

focus

THE MAGAZINE OF AUSTRALIA'S OVERSEAS AID PROGRAM

VOLUME 24 NUMBER 1 » FEB-MAY 2009

Infrastructure
Nation Building



About AusAID

AusAID stands for Australian Agency for International Development. It's charged with managing the Australian Government's overseas aid program.

The aid program

The Australian Government, through AusAID, provides official development assistance to countries mainly in Australia's own region, the Asia Pacific, but increasingly also in Africa. Development assistance is delivered as part of well-planned, long-term sustainable programs across a range of sectors – health, education, infrastructure, gender equality, law and order, rural development and the environment.

At times of emergency, however, AusAID has both the flexibility and expertise to respond swiftly and effectively. The agency has a proud record of delivering humanitarian assistance to vulnerable populations caught in conflict zones or natural disasters, such as cyclones, floods and earthquakes.

Reasons for giving aid

The Australian Government is committed to helping countries achieve the Millennium Development Goals. It believes it is the moral responsibility of all countries as members of the international community to lend a hand to those less fortunate. In many developing countries millions of people survive on less than \$1 a day. The Australian Government believes giving aid to those in need is simply the right thing to do.

Right: Sibange Goret and her baby Weetera, Gizo, Solomon Islands. Healthcare for mothers and babies is a priority for the aid program. Photo: Rob Maccoll

Australia also has an obligation to contribute to the security of its own region. At the same time, it is acting in the national interest. Helping partner governments overcome problems of law and order, for example, is Australia's contribution to regional stability. By working together, the Asia Pacific is better placed to prevent conflict, nurture prosperity and manage transnational threats, such as people trafficking, drug smuggling and communicable diseases.

The way AusAID works

AusAID competitively contracts aid delivery work to Australian and international companies and not for profit organisations. These bodies work in partnership with local people to implement projects and, most importantly, to help transfer skills. This approach maximises the chances of activities continuing long after the contract has expired and the Australians and others have gone home.

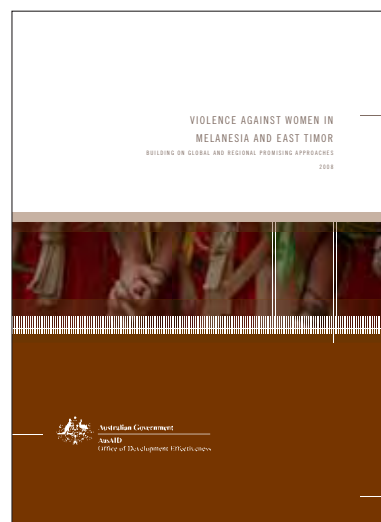
Size of the aid program

In 2008–09 Australia plans to spend \$3.7 billion worth of official development assistance. That equates to 1 per cent of Australian Government expenditure and is about \$3.40 a week – less than the price of a loaf of bread.



The aim of the aid program is to assist developing countries to reduce poverty and achieve sustainable development.

AusAID new releases



Stopping violence

The impact of violence on individuals is devastating but there is also a heavy cost to societies in escalating costs in social services and policing. High rates of violence, combined with a culture of fear, prevent women from taking part in political, social and economic life.

AusAID's evaluation report, *Violence against Women in Melanesia and East Timor: Building on Global and Regional Promising Approaches* provides insight into the situation in neighbouring countries and highlights promising new practices designed to counteract violence and support women.

www.ode.ausaid.gov.au



Disability strategy

Setting out practical approaches *Development for All: Towards a Disability-inclusive Australian Aid Program 2009–2014* is a guide to meeting the needs and priorities of people with a disability. The strategy responds to the reality that people with a disability have been excluded, albeit unintentionally, in development processes and programs.

The document is available in large print, audio and screen reader compatible formats online at www.ausaid.gov.au/keyaid/disability.cfm

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Government aid in focus Australia's overseas aid program is committed to reducing poverty and achieving sustainable development in the Asia Pacific, Africa and the Middle East. It focuses on promoting regional peace, stability and economic development. Countries with whom Australia is working include Papua New Guinea, Fiji, Solomon Islands, Vanuatu, Samoa, Nauru, Tonga, Kiribati, Tuvalu (the Pacific region); Indonesia, East Timor, Vietnam, Philippines, China, Mongolia, Cambodia, Thailand, Lao PDR, Burma (East Asia); Bangladesh, India, Sri Lanka, Nepal, Pakistan, Maldives, Bhutan (South Asia); and Africa and the Middle East.

Australian businesses and people play a major role in delivering the aid program. By investing in development Australia is investing in its future.

COVER: Aceh, Indonesia. On a construction site for a new school in Banda Aceh, a worker pours concrete. Photo: Hes Mundt/OnAsia.com

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Water and sanitation

'In this year's aid budget we announced an investment of \$300 million over three years for sanitation and water, which gives us considerable scope to expand our work in the Asia Pacific.

'While we will continue to work in rural areas, we will focus more on urban centres because of the rapidly rising populations in many towns and cities. We will also look out for creative solutions that involve local people. We know that if local communities are involved and take ownership of a project, it's more likely to be sustainable.'

Bob McMullan, the Parliamentary Secretary for International Development Assistance

LEFT: Bringing attention to sanitation needs. Mr McMullan with representatives from Engineers Without Borders which organised an art exhibition in Brisbane of 100 decorated toilet pans. Photo: AusAID

INBRIEF

Bobbies on bikes

Seven Samoan police officers recently completed training as cycle officers in Sydney under a capacity building project to support a safer Samoa.



ABOVE: Samoa: Choosing environmentally friendly pedal power to get round the streets of Apia.

Photo: Claire Dennis/AusAID



Constructing schools

The Minister for Foreign Affairs, Stephen Smith, with the Indonesian Foreign Minister, Dr Hassan Wirajuda, on a visit to South Sulawesi where they opened an Australian-supported school. It marked the halfway point in the project to build and expand 2,000 junior secondary state and faith-based schools, giving young Indonesians access to better quality education and better prospects for the future (see page 26). Photo: AusAID

Arctic vault

Up near the North Pole, tunnelled into the side of a mountain is the Svalbard Global Seed Vault or 'doomsday vault'. It represents the last line of defence against a looming catastrophe – the world's inability to feed itself. Here, housed in a 'fail safe' facility in freezing temperatures, are hundreds of millions of seeds from around the world. The seed vault is a part of an unprecedented effort to protect the planet's rapidly diminishing biodiversity so essential for food production. Australia is making a major contribution to the international effort to conserve the world's diversity of crop varieties through contributions to the Global Crop Diversity Trust which supports the seed vault and funds the preparation and shipment of seeds from developing countries to the vault.



Photo: Mari Tefre/Global Crop Diversity Trust

Women and finance

'Generally finance, maths, numbers, money, traditionally have not been seen as a female thing. That's all about the culture of power. And one way that you keep women away from the power is that not only do they not own the money, control the money, but they don't understand the money. I feel very strongly about educating women about finance.'

Gillian Tett, anthropologist and finance journalist, one of the few who saw the credit crunch coming



Papua New Guinea. Photo: Rocky Roe



Fishermen's college

The Parliamentary Secretary for Pacific Island Affairs, Duncan Kerr, inspects an engine simulator with engineering instructor Henry Woreck at the Vanuatu Maritime College. Fishermen seeking work on local and foreign fishing boats attend the college to improve their seafaring skills, brush up on modern boat maintenance and learn about international standards in seafood handling. A group of donor countries, including Australia, built the college. 'People need their boats for fishing and general transport,' says Mr Kerr. 'The college will ensure ni-Vanuatu preserve their traditional seafaring skills as well as keep abreast of modern developments in the industry.' AusAID also funds scholarships for students. Photo: AusAID

AusAID STAFF PROFILE

Living book

Faiza El-Higzi was born in the Sudan and thought she'd stay there for the rest of her life. But, after running foul of the Sudanese State Security Service, Faiza migrated to Australia in 1992 with her husband and young child. Everything was fine until September 11 when distrust of Muslims reached a peak. For the first time, she was scared. As Faiza says, 'I don't belong to a religion that's violent. How come someone hijacks my religion and I'm held responsible?' Although that mistrust has settled down, Faiza, an outspoken advocate against discrimination, continues to speak at conferences and seminars on gender equity, interfaith dialogue and community engagement.

To commemorate the 60th anniversary of the United Nations Declaration of Human Rights, Faiza was invited by the Queensland Anti-Discrimination Commission to be a 'living book' at the State library. She joined rugby league legend Steve Renouf and Queensland's first female Deputy Premier Joan Sheldon to share her amazing story of triumph over adversity and to answer questions on what it means to suffer injustice and take a public stand against inequality, human rights abuse and discrimination.

BELOW: In the AusAID office. Faiza El-Higzi (right) manager of AusAID's community engagement and volunteer program with colleague Amie Milligan. Faiza comes to AusAID from the Office of the Queensland Premier and is a prominent Muslim community leader and outspoken advocate against discrimination. Photo: AusAID



INTO AFRICA

Jo Chandler reports on why Australia is rediscovering Africa.

Drums draw a crowd from all corners of the Chimoio market, in central Mozambique, and into a square surrounded by thatch-covered stalls. A group of women, some of them sex workers, follow the beat into the centre of the crowd and begin to dance, the rhythm of their quick feet raising the dust. Having nailed their audience, their work begins.

The 10-minute play they perform is the equivalent of a TV soap opera. There's grief with the death of a husband, romance as the widow and her brother-in-law contemplate a marriage, and a few gags (crude ones, judging by the tenor of the laugh they draw, though the joke defies translation). There's tension as the groom insists his bride have an HIV test, drama when it turns out to be positive.

The doctor character explains what the infection is, how it spreads (debunking local myths of witchcraft along the way), how it might be treated and managed, and how a positive life is possible. It's no fairytale, but the happy couple exit stage left, arms entwined, to loud applause. The children are shooed away as the actors re-emerge to pass out long ribbons of condoms to the crowd, and there is no shortage of demand.

This is Australian aid money at work in Africa. The women are 'activistas' – volunteers with a non-government organisation supported by Melbourne's Burnet Institute and AusAID funds. Later that night, some of the women will conduct an unlikely cruise of a pick-up bar on the outskirts of town, where dozens of trucks have pulled over for the night. They sit down with the men as they drink their beers and talk to them about safe sex. They hand out condoms. They talk to women offering sex, especially the youngest ones, about



their health, about how to protect themselves from infection, and urge them to take HIV tests.

Board a one-hour flight to the coast and the capital of Maputo, and if you fly in as evening falls you will see Australian corporate money at work, processing alumina imported from Western Australia, and lighting up the sky as it sucks up the lion's share of the country's cheap, brown-coal power. This is BHP Billiton's \$2 billion Mozal aluminium smelter – a mega-project at the core of the impoverished country's improving economic profile, and one of the showpieces of an Australian investment and resource boom in sub-Saharan Africa since the turn of the decade.

Actual and prospective investment by Australian resource companies in the continent has climbed to \$US20 billion (\$A29 billion) over that period, according to a recent report published by the Lowy Institute. While the report anticipated that the boom was strongly grounded enough to survive a fractious financial market, and that its greatest

threat would come from instability in fragile nations, the scale of the market meltdown may now put paid to many big projects still on the drawing board. Certainly several major companies have signalled that some planned projects are likely to be delayed or shelved.

Whether the resources boom continues or stalls, supporting Australian corporate activity in the high-stakes, high-risk African environment is one of the factors giving impetus to the Federal Government's push for what the Minister for Foreign Affairs, Stephen Smith, calls a new partnership of 'deeper engagement' with Africa.

So far, that engagement translates to closer government-to-government ties with African nations, as well as pledges of increased aid. The Rudd Government's increase in the Australian aid budget from 0.32 per cent of gross domestic product to 0.5 per cent is expected to push funding to Africa up from \$91 million last year to \$250 million by 2015. Plus there is

an unspecified promise to up Africa's share of the kitty to help realise the objectives of the United Nations' Millennium Development Goals.

Australians have a deep empathy for Africa, says Tim Costello. Of the 400,000 children sponsored by Australians through World Vision, two-thirds are African. 'We often say it's not our region, true. But most of the aid program until very recently was forgiving Iraq's debt, and Africa is much closer than Iraq.'

As for the question of Asia versus Africa: 'I don't think we should set the poor against the poor. There is no question that our engagement in the Asia Pacific is our priority . . . we can do both. It is also true that while the greatest numbers of the world's poor are in our region, it is Africa that is the continent with the greatest misery.'

The man responsible for Australia's aid program, Bob McMullan, laid out the new African blueprint in a speech to the Australia Africa Business Council in August. Despite the vastly changed economic landscape that has

emerged in the intervening months, he says the government remains firmly committed to developing multi-layered new partnerships across the Indian Ocean.

'We will still be predominantly focused on the Asia Pacific, but [on Africa] we have been pathetically small in what we have done, almost embarrassing, and it's time we were back. Not trying to do everything, but doing the things we are good at.'

Programs enlisting Australian expertise on agriculture, water, and resource management are all areas where a significant contribution can be made.

'If you have a commitment to the Millennium Development Goals as we do, then Africa is the region that is most off track. If you do see yourself as a middle power in the world, you can't ignore a continent with 53 countries and great issues. And we are going to engage in an effective, efficient manner doing things we are good at.'

On the question of the motives underwriting this new journey – reaching out to Africans, or shoring up Australian interests – McMullan, like Tim Costello, prefers to view it as a happy conjunction of the interests of both worlds.

Clearly there are elements of both, he says. 'We are pursuing Australia's national interest, and Australia has a national interest in a more stable and more prosperous world.'

'A lot of Australians want to see their government more effectively engaged in the fight against global poverty,' he says, and that is a fight that can be fought on a range of fronts.

An abridged and slightly modified article by Jo Chandler, *The Age*, 20 October 2008. To see the full article 'Into Africa' go to <www.theage.com.au>

ABOVE LEFT: Women activists raising awareness about HIV infection through dance and theatre. Photo: Celeste MacArthur

The truth of what is happening

Late last year Collingwood defender Heritier 'Harry' O'Brien, as a youth ambassador for the Burnet Institute, visited rural Mozambique, one of the poorest nations on the planet.

The idea was that this articulate young footballer could provide a voice to engage other young people on issues far removed from their team's winning prospects – issues such as HIV/AIDS, malaria, maternal and infant mortality, the list goes on.

And so it was that Harry found himself in Mozambique. 'I was fortunate to spend a week in Manica Province to see the development work the Burnet Institute is doing with funding from the Australian Government. It's working with 46 local non-government organisations to build capacity among communities affected by HIV and AIDS,' says Harry who visited health clinics, talked to sex workers and priests, and took encouragement from some of the very good initiatives happening on the ground.

Everywhere the situation is tough. No question. There are so many orphans. 'Nearly all the people I spoke to were directly or indirectly affected by the HIV/AIDS epidemic.'

But there were also some bright spots.

A visit to a commune of substitute mothers and family, for example, brought smiles. There were more orphans but these were happy, well-fed, clean and loved, breaking into songs that raise the roof of the cement church that lies at the heart of their small community. Pastor Joseph Madeira and his wife have been caring for children here for 15 years, assisted by volunteers, local women who live in as 'mothers' and several of the now grown up members of their extended family.

Holding the hand of three-year-old John, Harry is taken on a tour of the busy enterprise that supports the 55 orphans, the diaspora of HIV. A few hectares of crops, three sewing machines, a donated phone that they rent to the neighbourhood by the minute all bring in income. There's also some international support, including from the Burnet Institute which provides training to help them secure and expand their operations.



But not every encounter with children is as happy. At the end of one of the day's program tours there is a visit to a crumbling mud hut where two small boys live alone after the deaths, from AIDS, of both their parents. They are fed by families living nearby. The brothers are just five and eight, their bodies filthy and frail, their skin broken and sore, their clothes in tatters.

Harry was warned that he might be overwhelmed by culture shock. 'But I have seen extreme poverty before. My eyes have always been open to these things. To me the biggest culture shock is home in Australia ... the lack of awareness of the truth of what is happening in the world,' he says.

The Australian Government, through AusAID, supports the work of the Burnet Institute, one of the leading medical research and public health institutes in Australia. Based in Melbourne the institute also has health professionals helping development in countries across Asia, the Pacific and Africa. <www.burnet.edu.au>

TOP: 'Severely malnourished children living in conditions unfit for any human being seemed to be the norm as we moved from location to location,' says Harry who was deeply affected by the plight of so many orphans, particularly these brothers who have been fending for themselves since their parents died from AIDS. Families living nearby give them food. Photo: Celeste MacArthur



ABOVE: Harry O'Brien spent his time in Mozambique visiting orphanages and teaching children the basics of football. For a long time he has wanted to do something to help tackle the kind of poverty he first saw in Brazil and again in Soweto on the Magpies tour to South Africa. Photo: Celeste MacArthur



INFRASTRUCTURE

MAKING THE WHEELS GO ROUND

Infrastructure connects goods to markets, workers to jobs, people to services, and the poor in rural areas to urban centres. Infrastructure lowers costs, enlarges markets and facilitates trade.

Vietnam. Crossing the bridge. Apart from wanting to help open up economic possibilities, AusAID became involved in the My Thuan Bridge project because it saw the opportunity to transfer Australian skills in modern bridge technology to the Vietnamese – a high priority in terms of development assistance and setting the course for future infrastructure projects. Photo: Joe Garrison

There are a number of ways to improve living standards in the developing world but almost all start with basic infrastructure.

Why is this?

‘If you take the human body analogy,’ explains Alan Coulthart, AusAID’s infrastructure adviser, ‘the underlying structure of the skeleton is infrastructure. Without it there’s nothing to support the body’s vital organs. Likewise, the muscles and tissue built around the skeleton can’t function without the complex network of veins and arteries delivering blood and nutrients.’

Put another way, infrastructure provides people with the services they need to live healthy and productive lives. ‘When we talk about poverty, what we often mean is the absence of the most basic infrastructure services,’ says Coulthart.

In the developed world infrastructure is an intrinsic part of daily life. ‘Most people tend not to think about it but it’s a defining feature,’ says Marcus Howard, AusAID’s water and sanitation adviser. ‘Every aspect of the way we live depends on our extensive and highly interwoven systems. It’s what connects us.’

Equally, it’s the fundamental lack of connecting systems in the developing world that holds it back.

In the Pacific infrastructure is notoriously weak but governments also face some serious challenges. For example, the region is fragmented with small culturally diverse populations spread across many islands. It’s geographically remote, susceptible to natural disasters and much of its terrain is either difficult to reach or environmentally fragile. And underpinning all this is the basic

fact that individual governments simply don’t have sufficient resources to meet needs. Because of scale, going it alone is not a viable option for any of the Pacific island nations but working together as a region – while full of potential – is also easier said than done. ‘The Pacific is still a little way off but there are moves to share telecommunications regulation services among Pacific island nations,’ says AusAID’s Adam Blundell.

South East Asia has a different set of challenges. Here the rapid pace of economic growth in many countries is constrained by inadequate infrastructure. Poor roads and railways increase the cost of getting goods to markets, and long delays and inefficiencies at air and seaports reduce competitiveness. Industries also find it both an annoyance and a drag on production that they are



Building in a different climate

Many infrastructure investments – bridges, railways, roads and ports – are long-lived assets. This means they're meant to be around for generations. As the consequences of climate change become increasingly evident, decision makers must factor these considerations into infrastructure programs. 'We will need to plan new infrastructure and upgrade existing structures to withstand future climate conditions such as extreme weather events, which are likely to increase in frequency due to climate change,' says Brian Dawson, AusAID's climate change and energy adviser. Investment in new types of infrastructure may also be necessary. For example, changes in the annual and seasonal availability of water may require new water storage and transmission infrastructure, such as pipelines, dams, irrigation facilities and flood management structures. 'Adapting to the impacts of climate change represents a major challenge to developing countries,' says Dawson, 'and an important focus for Australia's development assistance.'

What is infrastructure?

Infrastructure is the physical structures that people need to get on with their daily lives – the roads, bridges, hospitals, airports, power stations and so on. Equally, infrastructure is the systems that keep the hospitals and airports running, maintains the roads, and connects electricity to homes and buildings. Without adequate infrastructure, societies and nations underperform.

How does infrastructure help the poor?

The presence of infrastructure affects poverty in two ways. 'Firstly, it underpins the processes of development which help to reduce poverty and, secondly, it helps the poor access basic services which they need to improve their lives,' says Ryan Medrana from AusAID's infrastructure team.

In the view of most commentators transport, telecommunications and energy rank as the most important infrastructure for stimulating economic growth and reducing poverty. Among the very poor, however, maintaining rural roads, supplying clean water and providing functioning sanitation facilities are the first priorities.



When we talk about poverty, what we often mean is the absence of the most basic infrastructure services.

ABOVE: Nepal: Saraswati Vaidya changes the particle filter of an air pollution monitoring device in a heavily polluted area of Kathmandu. Photo: Mikkel Ostergaard/Panos Pictures

ABOVE RIGHT: Indonesia: The long hot walk to fetch water. Lack of infrastructure causes hardship and denies people opportunities in life. Photo: AusAID
FAR RIGHT: Vietnam: Electricity in all directions. The aid program is improving access to electricity, particularly in rural areas. Photo: Kathie Griffiths

obliged to install standby generators to cope with inevitable power cuts, which further add to costs.

Another problem is age. Within urban centres such as Ho Chi Minh City there is a lot of infrastructure but it is old and under strain from an expanding and increasingly mobile population. Rapid modernisation and displays of extreme wealth in many of Asia's major cities sit incongruously alongside evidence of appalling poverty and decay. High rates of economic growth have in many cases accentuated inequalities within countries, particularly between the cities and the countryside. AusAID's support of partner government

expenditure on infrastructure in rural regions plans to redress this imbalance.

There's much to do everywhere but the challenge is particularly stark in the Asia-Pacific region where around 50 per cent of the world's population growth to 2050 is likely to occur. Yet on present statistics, about 1.6 billion people in East Asia and the Pacific still lack access to energy, 1.1 billion people do not have access to safe water, and 2.2 billion are in desperate need of improved sanitation facilities.

The time for action is now.

Poor infrastructure is perhaps the most binding constraint to reducing poverty or improving standards of living throughout the developing world.



Where and what's needed

Australia's aid program recognises that investment in infrastructure is effective development assistance. 'It's not just a philosophical belief – we also have an impressive record of achievement,' says Coulthart. There are many examples but probably the most notable engineering project is the construction of the My Thuan Bridge which, since it opened in 2000, has catalysed economic development in the Mekong Delta (see the *My Thuan Bridge Story* page 22).

The aid program knows infrastructure is particularly needed in remote rural areas but increasingly also in cities and towns where slums are spreading as a result of the rapid pace of urbanisation. 'People leave their villages and come to the cities in search of work and a better life. This puts pressure on existing infrastructure which is limited and quite frail,' says Peter Kelly, AusAID's roads adviser. 'It's here we need to help provide much better basic services, such as access to reliable electricity, clean running water and sanitation.'

The poor are also crying out for better transport – those in rural areas need to reach regional markets and the urban poor need to get to their workplaces across the city. 'Nearly every bus or train you see across South East Asia is old and filled to capacity and the volume of private transport – cars and motorbikes – has ballooned over the past 10 years,' says Kelly. Increasing traffic congestion is a serious challenge to economic efficiency in many cities in Indonesia, Philippines, China and Vietnam. High pollution levels are also having a serious impact on people's respiratory health while road safety is another major issue – vehicle accidents are the number one cause of deaths for people aged between 10 and 24 in developing countries (see *Driving Safely* page 14).

Australian support for better designed, safer roads and the systems that are needed to maintain them have transformed the lives of thousands in countries such as Papua New Guinea and Solomon Islands (see *Mending Roads and Making Peace* page 14).



Australian assistance

The Australian Government spent \$265 million in the 2007–08 financial year on infrastructure through bilateral programs with developing countries.

In addition, the 'Infrastructure for Growth Initiative' commits \$500 million up to 2011 to support:

- > road rehabilitation and maintenance
- > aviation and maritime transport
- > rural electrification
- > water supply and sanitation.

Helping to build expertise and capacity to ensure sustainability is also a vitally important part of the package. 'Infrastructure efforts rely

Although less than two years old, AusAID's Infrastructure for Growth Initiative is already producing tangible results. For example, the Transport Sector Support Program in Papua New Guinea is helping to reduce poverty in many rural areas by resurfacing the roads. Villagers can now reach markets and places of employment in good time and with relative ease. Business opportunities are also becoming more viable. For example, agricultural diversification becomes a possibility when the logistics of transporting products is reliable and less expensive. Poor villagers for example have started to grow high value spice crops. On a larger scale, coffee merchants in the Highland Provinces are enjoying international commercial success since they have been able to enter the highly profitable organic coffee market – only possible because of the improved road and port facilities.

Australia's aid program will continue to work in partnership with developing countries to achieve infrastructure benefits. 'Many of our partner countries value Australia, particularly AusAID, as a source of advice,' says AusAID's Ryan Medrana. 'Our assistance is flexible and responsive, and we can offer excellent links to other organisations.'

ABOVE: Sri Lanka. A ship is loaded with containers ready for export. Well-maintained and efficiently-run airports and seaports are vital for economic growth and regional prosperity. Photo: Mark Henley/Panos Pictures

One of the aid program's primary goals is to help partner countries reduce poverty and achieve sustainable development by funding infrastructure and establishing the necessary policies and institutional capacities to sustain it.

on good governance. We're looking to train up many more people so that they can plan and manage developments, understand the need for proper regulation and are attuned to policy implications,' says AusAID's Keith Joyce. 'Without good governance, infrastructure projects are unlikely to be sustained.'

Inclusive development

Infrastructure fosters 'inclusive development' which is about improving the incomes and lives of all members of society, particularly the poor. It depends on generating economic growth, sharing its benefits with the poor, and enhancing their access to basic services.

Access to basic infrastructure services has a profound effect on people's quality of life. The presence of energy and telecommunication services, for example, encourages teachers and health workers to take up positions in remote rural areas. Better water and sanitation facilities have a direct impact on improving health.

Roads and bridges that connect people and their products to ports and markets are the lifelines of nations and communities. Businesses spring up and expand because groups of like-minded people are able to connect with each other and create opportunities.

When there are serviceable roads, crops and manufactured goods can be delivered to their prescribed destinations at lower costs, in shorter times, and with less chance of loss or spoilage. This is particularly

important for perishable goods. 'By helping people, especially the poor, to reduce their freight charges and get to markets with greater efficiency, we're helping to reduce poverty,' says Medrana. 'It's the lack of mobility that stifles development.'

Likewise, by supplying electricity to homes, providing reliable water supplies, and sharing advances in information technology, living standards are lifted, which improves health. This in turn leads to communities becoming more productive. Women and girls, who have primary responsibility for domestic chores, have the most to gain. 'When people have access to basic necessities, they are able to do more things that improve the quality of their lives and the communities around them,' says Sarah Boyd from AusAID's Gender Unit. 'Think of what might be achieved if each day you didn't have to spend hours collecting firewood for cooking because your family now has electricity in the home, or you didn't have to walk great distances to collect water because you have piped water, or there is a well nearby.'

With mobile phone networks, farmers and local entrepreneurs are already proving that they can be competitive. In Vanuatu, for example, mobile phones have revolutionised small businesses (see *Cheaper Faster*



What's Australia doing in the Asia Pacific

Australia is working hard across the region to improve living standards of the poor and vulnerable through an infrastructure program that is both socially inclusive and sustainable:

> **Indonesia:** Under the Australia Indonesia Partnership for Reconstruction and Development (AIPRD) there's a number of initiatives including the rehabilitation of main roads in eastern Indonesia, the reconstruction of facilities in Aceh destroyed by the 2004 Indian Ocean tsunami, and support for community managed rural water supply and

sanitation. The Australia Indonesia Basic Education Program is building or expanding 2,000 junior secondary schools across 21 provinces, and the Indonesia Infrastructure Initiative, which allows for quick responses to high priority government requests for advice, includes funding to pilot innovative infrastructure activities.

> **Philippines:** The Southern Philippines Road Maintenance Program is the main infrastructure activity (see *Maintaining Vital Assets* page 16).
> **Papua New Guinea:** Australia is bolstering government institutions

at both the central and provincial level. The main assistance program is focusing on the rehabilitation and maintenance of a core network of main roads. Given the limited capacity of agencies within Papua New Guinea's transport sector, and the degraded state of transport infrastructure, AusAID will continue to lend support in this area for the foreseeable future.

> **Vietnam, Cambodia and Laos:** In collaboration with the Asian Development Bank and World Bank, Australia is helping to upgrade regional and local transport links,

extend rural electrification and strengthen the capacity of local authorities to plan, deliver and manage infrastructure.

> **East Timor:** The aid program is helping to strengthen technical and managerial capacity in East Timor so the country can implement ambitious infrastructure projects funded from natural resource revenues. Creating jobs to absorb high numbers of unemployed youths is an equally important aspect. Australia is delivering its assistance in collaboration with the Asian Development Bank.



Good economic infrastructure is a fundamental requirement for achieving virtually all of the Millennium Development Goals.

Talk page 12). Future improvements in internet connections will lead to even greater advancements.

Given the enormous economic and social benefits of infrastructure there's a strong case to be made for government intervention – both to invest in capital works and to improve the environment for private investment. Donor country support for infrastructure can also play a key role in re-establishing the role of the state in post-conflict situations. Australia's support of road rehabilitation and maintenance in Bougainville over the past nearly nine years is evidence of

this (see *Laying Down the Road*, page 13). In East Timor, a similar labour-based infrastructure scheme is about to start to provide productive outlets for the large numbers of disaffected youths searching for jobs.

ABOVE: Philippines: Squatter shanties set amid the backdrop of skyscrapers of the Makati financial district show the marked inequalities between the rich and the poor. Photo: Jay Directo/Panos Pictures
LEFT: India: Overcrowded trains and buses are a familiar sight across Asia. Photo: Prakash Singh/AFP

Youth employment



In East Timor employment opportunities are few and far between.

So when Joel Paulini, who is in his early 20s, heard about a labour-intensive works program, he registered immediately. Within a week, more than 20 of his friends had also signed up. The main job is fixing and clearing canals and road-side drains before the wet season begins. It's necessary to get this done to prevent flooding and to reduce breeding sites for mosquitoes, which can carry malaria and dengue fever. The pay is not great but it's excellent work experience and much better than hanging around all day.

'This initiative is very good for us young people to earn some money, even if it is little,' says Joel, adding that many who used to be involved in gang fighting are now changing their habits.

Jaime da Silva Soares, who is involved in supervising the project, sees the program as important in terms of maintaining stability. 'The youths of my village have calmed down. The opportunity to earn some money, even though short, has changed their mind to work seriously.'

Over 8,000 young people across the country are currently working on minor infrastructure projects under the Youth Employment Promotion Program. Jobs range from fixing rural roads, building drainage canals along hillside roads to prevent them washing away,

Approximately half of the youth in Dili are unemployed.

About 80 per cent of East Timor's population are subsistence farmers.

Almost half of the East Timorese population live below the poverty line.

and clearing roadsides. Fifteen trained local engineers are also on hand to help with design and work supervision which ensures quality.

Since its launch in May 2008, the Youth Employment Promotion Program has provided temporary jobs for thousands of young people from seven districts. The program is also helping the Government of East Timor to develop policies to improve youth employment.

The program is jointly funded by AusAID and the Government of East Timor and managed by the United Nations International Labor Organization.

ABOVE: Happy to be working. Young East Timorese men help to build a dry stone wall. Photo: AusAID

Cheaper faster talk

VANUATU: Entry of a new mobile phone provider in the market is sparking healthy competition and a communications revolution.

High prices and limited mobile network coverage have long been the source of widespread public dissatisfaction. Even before the country's independence in 1980, Telecom Vanuatu Ltd had a stranglehold on all telecommunications. 'This would be fine if we were getting a good service,' says a local taxi driver, 'but we weren't and it didn't matter how many times we complained, nothing changed.'

In 2007 the Government of Vanuatu decided to act.

With AusAID assistance to hire legal and technical advisers, the Government of Vanuatu sought and won a negotiated settlement to break the monopoly and open up the market. A lengthy, costly and debilitating legal dispute was skilfully avoided.

In June 2008, Digicel (Vanuatu) Ltd launched its new service as the country's second mobile telephone provider. By December 2009 its network is expected to reach at least 85 per cent of Vanuatu's population. 'This will be the first time that many rural areas have received reliable telephone communications and become properly connected to the rest of the country,' says the former Minister of Infrastructure and current Prime Minister, Edward Natapei, 'The social and economic benefits will be tremendous.'

Already competition is dramatically changing the telecommunication landscape as Digicel and Telecom Vanuatu Ltd battle it out to secure market position. For the consumer the benefits keep on coming, including:

- > reducing SIM card prices from an exorbitant \$60 to zero
- > lowering prices on entry level handsets from \$100 to \$25
- > cutting international call rates in half

- > shifting mobile rates to per second billing to give savings on average calls
- > allowing operators to roll out an array of special deals which provide major discounts on advertised prices
- > lowering broadband internet prices from \$200 to \$60 per month.

The rising trend of mobile phone use in the countryside also indicates that the 'digital divide' between rural and urban areas is reducing. There are advantages all round. 'Mobile phones are fast becoming the preferred mode of communication, allowing people easier access to information for personal as well as business purposes,' says Dr Bimbika Sijapati-Basnett, the lead researcher from the Pacific Institute of Public Policy. 'The wider mobile network has allowed people to grow social and economic networks, make their lives simpler and their daily tasks less time consuming.'

Mary, from the women's church group in Middle Bush, Tanna, is one of thousands who love the changes. She has a son who goes to boarding school on another island and frets about his wellbeing. She wonders if parcels she



sends through inter-island shipping ever reach him. Now she can simply pick up her mobile phone and ask him. Staying in touch with relatives in Noumea and Port Vila also helps Mary to feel closer to her extended family.

On the business front the mobile is probably even more important. According to Dr Sijapati-Basnett, 'Both rural and urban users view

telecommunications as critical for economic activity and would find it difficult to continue if they no longer had access to mobile telephony.'

Leah bears this out. She travels from North Efate to Port Vila market every Saturday to sell vegetables and her specialty, peanuts. There is a limited supply in Efate which makes peanuts a profitable commodity, particularly as

Leah has almost cornered the market. Over several years – mainly by working the phone – she has secured a steady supply from her home island of Epi.

Whereas once she would rely on the landline phone now Leah uses her mobile when she wants to order extra supplies or negotiate a new deal through her manager who lives on Epi. The new widespread network coverage has helped Leah lift her operation in other ways too. For instance, she no longer wastes time hanging around Port Vila wharf waiting for her boat to arrive – she simply phones the boat's captain to check the ETA!

How things have changed since the days when Leah would call a public phone on Epi and hope like mad that her message – 'send more peanuts, please' – reached her manager in time.

The Governance for Growth Program is a joint initiative of the Vanuatu and Australian governments which is tackling obstacles to economic growth and service delivery. The program aims to ensure that the benefits of economic reform are broad-based and benefit the 75 per cent of the population that live in rural areas.

Last year the Governance for Growth Program helped Vanuatu to introduce competition to the telecommunications sector, ending a monopoly held by Telecom Vanuatu Ltd for about 30 years.

AusAID has committed \$6 million to the reform of the telecommunications sector. The funds will cover the costs of a new independent telecommunications regulator to ensure the market remains transparent and competitive. They will also be used to spread telecommunication services to remote areas which fall outside commercial scopes of interests.

The Governance for Growth Program, in collaboration with the Government of Vanuatu's Ministry of Infrastructure and Public Utilities, commissioned a study by the Pacific Institute of Public Policy to assess the social and economic impacts of telecommunications in rural and urban Vanuatu.

ABOVE LEFT: Monique Edger of North Efate takes up her usual position in Port Vila market. Like other vendors who travel in each week to sell vegetables Monique is enjoying the convenience and ease of a good mobile phone service. Photo: AusAID
LEFT: The better mobile phone coverage is bringing in more business for taxi drivers. Photo: AusAID

BOUGAINVILLE: In 1999 after a decade of serious conflict between 1989 and 1997, Australia began an ambitious program to rehabilitate and maintain hundreds of kilometres of road, from Buin in the south to Kokopau in the north and the road around Buka Island. With peace came the chance to repair destroyed infrastructure and assist in rebuilding Bougainville's social and economic base.

Since reopening the roads mobility has been re-established – people can once more move freely from one place to another. Journey times between townships have been cut in half. After years of extreme hardship, subsistence farmers can again take their agricultural produce to markets. 'And, most essentially,' says Peter Kelly, AusAID's roads adviser, 'the restoration of the roads has unblocked critical inflows of health and education services, law and justice, and the movement of government officials – in other words, all those tremendously important aspects of civil society and governance that bolster communities and help them to function.'

Over the duration of the roads project, 200 permanent jobs have been created in the local construction industry and more than 10,000 minor roadwork contracts negotiated with community and landowner groups. Well over \$7 million has been injected into a cash hungry rural economy – enough to kick-start local businesses, particularly in the north where the agricultural sector is stronger. Cocoa production is back to pre-crisis levels.

'Another positive outcome, besides improving mobility, was the deliberate creation of jobs for the rural poor,' says Kelly. 'Before the roads project there were very few employment opportunities and consequently limited means for people to earn a living or to get some money to start up anything. A small but vital local construction industry has been established.'

Many challenges remain for the island of Bougainville but laying down the road has at least made getting products to market and accessing services just that little bit easier.

The program of roadwork funded by AusAID over the past nine years has rehabilitated or maintained 636 kilometres of Bougainville's main coastal trunk road. The roads project has also demonstrated the value of including local communities in decision making and road repair as a peace building measure.

Laying down the road



Background to Bougainville

The Autonomous Region of Bougainville has a population nearing 200,000 and lies approximately 1,000 kilometres east of mainland Papua New Guinea. It is rich in minerals, especially copper and gold. In the 1970s, Bougainville Copper Ltd, a subsidiary of the multinational Rio Tinto, developed an open cut mine. Disputes over financial benefits, and the environmental and social changes brought by the mine, escalated into civil conflict that lasted from the mid 1980s to 1997. A peace agreement finalised in 2000 saw the establishment of an Autonomous Bougainville Government.

The Australian Government, through AusAID, recognised early that rebuilding infrastructure destroyed in the conflict or made defunct through long years of neglect was the way to restore the region's socio-economic fabric. Re-establishing Bougainville's main coastal trunk road and other major routes was a priority. At the same time, Australia saw that offering

people the chance to work, gain skills and earn money was fundamental to a successful rebuilding program and an enduring peace. As a result of almost a decade of warfare the Bougainvillean community economy had all but collapsed leaving the population traumatised and suspicious of any new activity. 'AusAID managed the program in such a way as to maximise local input,' says Peter Kelly, AusAID's roads adviser. 'We were sensitive to residual rivalries between clan groups so our system of contracting through simple community agreements suited the purpose well. The process was seen to be open, inclusive and fair.'

Today Australia maintains the road in the Panguna area where the copper mine is located. Communities here are also reaping the benefits of having a trafficable road.

ABOVE: Doing the honours. AusAID's Keith Joyce with the Acting President John Tabinaman at the opening of the Buka sealed section. Photo: Charlie Vee/AusAID

Mending roads and making peace



SOLOMON ISLANDS: In Malaita Province everyone's interested in repair.

The breakdown of law and order in early 2000 took a heavy toll. Communities scattered along the coast and in mountain areas closed in, becoming isolated and defensive. During the worst of the fighting, roads were cut and bridges sabotaged.

'Once calm was restored in the province it was clear the ex-militants wanted to go back to their communities but re-integration after a period of violence isn't easy,' explains Martin Wale, AusAID's project engineer. 'Offering the men the chance to work on rebuilding the roads and bridges was a way of bringing them back. There's also a lot of dignity in coming together as a community to accomplish a goal for the common good. And of course it was an opportunity for them to earn wages.'

The roads project has continued to involve communities. Some stretches of repair and maintenance have required former foes from neighbouring villages to work together. When a skirmish breaks out, someone from the project team quickly steps in. Solutions are invariably found.

Disputes are usually around land use and ownership. Wale is mindful of this and takes every precaution to respect local customs and values. 'To minimise the risk of causing hurts or unintentional slights we make sure we talk to community representatives before we begin work on any new piece of road,' says Wale. 'It's most important we obtain agreement. And once we have and everyone is happy about what's to happen, the

villagers turn out to help. They even bring resources, such as gravel for resurfacing and logs for bridges.'

Many women are also coming forward. Brenda Daimali, a road gang leader on the North Road, says young women find it hard work but they like the camaraderie – and, of course, the money.

The opportunity to earn wages is a big drawcard. The piecework suits lifestyles and brings a welcome injection of funds into local economies. 'Many people use their earnings for school fees,' says Airafu Village representative Martin Mau. 'But people are also finding they have a bit of extra, which lifts morale.'

Chief's son Paul Gwataba from Gwataba Village says the roads project has touched communities at the grassroots level and is making a tremendous difference. 'People are also pleased that they can see development in their own village, and not just in the capital cities.'

Since its beginning, in 2005, AusAID's Community Sector Program's Roads Project, has been reconnecting the people of Malaita Province through fixing roads and bridges. 'When we began the proposal was to open and refurbish a 25-kilometre stretch of road,' says Wale. 'It has since spread to include 20 communities encompassing 200 kilometres.'

ABOVE: With more people with spending power thanks to road gang wages, economic activity is picking up and giving rise to bigger ambitions. Nadeifu Village, for example, is setting about building a small clinic and funding a member of the community to train as a nurse. Bobolo Village has purchased a breeding sow and started a local piggery. Photo: AusAID

Driving safely

The sharp increase in the number of vehicles on the roads – especially motorbikes – is causing an alarming spike in road accidents across the developing world.

Every year road crashes in developing countries cause families immeasurable hardship and misery. The cost to society in terms of hospital care and loss of production is around \$100 billion, a figure equivalent to all overseas aid.

Of the world's 1.2 million road fatalities per year, 90 per cent occur in low and middle income countries. This figure is set to double by the year 2030 unless something is done. Many of the tens of millions who are injured in road crashes live compromised and diminished lives. The most unfortunate – those without means and family support – fall into poverty.

In the developing world road crashes are the leading cause of death for 10 to 24 year olds. The World Bank's road safety specialist, Tony Bliss, predicts that by 2015 (the target year of the Millennium Development Goals) road crashes will be the biggest cause of death and disability for children aged five and above.

The World Health Organization warns that by 2020, road crashes will be the third leading cause of premature death for citizens of all ages.

A hard case

Vietnam has one of the highest motorbike ownership rates in the world as well as some of the most dangerous riding behaviours.

Road crashes are the most common cause of death in Vietnam for people between 18 and 45 years. The National Traffic Safety Committee has revealed a figure of 33 deaths per day in 2006, which is equivalent to 12,000 fatalities per year. In 2007, it was 13,000 and today the figure is no doubt higher as the number of registered vehicles on the road continues to increase.



Brain injury is the main worry for anyone involved in a motorbike accident but the risk is substantially reduced, and sometimes avoided altogether, by simply wearing a helmet.

According to research conducted in 2006 at the Viet Duc Hospital, Hanoi, a considerable number of brain injury cases (around 15 per day) were the direct result of victims not wearing protective headgear, even in low-velocity traffic accidents.

For accident survivors the outlook can be daunting. Of course, some



example, it joined with other donors a 12-month national helmet wearing awareness campaign, which because of its success has since spread to Thailand, Laos and Cambodia.

AusAID is also a partner in the World Bank's Global Road Safety Facility Program. 'As part of our contribution we're funding a pilot in Vietnam to train officials in road safety and to identify affordable engineering projects which will improve the condition of roads,' says Kerry Groves, AusAID's Counsellor in Vietnam.

With the wave of international support, the Government of Vietnam has moved decisively to make helmet wearing compulsory. These days more motorbike riders are wearing helmets and the death toll from traumatic brain injury is beginning to drop. Another bonus – many new jobs are being created in the helmet making and merchandising industries, bringing development benefits to many communities.

Outcomes that make everyone happy.

'The social and economic impact of so many avoidable injuries and fatalities continues to place a development "brake" that is out of step with Vietnam's progressive agenda on many other fronts.'

Australia's Ambassador to Vietnam, Bill Tweddell, at the launch of the national helmet wearing campaign that ran between 2007 and 2008.

When you're putting in a new road infrastructure, you have to make road safety a part of it.

The Parliamentary Secretary for International Development Assistance, Bob McMullan

The recently released strategy, *Development for All: Towards a Disability-inclusive Australian Aid Program 2009–2014*, discusses the enormous social and economic cost of road trauma, and outlines ways to bring down the toll.

In addition, AusAID is contributing substantial funds to the International Road Assessment Program which is assessing 3,000 kilometres of Vietnam's high-risk roads – including the busy National Highway One connecting Hanoi in the north with Can Tho in the south. The prime task is to find effective ways to protect vulnerable motorcyclists and bicyclists.

In developed nations, road trauma levels have declined showing that targeted investment in improving the safety of road infrastructure and changing the behaviour of road users can produce great benefits.

For more information on AusAID's contribution to road safety see <www.asiainjury.org> and <www.worldbank.org/grsf>

patients make good recoveries but without exception, brain injuries require dedicated high-end medical care and long-term hospitalisation. And this is expensive.

Funds and resources that could otherwise be used for more common general medicine applications are quickly drained away. For example, when intensive care beds are occupied it's more likely elective – or non life threatening – procedures stop.

But it's not just the cost and burden to hospital systems that must

be taken into account. Society in general suffers, and most specifically, the families of victims – socially, emotionally and economically. 'Accident victims are often unable to continue their employment and require ongoing family care,' says AusAID's Peter Kelly. 'It's especially tough when the victim is the main breadwinner.'

The international community, including Australia through AusAID, is helping Vietnam educate its citizens about road safety. Last year, for

LEFT: Dong Thap Province. Traffic near Cao Lanh ferry and bridge site. Motorbike riders are getting the message about road safety in large part due to a national campaign funded by AusAID. 'Wear a helmet – no excuses' was one of the slogans. Photo: AusAID

ABOVE: Hanoi. Children have no problems about wearing helmets. The 'three Es' of road safety are education, enforcement and engineering. Photo: AusAID

Maintaining vital assets



Bad roads hamper development.

PHILIPPINES: The worst roads are found in the southern part of the country where the poorest provinces are located.

Because of ineffective or deferred maintenance, too many of the roads in the southern part of the country are unpaved, muddy and unfit for transport. 'As everyone knows who's been here a little while,' says Titon Mitra, head of AusAID in Manila, 'poorly maintained roads quickly become non-roads in heavy rainfall.'

People have little choice but to get about on foot, often taking hours to reach their destinations. Come the rainy season the roads are virtually impassable. Children can't get to school and farmers lose income because they can't get their produce to market.

Most road maintenance tasks are a local government responsibility but provincial governments are underfunded by as much as \$158 million annually.

A shortage of funds explains why provincial engineering offices just carry out spot repairs. In Misamis Occidental Province, for instance, only 40 kilometres out of a possible 316 kilometres are 'maintained' in any one year. This means that on average a road is given a quick fix up once every eight years.

Usually deterioration, particularly of the core network, occurs because of poor planning and the low priority accorded to roads by government – a

surprising but very common problem in developing countries, and certainly the case in the Philippines.

Australia is supporting a new program that is attempting to break the cycle of neglect and create a model that will lead to a change of attitude to asset preservation.

At the second Philippines–Australia Ministerial Meeting held in October 2008, the Minister for Foreign Affairs, Stephen Smith, announced that Australia will provide \$100 million over five years to help rehabilitate and maintain more than 1,000 kilometres of roads in southern Philippines.

Poorly maintained roads quickly become non-roads in heavy rainfall.

By 2014, the new program will give around four million people not only a better road network, but the chance to engage in economic activity and to access essential services. The program will also factor in maintenance so the network can be sustained.

Commentators worry how this will be achieved but an incentives program which encourages provincial governments to pursue reforms may be the answer. For example, the program will offer a matching grant – peso for peso up to a predetermined cap – to provinces that increase their own-sourced tax revenue generation.

'Encouraging own-revenue generation is what's needed to ensure the program's long-term sustainability,' says Mitra. 'Provincial governments have to learn how to raise sufficient funds to cover not only their road maintenance obligations but also to deliver essential social services. We will help them through the aid program.'

Through the newly designed Philippines Provincial Road Management Facility, Australia will assist the Government of the Philippines to manage and maintain a core network of provincial roads in Mindanao and the Visayas. AusAID will work with provincial governments to implement reforms to manage road maintenance services sustainably.

Under the Performance Incentives Program which is a matching grant scheme, additional funds will go to each province's development fund. Aside from physical road rehabilitation and maintenance works, these funds may be used for other needs, such as in health and education.

ABOVE: A prime example of an impassable 'non-road'. Photo: AusAID



Healthy communities need clean water and adequate drainage systems.



Three delta towns



VIETNAM: In three towns in the Mekong Delta Australian engineers are helping to improve living standards for thousands of people by extending water supply systems and building sanitation infrastructure.

A massive water and sanitation project is taking place in three separate towns in the Mekong Delta.

Existing systems in the town of Bac Lieu, capital of Bac Lieu Province, were in a poor state – ‘totally inadequate’, says Robin Povey, from the Australian company GHD, the managing contracting firm. Before the project began, only a third of the town had piped water – and that was of low pressure and unreliable.

The second town of Ha Tien in the Mekong Delta’s westernmost province of Kien Giang had a severe lack of water while the third – the historic town of Sa Dec in Dong Thap Province – had neither a reliable water supply nor toilets.

During the wet season, flooding occurs across the Mekong because drainage systems are poor. This brings with it a range of health problems caused by dirty water. And because people are either stranded or unable to reach their homes, personal safety is another issue.

The project’s main purpose is to provide engineering infrastructure, but its community focus has also been strong. Australian engineers work alongside Vietnamese counterparts

to build capacity in local institutions. This is so the townships will be left well prepared to maintain and manage the systems in the long term.

Each town has a water treatment plant, new or rehabilitated reservoirs and a network of new pipelines. Drainage problems have been addressed by upgrading existing canals and building flushing ponds. Toilets have been installed in public places, including schools and markets.

The Three Delta Towns project has also established a solid waste disposal system with compressor trucks collecting garbage from purpose-built bins. Since the introduction of the new system there has been a marked reduction in rubbish being dumped on vacant land and into waterways.

The Three Delta Towns Water Supply and Sanitation project is a seven year \$80 million joint venture between the governments of Australia and Vietnam. It began in 2001 and will draw to an end in 2009. The Australian Government through AusAID has contributed \$50 million to the project which is improving the wellbeing and living conditions of the people of Bac Lieu, Ha Tien and Sa Dec.

TOP (from left): Construction of Tran Huynh drain in Bac Lieu; inspecting the newly opened Ha Tien water treatment works; there are significantly enhanced environmental conditions now that east canal has been cleared of rubbish, dirt and tree roots. Photos: Martin O’Dell/GHD

ABOVE: Australian Youth Ambassador for Development Penny Clark worked as a construction assistant in Bac Lieu. Part of her job was convincing local contractors to see the rationale behind safety procedures and to improve safety practices on site. Photo: AusAID



NATION BUILDING

[1] Vietnam. Building water and sanitation systems. Construction works on the scale and complexity of the Three Delta Towns project are unprecedented in Bac Lieu. The project has been a steep learning curve for the staff at the local water supply company, as well as the many contractors, labourers and external supervisors employed in the project. Photo: AusAID

[2] Indonesia. Poor roads. Australia and Indonesia have signed an agreement for a \$300 million highly concessional loan to help Indonesia improve the condition of its national road network in the eastern part of the country. The Eastern Indonesian National Road Improvement Project will bring economic and social benefits by reducing transport costs and increasing safety. Photo: AusAID

[3] Solomon Islands. Taking the plane. Inter-island ferry services and plane travel are vital parts of Pacific island life – they connect people socially and commercially. Photo: Rob Maccoll

AusAID is improving the quality of life for millions through a range of infrastructure initiatives in four main areas – [1] transport services [2] energy, such as electricity [3] water and sanitation, and [4] information and communications technology. By lifting performances in these areas, vulnerable people in developing countries will be able to connect with markets, enjoy better employment and business opportunities, and be within easier reach of education and health services.



2



3



[4] Philippines. Small infrastructure investments can often make the biggest differences. The Philippines Australia Local Sustainability Program – known affectionately as PALS – has been going for 10 years. Over that time it has helped about 130,000 vulnerable people with a range of projects. For example, a hanging bridge is a great improvement for communities in Barangay Masabud. Constructed with \$10,000 in funding from PALS and \$2,000 from local

contributions, the bridge provides much easier access to markets, schools and health services. Photo: AusAID

[5] Fresh produce ready to sell now. Without infrastructure – roads, trucks, buses, boats and planes – it's very difficult for farmers to reach markets and compete economically. It's especially difficult when the produce can spoil if there are delays. Photo: AusAID



8



[6] Indonesia. Water supply is but one of the areas set to receive a fillip as work gets underway through a \$64 million Australian-funded initiative. Inadequate infrastructure remains a major impediment to sustainable development in Indonesia. This latest initiative is designed to do away with unnecessary red tape, increase project management expertise, and encourage private investment.

Deputy Minister of Indonesia's National Development Planning Agency, Dr Dedy S Priatna, welcomes the initiative's partnership approach. 'The projects will be in line with Indonesia's priorities, initially focusing on areas including water supply, sanitation, telecommunications, urban development, transport, and energy.'

Australia is funding the initiative under the Australia Indonesia Partnership which is aimed to help Indonesia tackle poverty and to meet its social and economic development goals. Photo: AusAID

[7] Vanuatu, Port Vila. Pacific Islanders rely on shipping services for personal transport, business, fishing and transporting goods to markets. Photo: Rob Walker/AusAID



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[8] Papua New Guinea. Resurfacing a section of the Highlands Highway as part of an AusAID-funded road maintenance project. Photo: AusAID

[9] Sri Lanka. Solar power means children can study at home in the evenings. Photo: Dominic Sansoni/World Bank

[10] Girl talk. Mobile phones have revolutionised social as well as business communication in Vanuatu. Photo: AusAID

My Thuan Bridge story

For over 40 years the people of southern Vietnam had dreamt of building a bridge across the mighty Mekong River. In May 2000, the My Thuan Bridge was opened and the dream came true.

The Mekong Delta is a richly fertile area that accounts for 40 per cent of Vietnam's agricultural production and 18 per cent of its gross domestic product. With its 4.5 million people, Ho Chi Minh City is the commercial and industrial centre for southern Vietnam, the primary source of goods and services, and the destination for many of the Delta's agricultural produce.

The bridge site at My Thuan is located 125 kilometres south of Ho Chi Minh City. It connects Ho Chi Minh City with major centres in the Delta of Vinh Long, Sa Dec and Can Tho.

'Until the construction of the bridge, people had to rely on a ferry service to get themselves and their goods across the river,' says AusAID's chief bridge adviser Peter Palmer. 'It was slow and inconvenient. The ferry couldn't cope as traffic increased – which it did because of agricultural and commercial development in the Delta. It became almost impossible.'

The My Thuan Bridge in the Mekong Delta region of Vietnam is the largest single infrastructure contract project ever funded by Australia's aid program.

Many people who use the bridge today can remember only too well the long traffic queues and painful delays, especially the truck drivers at peak times. The inadequacy of the ferry service was beginning to hamper progress and cause economic activity to stall.

It was time to take bold action. Impressed with the excellent high quality Australian-built Friendship Bridge over the Mekong River between Thailand and Laos, the Government of Vietnam decided in April 1993 to approach Australia for assistance. The brief was for help in the design and



VIETNAM: The construction of a huge bridge over the Mekong River was a major feat in its own right. It has also been a colossal contribution to the development of the Mekong Delta, and to improving the lives of its people.

construction of a major road bridge at My Thuan. The Mekong at this point is the international waterway for shipping to Cambodia's capital, Phnom Penh, and an important thoroughfare for Vietnamese vessels.

Over 1994, AusAID commissioned an Australian multi-disciplinary feasibility team to investigate the engineering, economic and financial aspects of the project. The team also looked closely at environmental and social impacts before preparing preliminary designs for three alternative types of bridge.

In the end, a cable-stayed bridge with a navigation clearance of 37.5 metres was selected because, among other reasons, it brought new bridge technology to the Vietnamese and minimised the navigational hazard to international shipping. 'The overall safety of the bridge was our greatest concern. The challenge was to produce an innovative, cost effective bridge design which had good traffic capacity and minimised navigational hazards,' says Palmer. 'It was always the intention to provide an outstanding architectural structure for the region.'

The feasibility study team, who had previously identified shortfalls in

Vietnamese building skills, prepared an extensive training program. The joint funding arrangements allowed for a large number of Vietnamese engineers and construction workers to receive training both in Australia and Vietnam.

In June 1997, following completion of the final design drawings, AusAID awarded a construction contract to the Australian company which had built the cable-stayed Anzac Bridge in Sydney. Within just 33 months the My Thuan Bridge was finished – eight months ahead of schedule – and within budget.

Without doubt it stands today as a remarkable achievement constructed by mainly Vietnamese workers under Australian supervision. No deaths or serious injuries occurred during the project, and the lost time rate was significantly lower than on similar builds in Australia.

As soon as it was opened, the My Thuan Bridge began providing massive benefits to the people of the Mekong Delta. Travel times to and from Ho Chi Minh City are now considerably shorter. In practical terms this means people are in easier reach of education and health facilities. It

FACTS AND STATS

The project was jointly funded by Australia and Vietnam with respective contributions of 66 per cent and 34 per cent. The total cost of final design and construction, including an independent design proof check, was \$93.96 million. Australia contributed \$62.13 million and Vietnam \$31.83 million.

The extensive investigations carried out by the feasibility study team provided both information and assurance for the two governments to confidently proceed with the project. The feasibility study was crucial to the overall success of the project.

In 2002, the My Thuan Bridge was already carrying about three and a half times more people and freight than the ferries managed in their last year of operation in 1999.

The actual figures for movement of people and freight across the bridge in 2002 were 34 per cent and 13 per cent higher respectively than original forecasts, while overall vehicle movements were 77 per cent higher.

On launching construction of the Can Tho Bridge in September 2004, then Vietnamese Prime Minister Phan Van Khai announced that it was one of 16 more bridges planned to aid access to the Cuu Long (Mekong) Delta region by 2020.



Crossing the millennia with the Friendship Bridge

THAILAND/LAOS: Australia's decision in 1989 to build a bridge across the Mekong River between Thailand and Laos has had far wider ramifications than generally understood. Its impact has been felt not only by the countries involved but in the pace of development of nearby nations early in the 21st century. AusAID's Geir Martinsen reflects.

also means much faster delivery times to markets – particularly important for producers of perishable goods. Longer-term benefits include the establishment of new businesses, such as tourism and light industry. These in turn have led to greater employment opportunities.

But one of the greatest long-term benefits has been the transfer of Australian skills in modern bridge design and construction technology to the Vietnamese people. For AusAID in terms of development assistance this has been a remarkable success. 'We can already see clear evidence of the lasting benefits in the recent design and construction of the Rach Mieu Bridge further down the Mekong,' says Palmer.

The Rach Mieu Bridge in Ben Tre Province, which has been designed and built by the Vietnamese Transport and Engineering Design Institute, is also a concrete cable-stayed bridge with a large main span. A further cable-stayed bridge, the Phu My Bridge over the Saigon River in Ho Chi Minh City, is due for completion in October 2009. Commissioned by the city fathers it will be an impressive eight lane structure with a main span of some 380 metres.



Vietnam is a nation of wide rivers. Its future depends on the building of many more long span bridges to link existing road and rail networks. The My Thuan Bridge has set the standard.

FAR LEFT: Cars, trucks and motorbikes hurtle across the My Thuan Bridge. Photo: Joe Garrison

TOP: The My Thuan Bridge is a cable-stayed structure with a central span of 350 metres and two side spans of 150 metres. At each end of the main structure there is a 443 metre-long approach span. Support cables on either side of the slender deck are two 121-metre high

concrete towers. These are located in the river at either end of the main span and are supported on massive concrete piles driven level into the river bed.

Photo: Jim Holmes

ABOVE: The old system. People and vehicles spill from the ferry. Photo: Peter Palmer

After more than 30 years of studies and feasibility assessments, the first major crossing of the Mekong would prove a tangible demonstration of a conscious shift in Australia's geopolitical focus away from Europe. Australian eyes turned eastwards to be recognised as a nation in Asia. And the bridge proved far more than a physical connection between culturally similar – but politically opposed – nations on the Mekong. The tripartite processes brokered by Australia for the construction brought together the two sides in a mutual endeavour. The demand for full cooperation in a partnership arrangement finally brought to an end decades of episodic clashes along the banks of the river that forms their common border.

But the Friendship Bridge was to have a far greater 'downstream' influence on Australia's relationships and standing in the region. During its construction between 1991 and 1994, the project was the centre of technical and political interest and a 'must see' stop on the itinerary of every visiting head of state, political or technical delegation.

In 1991 Vietnam's policy of economic renovation was still in its infancy when bilateral cooperation between Australia and Vietnam resumed after a 12-year hiatus and Vietnam soon requested support for its bridge in the Mekong Delta.

Infrastructure was a key sector in the new program for which the My Thuan Bridge project became the centrepiece and focal point for relationships reaching to the highest levels.

The project arrangements were unprecedented in Vietnam, with a partnership approach involving joint decision making and a Vietnamese government contribution of over a third of the capital costs for design and construction. Project completion in March 2000 – within budget and under time – achieved international standards of quality. Together with a safety record that surpassed that achieved in developed countries, the project set a benchmark for infrastructure construction in Vietnam and proved a fitting metaphor for the country's progress into the new millennium.

Since the completion of My Thuan, more than six major cable-stayed bridges have commenced in Vietnam. Two are across the Mekong at Can Tho and Ben Tre, while a third is planned upstream at Cao Lanh. In the north near Haiphong, the Kien, Binh and Bai Chai bridges were completed in 2003, 2005 and 2006 respectively. These projects include a number of wholly Vietnamese designed and built bridges – a tribute to My Thuan's dedicated training and technology transfer program. The Phu My Bridge across the Saigon River, recognising the quality of Australian expertise, is being designed and built by the former My Thuan contractor Baulderstone Hornibrook in joint venture, and supervised by Munsell Engineers.

To attribute all of this to Australian involvement would be to grossly overstate our role and underestimate the drive of our partner nations and economies. Nevertheless, the often criticised decision by Australia nearly two decades ago to build the first major bridge across the Mekong, has undoubtedly had an important influence on investments in modern bridge technology. These large-scale infrastructure projects, properly planned and well managed, can connect people and places in ways that contribute significantly to poverty reduction.

Geir Martinsen was involved with both the Friendship Bridge and My Thuan Bridge for AusAID, as well as civil and building infrastructure and other projects in Asia between 1990 and 2004.

VOLUNTEERING



Trading places

PAPUA NEW GUINEA: James Allsop is a carpenter who spent 10 months working in Milne Bay Province under the Australian Youth Ambassador for Development program.

If you're a tradesperson – or anything like me – you're probably thinking that becoming an Australian Youth Ambassador for Development sounds pretty fancy. But I can also tell you that it has been one of the most challenging and rewarding things I have ever done.

It's taught me not to assume or to take anything for granted.

The first day, for example, I turned up wearing my work boots and tool belt. The locals turned up in bare feet, no tools.

Over the following weeks we got round the tool situation but not the boots. If we'd laid a slab I was sometimes the only one able to carry on working. The others couldn't take the heat coming off the concrete without burning their feet!

My host organisation, the Uniting Church Mission of Papua New Guinea, is based in Milne Bay Province and is in touch with many communities on small isolated islands. The church provides these communities with basic care and, when and as it can, opportunities for development. Boat

and sometimes radio are the only means of contact with larger centres like Alotau.

Working with the locals was one of the best parts of my assignment. When I was preparing a team for a new construction I always tried to get a good mix of abilities – some with building skills and others with absolutely none. It was the best way to achieve the two most important things – getting the work done and teaching new skills to as many people in the community as possible.

It was also a lot of fun working with the local guys. We had interesting talks and lots of good laughs. For instance, I asked one labourer how old he was (he looked 25ish). He sat and thought for a while before answering, 'I think 50 or 48, yes, 48'. He didn't look too certain so I asked him in what year was he born. Straightaway he said, '1978'. He was rapt when I told him he was only 31!

One of our most important projects was building a local health centre. As it progressed so did my understanding of what it would mean to the community. The icing on the cake was when an extra \$30,000 was given to the centre as a result of the quality of our building work. The donors liked how the centre was taking shape and could see things were really starting to happen. I think it is great that the health centre will now be able to afford an ambulance to transport urgent cases to Alotau Hospital.

Sometimes after finishing a job I felt like I wanted to do more. In some

My time in Papua New Guinea was incredibly challenging. I will never think back and say it was easy, but I will always say it was worth it.

ways, constructing a building is the easy part – it's the ongoing maintenance that is the challenge. I look back at my 10-month assignment as an important first step towards sustainability – but there are no guarantees. My host organisation and I trust – hope – we've done enough in training local workers in building and maintenance skills. It's up to them now to take care of the buildings so that they will last and continue to fulfil their functions for local communities.

Papua New Guinea gave me the kind of experience that you can only get from working abroad. I constantly overcame work related challenges – usually related to transport and the availability of materials – just because I had to. There's no option but to get on with it.

I also found working closely with communities a humbling experience – people with so little were incredibly generous to me. And I could see that my being there really made a difference.

The most valuable thing I have come back with is a renewed confidence in my abilities and a solid understanding of what can be achieved with a bit of perseverance and hard work. I've often heard that being a good tradesman isn't about how you react when things go well, but how you



All round practical skills

Recently returned Australian Youth Ambassador for Development Anh Tran is one of the many talented young engineers transforming development assistance.

'The landscape of developing countries is littered with water systems and pumps constructed by well meaning aid organisations. Within a few years too many become dilapidated and rusted,' says Anh, 'so the poor go back to drinking contaminated water that makes them ill.'

Such a scenario will soon be a thing of the past. Young engineers these days approach things differently and take greater note of social and environmental issues.

A lot of this has to do with the aid organisation, Engineers Without Borders Australia, and its EWB Challenge.

'The EWB Challenge is a national first year engineering design program that encourages engineering students to take a holistic approach to sustainable development,' explains Anh, who has recently returned from working in Cambodia.

The students work in teams on projects identified by local communities, ranging from the big to the modest. For example, they may be asked to design a safe water system, or power a piece of infrastructure from renewable energy sources. Alternatively, they may be asked to design an inexpensive, portable chicken hatchery from orange plastic ice boxes, or find ways to lighten the load for subsistence farmers.

The emphasis is always on good practical design which utilises local materials and skills, and results in a structure that can be maintained without too much fuss. Most importantly, designs must be accepted and suit their environment.

'We see many examples of great ideas floundering because communities don't take ownership,' says Anh. 'We don't want to thrust technology upon communities, we want them to be involved in the



decision making. This is why we present our local partners with the students' designs and work together with them to implement practical solutions.'

Anh believes her experience in Cambodia as an Australian Youth Ambassador for Development has placed her in a unique position to add real value to the work of Engineers Without Borders. 'An engineer once told me that to transform the landscape, you must first change the culture. I've seen the possibilities. I want to help change the culture of how technology is applied to development.'

Engineers Without Borders Australia works with disadvantaged communities to improve their quality of life through education and the implementation of sustainable engineering projects. 'Through the process of helping people in need we become more socially aware and responsible, improve ourselves, inspire others to action and further our ultimate goal of sustainable development.' For more information <www.ewb.org.au>

ABOVE: Easy to use water pump and strong flow. Appropriate technology in action. 'It's about good basic design, easy maintenance and community acceptance,' says Anh Tran. Photo: EWB

respond when things go wrong. I hope I have passed this on.

I've gained so much from being a youth ambassador I can't recommend the program highly enough. So if you've got a trade, sign up. We can make a huge contribution and our contribution is needed.

Trades-based assignments are on the rise within the Australian Youth Ambassador for Development Program.

FAR LEFT AND LEFT: Among friends and co-workers. 'The great thing about having a trade is that I could make a tangible difference in the communities. I could see and touch what I'd done. And I could see what it meant to the people,' says James.

ABOVE: Completed extension and building project in progress. 'From the outset I felt that carpentry would be a useful skill to share and help improve other people's lives.' Photos: James Allsop

Homes bring heart



Australian Youth Ambassador for Development Pierre Johannessen is working for Habitat for Humanity, an organisation which builds affordable homes and creates hope for a better future for hundreds of families throughout the world. 'Not only does a house provide shelter and security,' he says, 'but it boosts everything from health to a family's status in the community.'

The experiences of Pierre will be featured in a television documentary on the Ten Network. For more information <cathy.reid@ausaid.gov.au>

LEFT: A new house begins to take shape. Photo: Cathy Reid/AusAID

For more information about volunteering go to <www.ausaid.gov.au/youtham>

Constructing schools



INDONESIA: The Australia–Indonesia partnership to improve basic education is making excellent progress. The two countries are well over the halfway mark in the building and expansion of 2,000 junior secondary schools across 21 Indonesian provinces.

A junior secondary school in Pallangga, South Sulawesi, opened its doors to hundreds of new students less than nine months ago but already it's a thriving place of learning. The well-equipped school boasts six spacious classrooms, a library, toilets, and a canteen. In the future, computer labs, science labs and a student association may be added.

'This school is really like an inheritance we can pass on to our children, and I like the fact that it has been built by the community,' says Syarifuddin, a father of one of the students.

Over the past three years Australia has been helping the Government of Indonesia to fulfil its goal of providing at least nine years of basic education to its young citizens. Together the two countries are working to improve access, quality and management of basic education services.

'Building schools is the obvious first step,' says AusAID's Counsellor for Education in Indonesia, Luke O'Neill,

'For students to have purpose-built classrooms and places to congregate is a great start.'

Australia is funding the construction of 2,000 junior secondary schools across 21 provinces – 1,500 secular and 500 faith-based – and in so doing is creating hundreds of thousands of extra school places. The actual building works are managed by community-led committees and completed by local communities (see *Basic Building Blocks* page 27).

'But it's not just about buildings,' says O'Neill. 'Another big factor is helping Indonesia improve the quality and management of education so teachers and administrators are well qualified to create high-standard, dynamic schools.'

For further information about the Australia Indonesia Basic Education Program visit the website at <www.bep.or.id>

ABOVE AND ABOVE RIGHT: In Nagekeo District in East Nusa Tenggara Province there is no shortage of enthusiasm for the new school going up in the village of Boawae. While a well-trained team of school managers, teachers and committee members run the organisation side of things, the community pitches in with the actual building. 'One of our fundamental goals is to encourage long-term community ownership and sustainability,' says AusAID's Luke O'Neill, 'and making it possible for local people to become involved is the surest way.'

RIGHT: A finished faith-based school in Lamajang, East Java. Photos: AusAID





Basic building blocks

When 15-year-old Aureliana Meda finished primary school three years ago she, like others in her village, thought that was it – the end of her education. The nearest junior secondary school at Sukoloo sub district was way too far away. 'There are no buses. We would need to hire a motorbike which costs a lot so walking is the only choice. My family worked out it would take me four hours to walk there and another four to walk back!'

Aureliana lives in Ratenggoji, a village tucked away in an isolated part of Ende District, East Nusa Tenggara Province. It's a poor farming community. Most people live in simple bamboo houses. There are few opportunities to improve living standards.

So the decision to build a new public secondary school in the village has come as wonderful surprise – a welcome but totally unexpected boost to morale. 'We can't believe our quiet little area has been chosen. This is a very good development for us,' says Martinus, a member of the school construction committee.

community willingness and reliability to get involved.

The new secondary school is designed as an extension of the current Ratenggoji Public Primary School. It will be finished soon but just so students, like Aureliana, don't miss out on any more education, classes are held in the primary school building after hours.

'I am happy and excited that I am able to continue my studies,' says Aureliana, who, like many of her friends, wants to one day become a teacher.

Everyone in the village is eagerly awaiting the opening of the new school. The chance to acquire an education is highly valued. 'It's the pathway out of poverty,' explains Martinus, 'It's the chance to get a good job and a better standard of living.'

A sentiment which is echoed by the Australian Government.

The Indonesian school construction model relies on full community participation.

Unlike other major infrastructure projects, the Indonesian school construction model relies on full community participation. Local communities are in charge of building their own schools using locally resourced materials. The school sites are selected in part on

Ratenggoji and Boawae are just two of 2,000 schools the Australian Government is building and expanding across 21 provinces in Indonesia under a \$380 million program which started in 2006 and will be completed during 2009.

ABOVE: Aureliana Meda, ready for high school. Photo: AusAID

Seeing is believing

PAKISTAN: Three years ago a devastating earthquake hit northern Pakistan, killing 73,000 people, injuring 70,000 and displacing 3.5 million. Given the scale of the devastation, it is remarkable that some areas bear virtually no evidence of damage. In other parts, however, the reconstruction efforts have a long way to go. AusAID's Jacinta Overs has recently returned from the region.

Here and there in Muzaffarabad, capital of Azad Jammu and Kashmir and epicentre of the earthquake, a crumbled wall remains – but that's all. Among the new brightly-roofed (and quake resistant) homes there is the odd ruin – not much else. But then you begin to notice all the graveyards dotted around the city. The sight of so many graveyards is for me the starkest reminder of the terrible tragedy that occurred here in October 2005.

Further out from Muzaffarabad there is greater evidence of structural damage. While most people whose houses were destroyed now have a roof over their heads – and with electricity – the roads are still fairly rudimentary and getting water is a problem.

Over 4,000 water plants were destroyed in the disaster. Only a third have so far been rebuilt. The Government of Pakistan is well behind schedule in completing the rest. In the meantime, women and girls struggle up and down sheer mountain slopes carrying water from the Neelum and Jhelum rivers, or from the surrounding springs.

Bridges across surging rivers also need to be rebuilt but communities must get on with their lives and they can't wait – villagers have improvised wobbly footbridges and what appear to be very flimsy cable cars.

It is easy to criticise the Government of Pakistan and international relief agencies for the apparently slow progress in re-establishing water supplies, reconstructing schools and hospitals, and putting in sanitation facilities – easy that is, until you look at the terrain and the poverty that prevails in these areas. There's hardly a bit of flat solid land on which to build, and transporting labour and building materials up the steep slopes either on foot or by donkey is fraught with difficulty. The demands of such a major reconstruction on limited local resources are heavy and prices for

materials and labour have increased sharply throughout the course of the relief effort.

The Government of Pakistan and the international community were quick to respond to Pakistan's emergency.

It was recognised first and foremost that people needed homes. These have largely been rebuilt through an innovative, owner-led process. Other infrastructure – roads, power and major facilities such as hospitals – take longer because they are larger scale and involve intricate planning. It is also important to bear in mind that through the long icy winter it's not possible to build anything. This means all activity has to be squeezed into just six to eight months.

When you consider all this it is remarkable to see what has been rebuilt. Remarkable too is the resilience and dedication of local communities who are slowly but surely rebuilding their lives against extraordinary odds.



Another quake

Two earthquakes of magnitude 6.4 struck Balochistan Province in south-western Pakistan on 29 October 2008, killing over 166 people, injuring 370, and disrupting the lives of another 35,600 people. As the cold winter months approach, Australia will work closely with the United Nations and other international agencies to provide shelter, clean water, sanitation facilities and essential household items. 'Building on Australia's continuing support for education through UNICEF in Balochistan, we will also contribute to the rebuilding of schools damaged by this latest earthquake,' says Mark Tattersall from AusAID's Islamabad Mission.





Profile of a rapid emergency response – Pakistan earthquake, October 2005

Within two days of the earthquake striking northern Pakistan, Australia was providing medicines, water purification tablets, blankets and food through experienced international organisations and Australian non-government organisations. Within two weeks of the quake, a team of Australian engineers helped assess damage to infrastructure. A month after the earthquake, the Australian Defence Force established a medical camp at Dhanni outside Muzaffarabad and treated over 9,400 patients, arranged 72 medical evacuations, administered over 4,000 immunisations and provided mobile medical outreach treatment for the next 90 days.

TOP: Students at the government school in Rajpian – glad to be out of tents and in a transitional shelter. The next move will be to a permanent classroom.

CENTRE: Construction is well underway of the girls' primary school in Koti Batani.

LEFT: AusAID's Jacinta Overs talks with one of the local primary school teachers in Rajpian.

Photos: Mark Tattersall/AusAID

The second phase – what's Australia doing?

Australia's longer-term assistance to the region includes contributions to the Asian Development Bank and UNICEF. Funds go towards seeing that children in the worst affected areas are able to resume their schooling. 'Our funding is supporting the education of almost 200,000 children,' says AusAID's Mark Tattersall.

A concerted effort will be required to build all the new schools needed for the children from the earthquake affected zone but in the meantime UNICEF is constructing a series of over 500 'transitional shelters'. While not permanent structures these shelters are much better than tents and are a great deal warmer. They can also go up much faster than a permanent school, are only a little more expensive than a tent, and last 20 times as long. 'Even when the tents were lined with padding to make them warmer they felt draughty and cold,' says 11-year-old Ayesha, pleased that her school has moved into one of the transitional shelters.

UNICEF is working hard to supply water and sanitation and is also encouraging community ownership of the schools. 'We're trying to get parents and others involved in school decisions and to feel part of their children's education. We're also trying to use the schools to meet the special needs of traumatised families,' says Zulfiqar Ali, a UNICEF education officer working in earthquake-affected districts.

Australia's funding through the Asian Development Bank is helping to build 293 middle schools (including providing clean water and sanitation), 26 basic health units and two sub-district hospitals and one district headquarter hospital.

As further time passes, reconstruction activities will give way to more broadly-based development. Through its office in Islamabad, AusAID will continue to monitor progress closely so the lives of these hard-working and long-suffering people may be improved.

Restoring Aceh

INDONESIA: Aceh bore much of the brunt of the massive 2004 earthquake and subsequent tsunami that devastated large tracks of South East Asia. In the worst natural disaster in modern history 300,000 perished. In Aceh over 167,000 people lost their lives. Along the province's 800-kilometre coastal strip the devastation was complete.



A village hall in Aceh Barat. Australia helped to build a total of 175 village community halls and offices. Photo: AusAID

'Wherever you looked nothing was left – no trees, no houses, nothing – it was the way you might imagine Hiroshima after the atomic bomb,' says Brian Hearn, one of the first AusAID officers to witness the extent of the wreckage. 'All you could see were the concrete pads where buildings once stood.'

In planning the reconstruction, AusAID with the Government of Indonesia, fixed on a contracting approach which allowed flexibility and encouraged maximum local involvement. For example, many restoration projects were open to tender and local communities were invited to carry out discrete activities on a 'day labour' basis.

More challenging was deciding upon building methods.

Much of the construction in Aceh uses reinforced concrete frames with brick infill panels, timber roof framing and tiled roofs. 'It's a common building form throughout Indonesia,' explains Dan Hunt, one of AusAID's officers on the ground in Aceh. 'It's widely understood by artisans and relatively simple to construct.' The only trouble is that it has poor earthquake resistance. 'This is why we went with lightweight forms, with much greater earthquake resistance.' No problem, except lightweight frames called for building skills unfamiliar to local contractors and the Indonesian labour force.

The scale of the rebuilding process and the difficult conditions guaranteed progress wasn't always smooth but the final outcome and the long-term benefits are not in dispute. Overcoming shortfalls in education and training among local construction workers was also part of a much larger exercise in capacity building.

'One of our greatest difficulties was finding contractors to supervise and train the unskilled labour,' says Hunt, 'but we got round it by holding classes and giving practical training sessions on the job. In this way we passed on new techniques and gave local workers some extra skills. We covered practically everything – electrical, carpentry, plastering, plumbing, foundations, brickwork, steel formwork, materials control and general building skills.'

The inevitable boom in reconstruction projects caused another problem. Many farmers and fishermen attracted by the higher wages and the chance to rebuild their communities left their normal jobs. In some cases they were forced to, such was the extent of the environmental damage to land and sea. Agriculture cycles of sowing and harvesting were disrupted, resulting in serious food shortages in local markets.

But all the while building continued. Even the challenge of locating reliable

supplies of sustainably harvested timber did not dent progress.

Those most deeply involved in Australia's contribution to Aceh's reconstruction can look back with a large degree of satisfaction. The building program was successfully completed to a good standard within a reasonable time and cost.

'Post-tsunami Aceh was an exacting and very difficult environment in which to deliver effective assistance,' says Hunt, 'To achieve what we have has taken extraordinary sacrifice and effort by all involved on the reconstruction team.'

The Australia Indonesia Partnership for Reconstruction and Development (AIPRD) provided support to Indonesia's reconstruction and development efforts, both in and beyond tsunami-affected areas. AusAID is the key government agency responsible for the implementation and administration of activities under the partnership.

AusAID and the Government of Indonesia entered into an agreement called the Aceh Rehabilitation Program, and this spawned the Aceh Rehabilitation Program – Infrastructure Component (ARPIC). GHD Pty Ltd was appointed as the ARPIC managing contractor about 15 months after the disaster to deliver the necessary infrastructure. AusAID also appointed three managing contractors in the sectors of health, education and local governance. Their job was to identify infrastructure priorities to support the normal operation of community centres, schools, hospitals, local government buildings and other special facilities – for example, a permanent ferry terminal in Banda Aceh and an aquaculture centre.

Lasting benefits

The Aceh Reconstruction Project – Infrastructure Component (ARPIC) legacy:

- > **Capacity building.** Contractors, supervisors and the labour force shared knowledge and skills.
- > **Promotion of building maintenance.** The contractor's team provided a plan, documentation and instructions for each project to overcome the historically weak record on maintenance shared by most developing countries.
- > **New construction techniques.** Local artisans learnt new ways of building using lightweight frames which are more earthquake resistant.



Learning after conflict

ACEH: There's a lot of catching up to do in the province that has endured 30 years of internal fighting and the worst natural disaster in living memory. Rebuilding communities through education is one of the ways forward.

Years of internal conflict have blighted Aceh's progress, especially in areas of education and training. But since the signing of a peace accord in 2005, there's an air of optimism.

The Australian Government, through AusAID, is bringing people together and rebuilding trust within communities by training school committees and providing grants for school improvements. People are developing the skills, knowledge and resources to rebuild their lives and maintain peace.

Nursylimah, the head teacher at a primary school in Bireuen District in northern Aceh, is one of many who welcome the Australian Government's support. 'Schools and education facilities were destroyed or neglected during the conflict and the quality of education diminished.'

Indeed, according to UNHCR statistics, more than 600 schools were damaged, leaving 55,000 children stranded.

Nursylimah used the village mosque as a makeshift classroom until 'AusAID funding helped to rebuild our school, making it bigger.' With the addition of three classrooms and the rehabilitation of four more, enrolments have risen to 254 students – an increase of 10 per cent.

Not so long ago, many children in Aceh would perhaps complete primary school before joining the family living of fishing or farming. With increased investment in education more children now have the chance to go on to high school and potentially university. Improving education opportunities translates into stability and leads to prosperity, the benefits of which flow through to families, villages and the whole region.



AusAID's Community and Education Program in Aceh – CEPA – also runs training courses for nearly 300 school committee members from across the districts of Pidie and Bireuen. Positive working relationships are developing between ex-combatants, government officials and community leaders. The training courses cover various topics ranging from safety procedures and how to mix cement to budgeting and book-keeping. They attract extremely high attendance rates and represent a good gender balance, which marks a substantial shift from the male dominance characterised by the conflict years.

TOP: A freshly painted and refurbished classroom. With the assistance of AusAID and a team of dedicated staff working for the Community and Education Program in Aceh children of Bireuen and Pidie districts are enjoying new school buildings and resources.

ABOVE: Teachers and students outside one of the recently restored schools in Bireuen District. Photos: Kirsten Mee/AusAID



Piping water

EAST TIMOR: The aid program is helping rural communities not only to design and build water and sanitation systems but also to manage and maintain them.

Julmira da Silva and Ana Manuale da Cruz are at a training course in basic plumbing at the National Centre for Employment and Vocational Training. It's a new course and they, public servants from East Timor's National Department for Water and Sanitation, are part of the first intake.

The Australian Government, through AusAID, is helping the Government of East Timor to improve the availability of clean water supplies and adequate sanitation facilities for rural people.

Both women are enthusiastic about building a water pump and piping system which they have helped to design. Practical skills are exactly what they want. 'This training is giving me more confidence to do my job which is helping my community to access and maintain clean water facilities,' says Julmira.

The course is part of a longer-term goal to improve the skills of the East Timorese people. Over four months, the students, who are mostly public servants, will learn about basic plumbing and pick up sufficient skills to help develop and maintain a community water and sanitation system.

'We are very pleased with their progress,' says Keith Simpson, a field engineer with AusAID who assisted in the development of the course. 'They show dedication and a strong motivation to go back to their districts and use their skills to help their communities.'

For a number of years, the Government of East Timor, with assistance from AusAID and many non-government organisations, has been trying to improve the country's water and sanitation services. 'About 400 water systems have been built. But without knowledge, skills and support to repair these systems, when they breakdown villages are left without water once again,' explains AusAID program officer Jose Perreira.

Rural people would benefit from a better understanding of how the water systems work and how to look after them. 'That's why we're encouraging them to get involved in our village training sessions, to have their say in the design and where to place

the toilets and so on,' says Perreira, 'We're especially encouraging the women to join in, because if they're with us there's a greater chance of sustainability.'

It's also true that women have the most to gain from having water systems in their villages. After all, they're the ones responsible for fetching the water for the household – a task which can involve walking long distances and taking many hours.

Government staff, such as Julmira and Ana, who work in rural communities and who will soon be armed with basic plumbing skills, are part of the new approach. They will be equipped to offer maintenance advice and practical support.

But it is not just about providing pipes, taps, tanks and toilets – that's only half of the challenge.

'The infrastructure side is fundamental. Everyone knows we have to begin with the physical structures,' says Robin Scott-Charlton, head of AusAID's East Timor Mission, 'but it's good hygiene behaviours, such as hand washing after visiting the toilet, which will also bring about the big improvements to people's health.'

ABOVE: Plumbing workshop in action. Julmira and Ana (*far right*) are pleased to be doing the training. Photos: AusAID

EAST TIMOR

In rural areas in East Timor, half of the population don't have access to clean water, and less than half have access to basic sanitation. The death rate of young children is very high compared to other countries in the region. If hygiene standards were higher many conditions would be prevented, such as diarrhoea, worms and dehydration, which can lead to life threatening illnesses.

Support for improved rural water supplies and sanitation is a key priority in Australia's development assistance to East Timor. Australia has committed \$28.7 million over five years through its Rural Water Supply and Sanitation Program.

East Timor has 64 sub-districts and hundreds of villages yet only 400 water systems. Many of them have fallen into disrepair due to lack of maintenance. It's thought that each sub-district needs two people with basic plumbing skills to maintain a water system properly.

AusAID is making sure this can happen.

The Australian Government, through AusAID, is helping the Government of East Timor to improve access to clean water and raise sanitation standards in rural communities. There is also a drive to educate people about better hygiene practices.

VIEWPOINT



Toilets for all

Bob Reed is a senior program manager at the Water, Engineering and Development Centre at Loughborough University in the United Kingdom. He is a public health engineer who has spent over 30 years working on issues related to water supply and sanitation in poor rural and urban communities. Recently he was in Australia to present a series of lectures on access to sanitation for vulnerable groups.

Visiting the toilet is something most of us in the developed world take for granted! However, this is not the case for the 2.5 BILLION people, mostly in Africa and Asia, who do not have access to even the most basic toilet facilities. What is worse, the percentage of people affected has hardly changed since 1990.

Reasons for this lack of progress include weak political and institutional will, and inappropriate service delivery. It's particularly disappointing when attempts to improve sanitation fail simply because of basic design faults or because toilets are poorly located and so become inaccessible for many in the community – for example, the frail and elderly, people with a disability, those with HIV/AIDS or tuberculosis, overweight people (an increasing problem in some societies), small children, and heavily pregnant women.

Clearly, we are talking about a significant section of any community whose needs are being overlooked.

'Inclusive services' which provide

benefits to the whole of society – from the strong to the less able – is the best option. It's also a logical way of achieving the Millennium Development Goals. Supporting the independence of individuals with physical disabilities, for example, allows carers more time to contribute to the family income. In most cases, carers are women and children, so inclusive services also encourage improved gender equality. It's a win-win.

To fully appreciate the obstacles facing people with a physical disability in developing countries, I first need to describe what I mean by a toilet. To most people in Australia, a toilet means a porcelain unit with a flushing mechanism which relies on large amounts of water and expensive infrastructure. This is not a solution for most of the developing world, where both water and money to build modern toilet systems are in short supply. Millions of people still aspire to the simplest type of latrine – a hole in the ground covered by a wooden or concrete platform surrounded by a screen for privacy.

There are three things to think about when visiting the toilet – getting there, getting in, and of course, being able to use it. No matter how well a toilet is constructed, it is no good if you can't get to it. Smoothing the path leading up to the toilet and covering drains with flat stones make a big

difference. Once there, it's necessary to check that there are no problems about getting inside, either due to poor design or poor construction. Ramps, low steps and sturdy hand rails are a great help. The 'squatting hole' because it is cheap, simple to make, and quite hygienic, is probably the most common type of toilet found in poorer communities. The only trouble is people with limited mobility find this type of toilet difficult to use. Strong and thoughtfully-located support rails and simple wooden stools are a great help.

As you see, the solutions I'm proposing are not technically difficult. The main problem to overcome is the lack of due consideration in the design and construction stages. I have lost track of the number of times people have come up to me after a presentation and said 'I'd never thought of that!'

For more information see *Water and Sanitation for Disabled People and Other Vulnerable Groups* by H. Jones and R. Reed, Water, Engineering and Development Centre, Loughborough University, United Kingdom, 2005 or go to <http://wedc.lboro.ac.uk/publications/details.php?book=978-1-84380-079-8&keyword=%disabled%&subject=0&sort=TITLE>

When providing toilets and sanitation services everybody, but particularly the designers and builders, must think about the needs of people, including those with a disability.

ABOVE (from left to right): A school toilet block with one cubicle designed especially for students with a disability. A hand rail and a simple wooden ramp make a huge difference in terms of access.

Photos: Bob Reed

GLOBAL EDUCATION

Food supplies

More than half the world's population live in low-income countries that can neither produce enough food to feed themselves nor afford to import supplies. More than a third of all children are malnourished and six million children a year die of causes related to malnutrition.

In the past two years, global food prices have risen by about 50 per cent. The global financial crisis is compounding the problem.

Food price spikes threaten to derail progress towards the Millennium Development Goals. The threat is greatest in Africa.

Food security

To lead active and healthy lives, people must have sufficient food to eat. Food security is achieved when communities have a reliable supply of nutritious and culturally appropriate food that is not dependent on emergency sources.

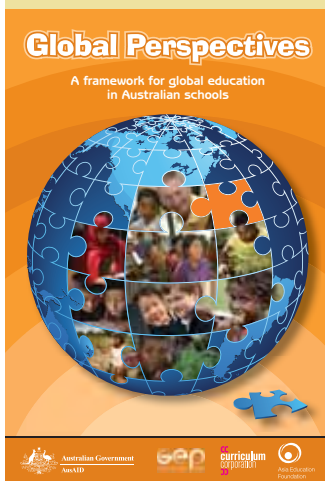
Climate change, the looming water crisis and the burgeoning demand for livestock feed and biofuels are creating new uncertainties about the conditions under which food will be produced, sold and distributed.

AusAID is funding primary and secondary resources for teachers on the topic of food security. They will be published soon.

There are also case studies and teaching activities on food security on the global education website. Go to <www.globaleducation.edna.edu.au>

A household is considered food secure when its occupants do not live in hunger and fear of starvation.

Attention teachers – do you teach with a global perspective?



A reminder that the revised *Global Perspectives: A Framework for Global Education in Australian Schools* is now available. It provides ideas for the integration of a global perspective within and across learning areas, and advice for teachers and school leadership teams on implementing the framework. A vital resource for teachers, the publication is available free – order from <books@ausaid.gov.au> or see back cover for further details.

www.globaleducation.edna.edu.au



Kiribati. Pacific Islanders depend on the sea for food and trade yet must also have a heightened awareness about preserving their environment and adapting to the forces of climate change. Here two men work on a breakwater made from coral rocks in preparation for the king tides. The wall is intended to break the swell and help protect homes on Tarawa. Photo: Jocelyn Carlin/Panos Pictures

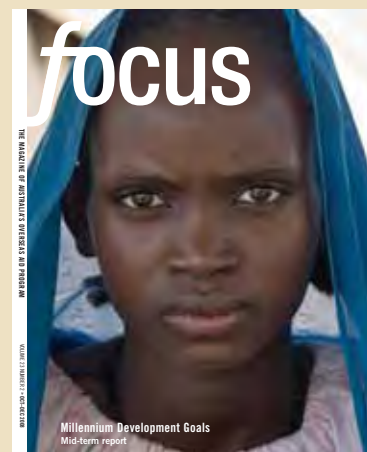
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VOLUME 24 NUMBER 1 » FEB–MAY 2009

FOCUS IS THE MAGAZINE OF THE AUSTRALIAN GOVERNMENT'S OVERSEAS AID PROGRAM

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Please send enquiries, proposals for articles and feedback to:

Anthony Mason
Publishing Manager
Communications
AusAID
GPO Box 887
Canberra ACT 2601

Tel +61 2 6206 4208
Email anthony.mason@ausaid.gov.au

Edited by Patricia Gibson
Designed by GRI.D, Canberra
Printed by Bluestar, Canberra

ISSN 0819–9973
Volume 24 Number 1 Feb–May 2009
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National Mailing and Marketing
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