGHT: Lachlan (centre) instructs some of his students: (from left — Roy, Callam, Rowan, Jason and Blair).

themselves and their family money by being able to fix their own cars rather than spending money paying a mechanic.

Lachlan also stresses that mechanical skills are essential to sustainable livelihoods for people living in the bush. When you are a long way from the nearest town you need to be able to maintain your own vehicle, and some communities don't have a workshop or the right equipment.

'There is a great resource out in the bush with dumped cars that can be stripped for parts if you have the know-how to do it. I not only teach them what they can do in a workshop, but bush mechanics as well. How you can improvise and use something else if you don't have a part — a tyre lever, a bit of wire or wood, and tweek something up to get you out of a jam. Just to get you home when you are stuck out somewhere, and no one else is going to be coming along to help you out. There's a way around a problem even if you don't have the right tools, equipment or parts.'

MENTORING AND THE WORKPLACE

Lachlan's enjoyment of training young Indigenous people led him to do a mentoring course to improve his skills in supporting his trainees and others in their early working careers. He knows how important it is to communicate with them to resolve issues that come up, to keep them in the workforce.

'Indigenous mechanics are great with the hands on stuff, but things like trade books can be a difficult part of the job for some and can become a real barrier to progressing in this field. There might be a small issue that's stopping one of them from going to work, and it's great when you can resolve it and get them back into the workforce.'

Lachlan doesn't enjoy paper work anymore than his trainees, but his persistence and effort in taking on the lessons that life and work taught him, has seen him progress a long way in his career.

Lachlan believes that hiring Indig-

enous workers will be of great benefit to employers. Indigenous young people are great with hands on mechanical work.

'Employers need to be flexible, and help Indigenous people into employment by being considerate, and to understand that we do have our culture and have cultural and family obligations.

'We are brilliant with hands on work, but don't knock us just because we can't fill a bit of paper out. Paper work — yes we have to do it, but it's not crucial. What's crucial is getting the job done and that's the hands on stuff, so give the young fellas a go before you knock them.

'We are not all the same and we all have different issues so don't tarnish us all with the same brush. Just treated us like anyone else, just give us a go — a fair go.

'I've got a couple of guys at the moment that are work ready. The only things holding them back are numeracy and literacy. It's pretty sad to see guys you know who are brilliant hands on but their downfall is literacy and numeracy.'

Lachlan believes that there are very few vocational focussed literacy and numeracy courses available these days, and those that do exist have long waiting lists.

Lachlan gets a lot of pleasure from seeing his trainees go on to get work. 'The biggest satisfaction I get is when I see a young guy get into the workforce. There's Trevor, he's now doing an apprenticeship with Oasis Motors.'

Lachlan continues to keep in touch with Trevor and helps him out with any problems he might be having.

'And there's Terry Abbott. He completed Certificate I at CAT and is now one of our co-workers. He was my apprentice back in Tangentyere days. I was his boss for two years and now he is a qualified mechanic. It gives me a big high that I'm doing something positive for my countrymen.'

THE FUTURE

Lachlan is looking forward to the time CAT relocates to the Desert Peoples Centre.

He would like to keep moving forward in his career and take up the challenge of being a training coordinator or in a managerial role. He feels Indigenous staff and trainees would relate easily to an Indigenous manager.

He also wants to continue mentoring young Indigenous people and keep them in the workforce, which, as he says, is what it's all about. ■

Integrated Technical Services Project (ITS) Information Exchange Workshop

A workshop with members of outstation communities was held on 31 March–1 April 2008 at the Centre for Appropriate Technology. The workshop was part of the evaluation of the work ITS did during 2007–2008 with communities along the Plenty Highway region north of Alice Springs. Five of seven communities were represented at the workshop and they gave voice to lively and robust opinions when asked for feedback about the ITS engagement process and negotiated work plans.

For these very remote outstation residents, some of whom live nearly 600km from Alice Springs, the ITS engagement 'style' of taking several staff into a community and staying for a few days, enabled community members to feel very comfortable talking about the community issues that they could discuss on the spot, and the added benefit of having more than one contact person in the office. They agreed that it took time to begin to trust the ITS program, as they had often 'fallen through the cracks' when their requirements were supposedly being attended to, and people who had promised to 'do something' for them were never seen again. Community members assessed the ITS information posters, community newsletters and community profiles as being resources they really liked to have, especially commenting that the newsletters, which listed future work, as well as recording work already done in the community, '... keeps you honest!' Central Desert Shire and NT Local Government and Housing and Sport representatives who attended also commended the resources ITS had developed.

Outstation residents have impressed ITS staff as being very committed to staying on their homelands and planning for the future, a fact that was emphasised with the inclusion of 'next-generation' community members at this workshop. They are also knowledgeable about the infrastructure on their homeland, very skilled at 'making do' when breakdowns occur and only ask for help when they need equipment, extra hands and technical advice. At the workshop, the outstation residents endorsed the ITS Mobile Service Team, which worked alongside residents to upgrade and improve their infrastructure and check on work done by contractors, and agreed that they wanted to continue to be consulted and involved in working out a maintenance plan for their outstations, so they could look confidently towards the future.



Members of outstation communities meet at the Centre for Appropriate Technology to evaluate the program ITS implemented with them during 2007–2008.



Water Supplies in Remote Indigenous Communities

Water Quality Research Australia Ltd (WQRA) has been commissioned by the National Water Commission (NWC) to lead a project that aims to improve the information and communication processes for remote Indigenous community water management. The project, Guidelines and Best Practice Documentation — Water Supplies in Remote Indigenous Communities, is under the water planning and management theme of the NWC Raising National Water Standards program.

The project aims to address the challenges to improving water supply management in remote areas by developing tools and resources to assist service providers, including governments and utilities, to develop water management plans. The development and implementation of Community Water Plans are vital to the new national focus on planning and effectively risk managing water supplies.

The Centre for Appropriate Technology (CAT) is a member of WQRA and will be the hub for the development and trialling of the resources.

The tools, together with a project approach that includes the involvement of a wide range of stakeholders such as health professionals, water service providers and Indigenous representatives will support a consistent basis for communication and implementation of water management planning with remote Indigenous communities. The information package will be adaptable to the highly variable remote Indigenous community contexts throughout Australia.

The project was initiated in April 2008 and will develop and trial the products over 12 months in collaboration with at least four remote communities located in Queensland, Northern Territory, South Australia and New South Wales. The products will be finalised by the project's conclusion in August 2009. It is intended that the products will supplement the Australian Drinking Water Guideline documents to ensure the uptake of improved management systems for safe water supplies in remote Indigenous communities.



Willie Orr in action at the Finke Desert race.

Australian innovation to help rural villages in India

An innovative approach to implementing sustainable, reliable and affordable renewable energy supplies in remote Indigenous communities will soon be adapted for use in the electrification of villages in rural India.

The Centre for Appropriate Technology's Bushlight Project supports Indigenous livelihoods through the implementation of renewable energy systems, support services and associated community engagement, demand side management planning and capacity building. Bushlight has worked with 120 remote communities in central and northern Australia.

The Centre for Appropriate Technology (CAT) has received \$2m funding through the Australian governments commitment to the Asia Pacific Partnership Program to work with a range of partners in India to adapt the Bushlight renewable energy implementation model for use in rural Indian villages.

The CAT Indian APP project will be run by CAT's subsidiary company, CAT International Projects. It will tailor the successful Bushlight model to suit the rural Indian village context, develop relevant community education and training resources and ultimately construct a well documented, tried and proven model for the widespread electrification of rural villages in India using renewable energy.

In 2006 the Bushlight Project was awarded a National Engineering Excellence Award by Engineers Australia. The India project strengthens the acknowledgement of the Bushlight model as international best practice for rural electrification using renewable energy.

The CAT Indian APP project will provide energy for livelihood activities such as irrigation for agriculture and flour mills, as well as domestic lighting, battery charging stations, street lights and communications.

The project will work in partnership with Indian government agencies, industry, NGO's and village residents and other stakeholders. A further \$1m has been committed by project partners. Up to eight full time and part time Australian based staff and up to fifteen people from Indian partner organisations will be involved in the project over the next two and a half years.

1400 residents of rural Indian villages will be provided with access to energy services and supports, included targeted capacity building to manage and maintain the renewable energy systems.



Willie Orr rides in the Finke Desert Race

CAT employee Willie Orr participated in this year's Tattersall's Finke Desert Race which was held over the Queen's Birthday weekend, 6-9 June. The race is an off road, multi-terrain two day race through desert country from Alice Springs to the small Aputula (Finke) Community. The race crosses the Finke River.

Willie has always had a passion for motorbike racing and this is the fourth year he has competed in the Quad bike race. He was the only Indigenous Quad rider, and his mates assisted him as a backup crew, helping out with mechanical checks, repairs and refuelling during the race.

Willie was coming second at Deep Well, but after some minor problems finished tenth. He is happy with this result. He has been tenth in his class two years in a row but has been steadily getting higher results every year. Willie focuses on racing the clock and doing his personal best times, rather than trying to beat the other riders.

Willie has opportunities to train when he is at his parents outstation, by riding his bike chasing kangaroos for dinner or helping with the mustering.

It costs Willie approximately \$5000 per year to maintain his bike and participate in the Finke race. A new bike can cost around \$16,000, so getting sponsorship for this sport is vital for him.

A reasonable level of fitness is required for motor racing. Working out bush with CAT's Integrated Technical Services team (ITS) has helped Willie to keep in shape. Willie rides a push-bike to work which helps keep him fit as well. He will keep competing as long as he is physically able.

Willie hopes to have a chance to compete in interstate races in the future, in the meantime he continues to train for the next Finke Desert Race.



Lorraine Williams and Rita Tingey are permanent staff members of ALEP.

Aboriginal Landcare Education Program

Introducing the Aboriginal Landcare Education Program

Established in 1994, Greening Australia (NT)'s Aboriginal Landcare Education Program (ALEP) supports Aboriginal communities across the Top End. The program has three permanent Aboriginal staff (Don Duggan, Lorraine Williams and Rita Tingey) and has employed up to six Aboriginal staff at times.

The ALEP team provides:

- help with planning land management projects;
- technical advice for vegetation

- related projects;
- on-ground training and workshops;
- links to government and other landcare agencies;
- education and awareness.

ALEP has become an important vehicle for delivering social outcomes by directly engaging community members through projects such as Useful Plants, Healthy Yards, Community Parks and Green Cadets.

Useful Plants

Through the support of the Natural Heritage Trust and the Natural Resource Management Board (NT), ALEP is working to assist Aboriginal

groups in the Top End to develop businesses using products based on native vegetation.

The project:

- assists groups to investigate and plan business opportunities based on native vegetation;
- provides training and technical support for harvesting, storing, processing, packaging and marketing products;
- provides a central collecting point including weighing, payment, storage and transport to market for native plant products (for example by continuing the *Terminalia ferdinandiana* harvest);
- assists with accessing larger



Don Duggan, ALEP Coordinator.

families within communities with a focus on the immediate family yard.

A planning stage precedes all healthy yards work. ALEP assists the participating families to map out their garden by discussing the technical details. ALEP Staff also participate in the implementation of their garden plan, often with assistance of local council or resource centre staff.

The National Aboriginal Health Strategy recently funded house yard work at the Lajamanu community. The community got right behind the work with the store running a gardening competition as an added incentive.

Community parks

The ALEP team assists communities to plan and build community parks. The participation of the whole community in the landscaping gives the people ownership of the work and a sense of pride in the finished product. Community parks provide a communal meeting place for community discussions.

LAJAMANU

ALEP has worked on two community parks at Lajamanu with financial assistance through the Lajamanu

Progress Association. The parks were welcomed by the local residents and are now a central meeting place for the community, with the first park now named the Rex Patterson Memorial Park.

DAGURAGU

ALEP assisted the local community to make the Daguragu Hand Over Park for the 40 Years Freedom Day Festival. The festival marked the 40th anniversary of the Wave Hill Walk Off.

The old partiki (nutwood) tree at the park is where planning meetings were held before the walk off, and where the Gurindji returned to after the walk off. The stone plinth and plaque in the park is at the site where Prime Minister Gough Whitlam symbolically returned the soil by pouring it into Vincent Lingiari's hand.

The park is part of the Gurindji Heritage and Tourism Project supported by NT Tourism.

ALEP's Green Cadets

Green Cadets address the need for increased employment and healthy life options for young Aboriginal people in the remote Top End and focuses on the social and health outcomes that environmental work can provide. The

- wholesale markets and opportunities through local markets and events;
- provides training for extraction of larger plants such as cycads which have landscaping potential;
- establishes and supports plant nurseries with a commercial aim.

Healthy yards

Working with communities to create healthier living environments has been a core part of ALEP's work. The Healthy Yards concept works with individual



Children at Lajamanu
PHOTO BY DON DUGGAN



PHOTO BY NICK SMITH

Green Cadets are an integral part of all ALEP projects. Through education and training the program engages young Aboriginal people in community-based projects with the aim of empowering them to build their local community's land management capacity.

Green Cadets:

- gives young people a new focus in life and options for the future and help them take control of their lives;
- raises awareness about 'looking after country';
- improves environmental health in communities;
- develops leadership skills in young people;
- encourages self esteem, self respect, self discipline and self control;
- addresses substance abuse and youth at risk;
- provides career paths leading to increased employment opportunities;
- has a long-term aim to reduce social problems such as family violence and child and substance abuse.

Green Cadets has two arms, *Grinwan Geing* working mainly with young adults and *Lilwan Geing* working with children.

GRINWAN GEING

The Grinwan Geing aims wherever possible to deliver training in a context that it will meet accredited training requirements according to the National Training System framework.

Where groups are interested in acquiring formal qualifications ALEP will work with Registered Training Organisations to achieve this. The team is in the process of developing training resources for the formal training components through the assistance of the National Landcare Program.

LILWAN GEING

The lives of Aboriginal people across the Top End are strongly connected to the plants, animals, seasons, land and water, which provide a wealth of resources for relevant learning in schools.

By including elders in environmental education, students will learn the importance of traditional knowledge and responsibilities. The Lilwan Geing Handbook assists this to happen. It aims to provide relevant contexts for the NT Curriculum Framework in a remote Aboriginal environment.

The Lilwan Geing also links children into the community projects. The Lilwan

Geing activities are delivered through a series of practical workshops with participants moving into the Grinwan Geing when they are older.

ALEP works

The longevity of ALEP is testament to the passion and commitment of the team. ALEP plays an integral role in achieving the Greening Australia mission through holistic projects. ALEP is a small but vital part of the wider land management network and its success can be attributed to:

- Working in partnership with Aboriginal communities;
- Providing employment for Aboriginal people;
- Helping communities build their capacity to run their own land management programs. ■

GREENING AUSTRALIA

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WHAT NEXT FOR

CDEP?

The Community Development Employment Projects (CDEP) scheme was first introduced into remote Indigenous communities in 1977 as a progressive and mixed community development, employment creation and income support scheme. Since the Spicer review in 1997 there have been a series of changes to the program culminating in the former governments decision to axe the scheme. The Rudd government has recently reinstated CDEP in the 30 remote communities in the Northern Territory where it had been shut down as part of the Northern Territory Emergency Response. It is also undertaking a review of the program in association with the current review of 'mainstream' employment services such as Job Network, with a 'new' CDEP program to be implemented from July 2009.

Over the past ten years the CDEP scheme has been steadily reconfigured into a labour market program — tasked with moving Aboriginal people into 'real jobs' in the 'real economy'. This has led to a de-emphasis of the community development and employment creation aspects of the scheme. Against a backdrop of significant skills shortages across the country and especially in resource rich remote areas, relentless revelations of the dysfunction, corruption and disadvantage in remote communities, persistent policy and program churn and the mobilisation of interventions to stabilise and normalise the outback, what may be next for CDEP?

Debating CDEP

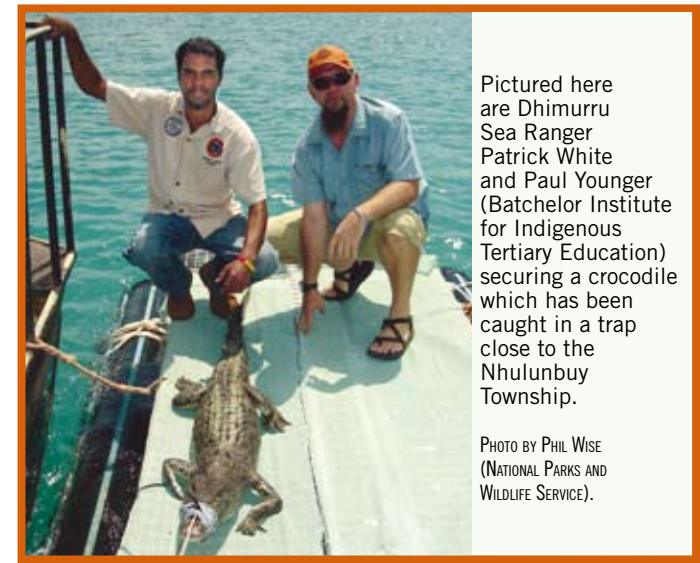
Critics of CDEP argue that the program is much more a hindrance than help to Indigenous people. They highlight the use of CDEP schemes to prop up government services in a range of areas such as essential services, health, child care and education, the schemes poor record in providing quality training and skills development and the ineffectiveness of CDEP in moving participants on into real jobs (Hudson 2008, CYI 2007). The latter is a particularly resonant issue given the

resource boom and the availability of jobs in the private sector at close proximity to many Indigenous communities. Proponents of CDEP emphasise the reality of the 'hybrid' economy of remote Indigenous communities and the importance of CDEP in enabling the combination of customary, state and market economic activities in a manner that enhances cultural maintenance, mainstream engagement and local and legitimate governing and service delivery institutions (Altman 2006, Morphy 2008).

Proposed reforms

The Northern Territory Government recently released a discussion paper on CDEP arguing for the programs' activities to be adjusted according to an assessment of the proximity of existing, emerging or non existent labour markets. Much of this has now been incorporated in the Australian Governments own discussion paper on reforms to CDEP. The papers suggest that schemes deemed to be near existing markets are to focus exclusively on employment transitions, largely replicating the mandate of mainstream services such as Job Network; those near emerging markets will mix training and personal development programs with employment transitions; and those near no markets are to focus on community and personal development.

A reality check of Indigenous unemployment statistics across urban, regional and remote areas (Productivity Commission 2007) highlights that there are no statistically significant differences between the localities. This suggests that factors other than proximity to labour markets are likely to explain the employment disadvantage of Indigenous Australians. Both the critics and proponents of CDEP articulate some of these factors. Examples being poor outcomes from school education; the subsidisation of government services in health, education and essential services by CDEP; and the importance of innovation, flexibility and job creation schemes such as Ranger programs and the Indigenous Art industry that support local aspirations and the continuance of cultural commitments stemming from Law, ceremony and identity. In essence the varying perspectives on CDEP swing between its need to address individual capacity deficits and enable economic trajectories, and its need to support community development and cultural activities as well as



Pictured here are Dhimurru Sea Ranger Patrick White and Paul Younger (Batchelor Institute for Indigenous Tertiary Education) securing a crocodile which has been caught in a trap close to the Nhulunbuy Township.

PHOTO BY PHIL WISE (NATIONAL PARKS AND WILDLIFE SERVICE).

'Land and sea Ranger programs and the Aboriginal Art industry are examples where unique and internationally recognised economic activities have been fostered and nurtured through CDEP.'

economic activities. This is a tall ask for one program, despite its unique longevity as a program in Indigenous Affairs policy. Years of under investment in education and the lack of physical and service delivery infrastructure necessary to sustain settlements across the Outback are not failures that can be laid at the door of the CDEP scheme.

CDEP and training

A key issue affecting the current CDEP scheme has been the lack of consistent and quality skills development — formal, informal and work based training — to support transition from CDEP into the jobs that do exist on communities or nearby, the ones emerging, and the one's that occasionally surface through contract work. However, it is extremely difficult for Registered Training Organisations (RTOs) operating in what is a highly regulated mainstream education sector, to leverage the flexibility and innovation required to deliver programs that effectively respond to the learning and locational issues in remote areas. RTOs' struggle with small numbers of trainees who have complex learning needs (English as a second language, limited literacy, high rates of hearing and other disabilities), the high transaction costs for remote delivery, limited trainer accommodation or learning facilities, sporadic attendance and high staff turnover. Indeed recent figures from the National Centre for Vocational Education research highlight a 12.7% decrease in VET programs in very remote areas in the Northern Territory in 2007 (NCVER 2008). Those Indigenous people who are participating in VET programs across remote Australia are much more likely to be undertaking subject only courses at pre-vocational Certificate levels and there is some evidence of churning through successive low level courses. Without significant policy and program changes to the training system that will enable providers to respond effectively to the skills and personal development needs of CDEP participants and manage

the resource and infrastructure limitations that characterise remote delivery, the problems experienced to date will simply be repeated regardless of the reforms mooted.

A new approach

Some of the clear successes of the CDEP scheme have emerged from its community development activities. Land and sea Ranger programs and the Aboriginal Art industry are examples where unique and internationally recognised economic activities have been fostered and nurtured through CDEP. Similarly the successes of many other programs targeting the highly disadvantaged have focused on community and social enterprise initiatives as a pathway for improved economic and social participation. A reformed CDEP would thus need to function substantially differently to mainstream labour market programs if effective economic and social inclusion is to be achieved. CDEPs' need to be styled to provide incentives to address the multiple issues experienced by Indigenous as well as targeting investments towards local enterprise opportunities (both extant and emerging) where available and which align with local aspirations. The complexity of the employment disadvantage experienced by Indigenous people requires a sharpened focus on the structure and purpose of a reformed

CDEP at the same time as additional investments in both reducing disadvantage and building a sustainable network of settlements across the outback are rolled out.

The crisis in remote Australia is not just an Indigenous crisis. Much of remote Australia, Indigenous and non-Indigenous, could be easily described as a 'failed' state where social tensions, economic disengagement, ineffective mainstream service provision and inadequate 'special Indigenous' arrangements, erratic and complex governance, ever changing policy platforms and environmental vulnerability are escalating. With Australia's current economic prosperity riding on the back on the resource boom in remote Australia, the need to align program and policy investments with a vision built on revitalising and reconstructing the Outback is pressing. Reforming the CDEP scheme to build the human and social capital development capacities of people and their communities, and resourcing it to broker and partner in locally responsive training, mentoring and enterprise development investments, rather than focusing on quick-fix individual welfare to work transitions might be a worthwhile next step. ■

METTA YOUNG

Centre for Appropriate Technology

REFERENCES:

Altman, J 2006. The Indigenous Hybrid economy: A realistic sustainable option for remote communities. CAEPR, ANU.
Cape York Institute, 2007. From Hand Out to Hand Up. Cape York Welfare Reform Project, Design recommendations
Morphy, F. 2008. Re-engaging the economic with the social. A submission and response to the Australian Government's 'Increasing Indigenous Economic Opportunity discussion paper'.
NCVER 2008. Australian vocational education and training statistics: Students and courses 2007
Productivity Commission, 2007. Overcoming Indigenous Disadvantage: Key Indicators.

Water on Country

Integrated Technical Services (ITS) is a project of the Centre for Appropriate Technology (CAT) that aims to improve the delivery of essential and municipal services to remote Indigenous communities and outstations. ITS has been working with communities and outstations along the Plenty Highway and two examples are Bonya and Urlampe. Water is one of the domains that the ITS project has focused on, especially the availability and quality of water sources from the aquifer as well as the supply of water to houses and shelters. This article documents an ITS staff member's reflections on journeys to country with Traditional Owners to examine traditional water sources. The journeys articulate part of the ITS approach to community engagement.



Traditional water sources

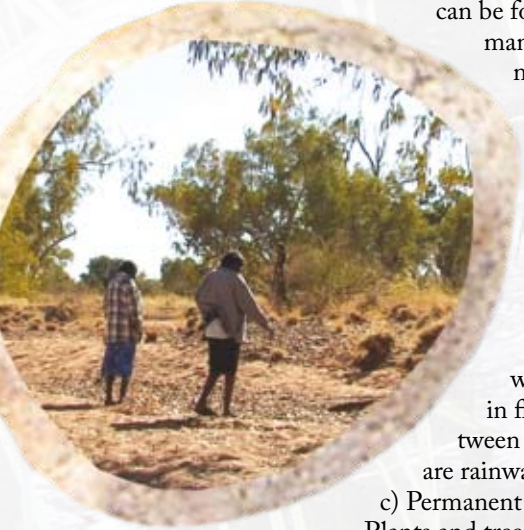
Local Aboriginal knowledge of the locations and characteristics of arid zone surface water sources such as soaks, rock holes, cave pools, river pools and seepages all of which are potentially derived from ground water, exceeds that documented by agencies.

Journey 1: Bonya Soakage



Many of the traditional sites have significant ceremonial, economic and social significance.' (Alice Springs Water Resource Strategy, 2006-2015, NRETA 2006)

Water is an essential part of traditional culture as well as for contemporary living. The knowledge of where water can be found is highly regarded for many reasons. The managing and maintaining of these water sources on country is both a traditional privilege as well as a responsibility. Continuous access to good quality water is essential for living in communities and outstations.



Traditional water sources are: a) surface water which is water pooling after rain, often in flat country, rock shelves or between sandhills; b) soakages which are rainwater pools under ground; and c) Permanent water sources such as springs. Plants and trees can also provide water.

Often these water sources are sacred sites that have creation stories and ceremonies associated with them.

To find out more about traditional water sources, their importance to Aboriginal people and how that knowledge is relevant to contemporary living, staff from ITS decided go on three journeys. Two with the women from Bonya, and one with Allan and Shirley from Urlampe, to explore their knowledge of water and water management.

Engagement process

Focusing on water was not only continuing the engagement process started by other members of ITS, and also acknowledging and valuing indigenous knowledge as being a vital part of understanding the sustainability of communities and outstations. As the engagement process developed, the focus unfolded and evolved into a more broader context, that of 'being on country'.

During one of the visits by ITS staff to evaluate community sustainability and livelihood, three women from Bonya (Georgina, Natalie and Minni), told about a time when the community's bore ran dry. They travelled to a soakage in a nearby creek which they dug out and filled their bottles from the soak.

At Urlampe outstation, Allan Rankine who is one of the traditional owners, told Kate from ITS while recording a community members skills audit, that he knows how to find water. Allan said he not only knows how to find water but can also tell the water quality in the ground.

We asked the Bonya women as well as Allan and Shirley from Urlampe if they were happy for us to record our trips by video and photography. They all gave their permission and it turned out that the videos not only became a direct record of the journeys but also assisted Allan Rankine in providing his grandson with a DVD for a 'show and tell' about what his granddad did at his school in Mt Isa.

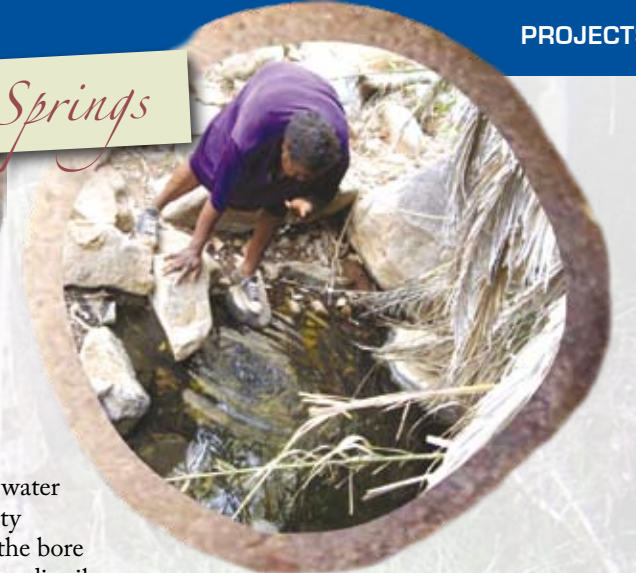
JOURNEY ONE was to the Bonya soakage on 22 August 2007. Robyn Grey-Gardner, a water expert assisting ITS with water quality testing in communities, presented the Bonya water test results to community members. After the meeting we asked about the soakage they had mentioned previously as a source of water at the time their community bore ran dry. The next day Ada Blue and Nita Ringer took us to the soakage.

When we arrived at the area where the soakage was to be found, the women located the exact spot where they wanted to dig. Everyone worked on digging out the soakage: Nita, Ada Blue, Robyn and myself. It was a hot day and we dug a hole about 1m deep but unfortunately found no water. At this time, the water would be much deeper in the ground as it has not rained for a long time. Nita Ringer and Aida Blue suggested we visit a permanent spring in the area. We decided to undertake a second journey at another time.

JOURNEY TWO was to Jinka Springs on 9 October 2007. Ada Blue, Nita Ringer and Tilly Madrill directed the journey while Nadine, an ITS colleague and I drove to a permanent water source Jinka Springs to investigate the water there. After driving through dry county where the women took the opportunity to hunt for goannas, we



Journey 2: Jinka Springs



arrived at Jinka Springs. The spring is a very tranquil and cool place that is surrounded with bush medicine plants. Even though Tilly, one of the woman, tasted the spring water and said it tasted good, the water quality was obviously affected by cattle drinking from it. Additionally, the station owner had directed some of the spring water to the nearby cattle yard.

JOURNEY THREE was to Alcoora Springs on 10 October 2007. Allan Rankine, and his wife Shirley Dempsey, took Karl Micek, a member of the ITS Mobile Service team and myself to a permanent spring that Allan Rankine used to go to as a child with his family. It is a traditional water place within his country. Allan remembered it always full of clean rain water and he was surprised to find far less water than he remembered from a previous visit a few years ago. The spring's water was 'too green and yucky' to drink, as it had been disturbed by cattle drinking out of the spring. A big concrete water trough had also been placed in the middle of the spring. Allan also remarked how the bush food was affected by cattle grazing. He said that Alcoora Springs is part of the Rain Dreaming for his country.

Some thoughts

Originally, each trip to the water source was about finding out, first hand, if the water source indeed had water, and the quality and quantity of the water. The trips evolved into journeys to country, and the journeys were as important as reaching the destinations. People were happy to visit their country and tell stories as they confidently displayed their enormous knowledge of the land, plants and animals. The journeys provided access to traditional food, plants and bush medicine.

I observed that being on their country, people appear to gain strength and vitality and they seemed to feel relaxed and confident to engage on their own terms. Once we had reached the water source area, people knew exactly where the water was to be found and how to access and evaluate it. They had memories of past experiences at each site and felt very confident being there. Their knowledge of the land and how to live on it was evident.

Traditionally, Aboriginal people are either owners, managers or workers in relation to land ownership and ceremonies, including special water sites. The rights and responsibilities of each individual and group is clearly defined and everyone understands and respects this.

It seems that Allan places a high value on the water sources within his outstation, Urlampe and looks after them. Allan is a decision maker in Urlampe. He

decides what water the community pumps from the bore and how it gets distributed. Allan and Shirley have control over the water supply of Urlampe and have a great knowledge of their infrastructure.

Ada, Nita and Tilly greatly value having access to good drinking water, but they are not directly involved in looking after the water in their community, Bonya. Bonya is a large community and their water supply is managed by Arramwelke Aboriginal Corporation, so the women in Bonya don't have the same level of decision making powers for the Bonya water supply that Allan and Shirley have at their outstation.

Traditional water sources have become more unreliable, not only because of recent lack of rain, but also the lack of control Aboriginal people have over their water sources. Station owners, for example, create access and redirect water for their cattle. However, the Aboriginal people with knowledge of the water source, would appreciate consultation.

Access to traditional country by Indigenous people is vital to ensure the maintenance of the water sources as well as updating their knowledge of water quality and quantity.

For example, it was important for the Bonya women to know that the water in the soakage is very deep in the ground and therefore not really accessible at all times.

The older Aboriginal people in particular have traditional knowledge that can enhance contemporary water management, especially traditional supplies such as soaks and rock holes. In addition, someone like Allan, who has a high level of understanding of his water supply, is well positioned to participate in the everyday and long term management of his water supply.

Understanding what knowledge and skills community members have about water, both traditional sources and supply systems, is important in terms of effective engagement and in supporting people to make decisions and manage their supplies sustainably into the future. ■

SONJA PETER

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ACKNOWLEDGEMENT: Thank you to Ada Blue, Nita Ringer, Tilly Madrill, Allen Rankine and Shirley Dempsey who helped with this project.



Journey 3: Alcoora Springs





Tomorrow is today

Yesterday, Today and Tomorrow

Towards the end of 2007 the Australian Institute of Architects convened a national Indigenous housing conference titled *Which Way-Directions in Indigenous Housing*.

In a session questioning whether we are building for today or tomorrow, Bruce Walker notes that we need to live today as if there is a tomorrow and to the extent that we reap what we sow, then tomorrow is today.

We stand at a cross road in Indigenous housing. Ultimately the choice of which way depends on perceptions of what the problem is or more correctly what the options are. Indigenous housing is viewed differently depending on your place within the housing system. Choices often lead to questions such as:

- Is it public housing or private housing?
- Is it a house or a home?
- Is it about access to services and security of goods?
- Is it merely about overcrowding, to be reduced by increasing the number of bedrooms?
- Is it about Australian-ness and equity of access to housing?

- Is it about providing remote Australia with a stable construction industry base?
- Is it the largest training and employment opportunity in a community?

Unfortunately it is about all of these and more. These are complex choices. Over the years housing choice has been impacted by prevailing philosophies like assimilation or improved health or self determination etc. Today's mantra is normalisation, although it is difficult to know what might be regarded as normal in remote Australia where the very nature of the location is defined by extremes and significant variability and unpredictability across a range of measures.

Yesterday
In March 2006 the Department of Families, Community Services and Indigenous Affairs commissioned a study of 'Alternative Housing Systems

for Indigenous People in Remote Communities'. The report documented essential lessons from the history of Indigenous housing provision and argues that a focus on 'housing systems' for housing provision is necessary because many high cost factors and inadequacies in housing provision can be found or caused by matters beyond the mere construction of a physical dwelling. It concludes alternative systems and designs for housing should be adequate (in terms of health and safety outcomes); appropriate to the context (physically, culturally and socially) and affordable (cost effective) in order to support the wellbeing of Indigenous people and communities. In June 2007 the Australian Housing and Urban Research Institute (AHURI) released a paper, 'Flexible guidelines for the design of remote Indigenous Community Housing.' The paper reveals three distinct approaches to design practice:

- **The 'Cultural Design' approach:** based on the belief that the study of Aboriginal behaviour underpins any understanding of Aboriginal housing needs;
- **The 'Environmental Health' approach:** based upon the need to address the problematic environmental health impacts typically associated with poorly designed and constructed Indigenous housing and associated issues of overcrowding and poor sanitation;
- **The 'Housing as Process' approach:** extends on Cultural Design to also take account of a community's capacities in housing management and views determining an appropriate design process for Indigenous clients as part of a larger cyclical process from consultation to housing delivery.

Today
These issues can be expressed differently in different places, though this article looks specifically at the implications in desert Australia.

THE REGION OF DESERT AUSTRALIA
The environments of outback Australia are characterised by climatic, temporal and social features which are highly

variable and unpredictable and demand explicit attention in design, management and policy. Aboriginal settlements in this region of Australia experience an extreme economic context, arising from a lack of economic opportunities in remote settings, the small size of settlements and large distances between them, the lack of human and institutional capital, and the high level of mobility between and within settlements.

REGIONAL CAPACITY IN THE AUSTRALIAN DESERT
Whilst acknowledging the work undertaken nationally on alternative housing systems and flexible design guidelines, two reports on the desert region suggest the real housing challenge is reliant on regional capacity among private sector contractors and the technical capacity of local and regional communities.

A recent study conducted by CAT sought the views of the construction industry, predominantly in Central Australia, about their perceptions and practices of dealing with planning, costing, logistics and risks, and comparisons of building technologies used in community housing. In particular, the study set out to explore the regional drivers of the cost of remote Indigenous housing. Of the 96 currently registered builders in Alice Springs only eight or nine are working in remote communities regularly. The yearly average number of Indigenous houses delivered to remote communities in Central Australia has been around 22–25 for the last few years.

In the face of a requirement for 3300 houses across the NT and at least a trebling of funds available, this is a striking capacity shortfall.

Current and planned construction activity in the Northern Territory exceeds the available workforce and will continue to place upward pressure on wage costs. Further, the construction of new houses is not keeping up with the deterioration of the housing stock.

Anecdotally many builders left the Indigenous housing field because they got 'badly burnt', having been locked into unrealistically low prices. An Alice Springs builder reported their bush work has decreased by 30–40% over recent years. 'The biggest issue is that trade skills are increasingly poor, there are quality issues not because they want to cut corners but because they are unable to do it well; most work is done by unskilled

labour with minimum trade supervision'. 'People do not want to work in remote sites, and they do not have to as there is too much work in town' (builder).

HUMAN AND SOCIAL CAPITAL IN DESERT AUSTRALIA
A report from the National Centre for Vocational and Educational Research (NCVER) highlights the state of Indigenous human and social capital in the desert.

At a time when people are being urged by a carrot and stick approach to access greater mainstream opportunity we find participation in vocational education and training across the desert has experienced a downward trend since 2002. In 2005 the labour force participation of Indigenous people in the NT fell by 16%. Nationally the number of remote Indigenous people not in the workforce has doubled since 2002.

The downward participation trend in training has been accompanied by a progressive demoralisation a number of community based Indigenous organisations who would normally have provided support for community based housing operations and contributed to mentoring support as people engage with the new welfare reform and work opportunities.

Without a serious alignment of incentives and a vital community sector the private sector will find it difficult to respond in a way that will impact on the numbers of people seeking to employment nor will the market opportunities develop in the time frame that has been set.

The third area of regional capacity shortfall surrounds the policy shift from community housing today to public housing tomorrow. It is questionable whether the public housing sector is equipped to deal with the specific issues raised in the Indigenous housing sector.

In summary, industry is drastically under capacity at a time when better paying projects pull people away leaving new and inexperienced players to produce hundreds of houses in difficult and risky conditions. Indigenous people are least prepared at this moment to take advantage of this recent increase in attention and funding to housing.

Unfortunately this is not a fairy tale with a magic ending, but it does shape the values and nature of the response required for tomorrow. It also calls into question the context in which the new Indigenous Housing agenda might be framed.



Thoughts for Tomorrow

WHAT DO WE KNOW ABOUT TOMORROW?

If we were building for tomorrow we would no doubt be concerned about capacity, sustainability, training, development and maintenance, security of income and management systems to support infrastructure and livelihoods and importantly models of investment that lead to a better tomorrow.

WHAT DON'T WE KNOW ABOUT TOMORROW?

How will people respond to the welfare reform agenda, changes to CDEP and the introduction of work activity tests. Will demand for housing fluctuate as people move chasing temporary employment opportunity and move again when skills and capacities don't align with the local labour market?

How will people negotiate the barriers and pressures that are related to this increased mobility?

Given community housing was organised around cultural groupings, the shift away could be problematic. Public housing models do not have a strong track record of targeting culturally and linguistically diverse groups. How will a public housing model cope with the regional dynamism of mobility, unstable tenancies and the increased need for supported tenancy arrangements?

The recent announcement of an increased focus on Indigenous housing provides the basis for a significant investment in response to the housing

shortage faced by Indigenous people. If we want this investment to count, then knowing where people will choose to live, to earn the money that they will need to own and maintain their home, is critical information.

Assuming we got the design right and that there was sufficient money to construct and maintain housing stock, the two significant limiting constraints remain with the capacity of industry and the users of the end product.

The challenge in my mind is to position housing in a regional development context and make investment decisions around the capacity of the industry to deliver and the capacity of the users to manage and sustain the service they obtain through the house. This should be the most important decision that a government could take to secure their future investment in the health, education and safety of Indigenous people.

In addition to understanding the pattern of settlement across outback Australia this task will entail finding alternative procurement models that match the broader regional development policy framework. It will also be driven by the choices consumers take, rather than plans remote governments make.

It will require a shift from a primary focus on normalising services and minimising disadvantage to a process that is principally driven by investment potential in a regional economy.

Bedrooms built in the wrong place won't reflect well on today's policy.

In summary, in the past we have allowed design and technology of house to dominate what I have argued is increasingly an issue of regional capacity.

I believe we are entering a new phase

of our experience where the dominant drivers will not be culture, health, technology, or cost. All will be necessary but not sufficient. But choosing a location where you can have the economic freedom to pursue livelihood options that allow you to live well in your house will be the significant driver of choice. I hasten to caution against any assumption that this equates with urban drift.

We are now entering an era where investment in livelihood opportunity will be the main driver of Indigenous housing design and supply.

The house will increasingly be an investment in livelihood. This will necessarily bring an increased focus on settlements and regional development. It will no doubt also reflect the desire of a great number of Indigenous people to invest in social capital and social assets and may result in counter-intuitive outcomes.

To invest in tomorrow we need to know how the total regional system works including the influence of the externalities across a region.

We need institutions to broker and manage human capital with new forms of engagement and a reformed community sector.

We need Indigenous entrepreneurs of social capital to manage and exploit opportunity and drive the dialogue on cultural change and collective reform.

We need new investment modalities that are inclusive of regionally resilient responses.

And finally we need a range of new policy frameworks that enable people to make the adjustments and trade-offs that contribute to an affordable and viable livelihood wherever they choose to pursue it.

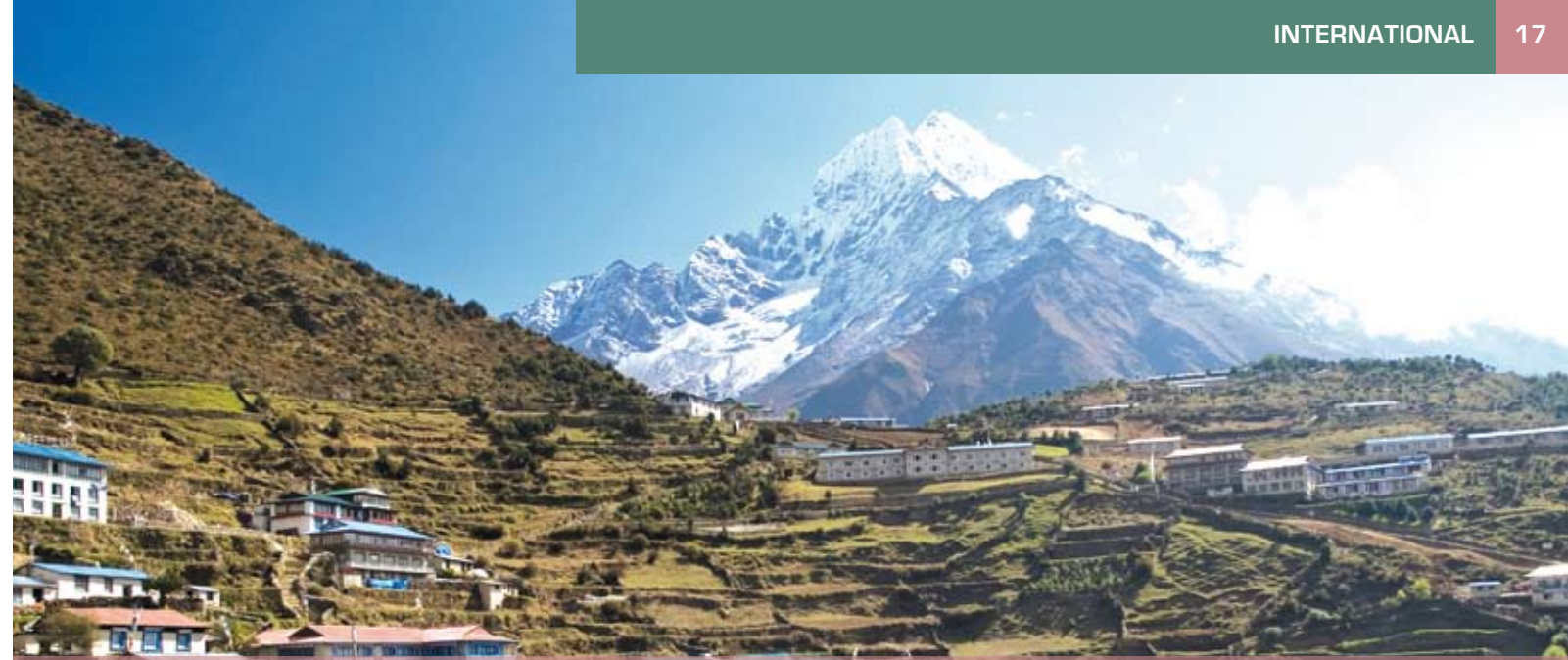
These are the drivers of tomorrow's Indigenous housing agenda.

We might have the political will and some technical ability to deliver change in Indigenous housing, but do we have the breadth of understanding to choose housing options that creatively invest in sustainable livelihood opportunities for Indigenous people?

These are the decisions for today, for a better tomorrow. ■

DR BRUCE W WALKER

Chief Executive Officer
Centre for Appropriate Technology
Alice Springs



Participatory technology design for sustainable livelihoods in



Can the Nepali use of the sustainable livelihoods approach inform our use of the framework and technology development in Indigenous communities?

A year in Nepal as an Australian Youth Ambassador for Development working with a Nepali non-government organisation (NGO) highlighted some key elements to ensure that technology could support the livelihood goals and strategies of the community.

The NGO, Integrated Development Society (IDS)-Nepal was using the sustainable livelihoods approach to assist sustainable and equitable development of community infrastructure and improvement of livelihoods. Key projects included water quality and supply, sanitation, alternative energy (including solar power, micro-hydro and biogas) and skills training, with minor focuses on

the environment, micro-irrigation, waste management and rural reconstruction.

This article looks at two experiences with IDS-Nepal which lend insight into the use of livelihoods approaches and how to maximise the benefit from technology development.

Poverty and infrastructure in Nepal

With a population of 25.2 million people (Department for International Development 2007) and a gross national product (GNP) of US\$260 per capita per annum, nearly two in five Nepalis are living below the national poverty line (Department for International Development 2004). One in five does

not have access to an adequate drinking water supply and nearly 80 percent of the population do not have access to improved sanitation (DFID Nepal 2005). Adult literacy is at 56 percent and women and men have, on average, 2.25 and 4.45 years of schooling respectively (National Planning Commission 2002). 92 percent of Nepalis still rely on traditional fuels for things like heating and cooking.

Poverty in Nepal is exacerbated by the diversity of castes and nationalities, each with different cultural identities, strengths and needs. Whilst some caste groups have easy access to resources, opportunities and support networks, many groups, particularly the untouchable caste



LEFT: An elderly Nepalese man carries water in two metal containers from a well at Jawalakhel near Kathmandu. PHOTO COURTESY AFP/ DEVENDRA M. SINGH

the external market. The Bishankanarayan community supplemented their more traditional, and cheaper fuels with briquettes, thus making a profit overall in fuel use. The additional household income was used to buy food items, pay school fees and contributed to the community development and infrastructure fund.

Impacts on the livelihoods and assets of the community however, extended to beyond the energy sector. The briquettes were made from banmara, a weed harvested by the forest users group from community forests, the removal of which enhanced the viability of the land for other uses. The ability to use the weed for fuel also reduced time needed to collect other fuel materials, leaving more time for other livelihood activities. For example in the domestic market the briquettes were used to maintain the body heat of chickens when raising them, instead of electricity.

Problems were experienced in using the briquettes for cooking, where they burned too slowly for cooking needs in the morning. Additionally, the cooking stove was too high for warming feet. Further feedback about the briquettes included the need for a wider variety of sizes and shapes to suit different cooking needs and greater compaction methods to increase ease of production and longer burning time. For example, a smaller briquette would be better suited to boiling a cup of water, and a larger briquette for cooking large quantities of food.

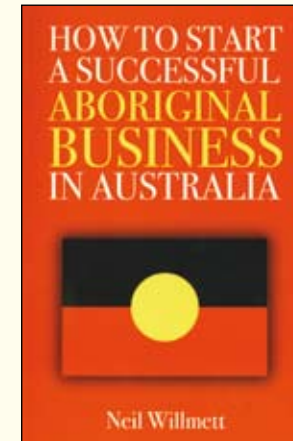
Home-made toilets in Nepalgunj

With few sanitation systems across Nepal, the provision of toilets was the focus of many government and internationally funded programs, with varying degrees of success. In an IDS-Nepal project however, community expertise was harnessed to improve the rate of coverage and to enhance the sustainability of their use.

Two aspects were incorporated into this project:

- the software component, including awareness raising, skill development, community empowerment for improved water and sanitation

How to start a successful Aboriginal Business in Australia by Neil Willmet



As the title implies Neil Willmet's book is to provide a practical guide to establishing an Aboriginal Business. He believes that the importance of Aboriginal business is directly linked to the importance of Aboriginal economic development and

is one way to increase the confidence, wealth, socio-economic status and community empowerment of Aboriginal people.

The book is a concise, plain English guide to the ins and outs of establishing a business, whether that be as a sole trader or a company, in the Australian context. It covers all standard topics relating to business operations such as business plans, feasibility studies, SWOT analyses, financial information, marketing, management and staffing. Where this book differs from other business development resources readily available is the inclusion of a range of other important information, not your standard fare for business texts,

such as good governance, understanding leases, networking, managing business life and looking after yourself.

Whilst the author acknowledges that the key for success for Aboriginal businesses will be largely the same for small business in Australia, he has packaged a suite of information that specifically targets emerging Aboriginal entrepreneurs. From getting to know yourself and how to balance family obligations with business necessities, to clear explanations of accessing and managing finances, the range of resources and supports for small business and Aboriginal business, and how to network with and market across the Aboriginal business and

industry sector.

There are around 3000 Aboriginal businesses currently in existence across Australia. There are also indications the sector is growing strongly and branching beyond the cultural and eco-tourism and arts and crafts sectors and into knowledge based industries such as management consultancy, engineering, and graphic design. The largest numbers of self-employed Aboriginal people are found in the construction industry.

This is a worthwhile resource for any budding business entrepreneur and Aboriginal readers will find the inclusion of Indigenous specific resources of particular value.

How to start a successful Aboriginal Business in Australia by Neil Willmet. Brolga Publishing Pty Ltd Melbourne Australia 2008. www.brolgapublishing.com.au

or Indigenous groups have little. This can mean, for example, incomes, schooling and literacy rates half of national averages for the more disadvantaged groups.

From fire bricks to school fees in Bishankanarayan

The Community Briquette Program, implemented in 2004 in the Bishankanarayan Village Development Committee area, neighbouring Kathmandu, introduced beehive fire briquettes as replacement fuel for wood for cooking and heating fires. The program, through the training of fire briquettes manufacturing and enterprise development, aimed to improve livelihood goals such as:

- employment and income-generation within the community;

- reduced time and hardship for firewood collection, particularly for women;
- improved indoor air quality from utilisation of briquettes; and
- more sustainable use of local natural resource base, especially forest and vegetation cover, by the community.

A focus on energy sources provided an entry point for a livelihoods intervention of the Bishankanarayan community, where the community was using various traditional sources of energy in combination. Firewood, kerosene, gas and electricity were key sources. Kerosene cost approximately 80 cents per litre, which provided sufficient heat to boil 21 litres of water. In contrast, one briquette, at a cost of 16 cents, was able to boil 7 litres of water. The key use for the briquettes proved to be in

- activities to improve health; and
- the hardware component, which consisted of the construction of school, family and public latrines, tubewells and incinerators and water-quality testing.

Two phases of the program showed the benefit of demand-based approaches and community expertise in guaranteeing the sustainability of the infrastructure. The provision of the hardware components in the initial phase of the programme was developed around baseline data and standardized designs in a supply-led approach. A subsequent phase moved towards blanket coverage of tubewells and latrines, directed by demand from the community. The design of these latrines was developed in conjunction with community users, where the first three feet of the latrines were a standardized design. Above this, individual users contributed design suggestions and locally available material. Based on previous programmes, demand was predicted to be 3,000 latrines. In the early stages of project design, demand from the community had already far exceeded this. Whilst monitoring the acceptance and long-term use by the community had not yet been conducted, program implementers already felt that the project, with the

community's emerging technical role and expertise increasing, was gaining wider acceptance.

What can we learn from the Nepali experience?

As we continue to develop expertise in using the sustainable livelihoods approach to build a picture of the Indigenous communities with whom we work, the Nepali application of the framework offers some valuable lessons:

- assets can be developed and strengthened and substituted or traded for enhanced livelihood strategies and outcomes; and
- sustainable livelihoods can be used in one sector for an entry point and then work across sectors for holistic development in supporting the livelihood strategies of a community.

With respect to the development and use of technology to support livelihoods:

- appropriate technology depends on the assets and circumstances of the specific community. A design process, therefore, relies on community participation throughout the process;
- engineering expertise serves only to provide technology to people at a

particular place and time. Engineering in community development is better served by a participatory process which leaves a community empowered to develop its own technology over time to reflect the changing livelihood assets, strategies and goals; and

- monitoring and subsequent feedback from the uptake and effectiveness of technology over time can improve its success, at the technology level and at a livelihoods level. ■

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REFERENCES

Department for International Development (2004). Nepal: Country Assistance Plan 2004–2008. DFID. Kathmandu. Department for International Development. (2007). 'Country Profiles: Asia: Nepal.' Retrieved 9 May, 2008, from <http://www.dfid.gov.uk/countries/asia/nepal.asp>.
DFID Nepal (2005). DFID Nepal Annual Report. Kathmandu, DFID Nepal.
National Planning Commission. (2002). 'The Tenth Plan (Poverty Reduction Strategy Paper). 2002–2007.' Retrieved 6 June, 2004, from http://www.npc.gov.np/tenthplan/the_tenth_plan.htm.

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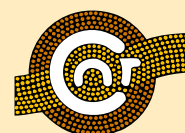
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