

**Aid and the Environment: Building Resilience;
Sustaining Growth**

A framework for:

An environment strategy for Australian aid

April 2007

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1 Executive summary

The countries of the Asia-Pacific region are facing an urgent need to address the environmental impacts of development, and manage the escalating demand for natural resources to generate income and economic growth. Governments throughout the region are strengthening their environmental management responses. However, significant challenges remain.

This paper canvasses options for assistance to address environmental challenges in the region. It is the first step in an Australian Government consultative process to develop an environment strategy for the aid program.

Australia has a long history of engagement in environmental management initiatives throughout the region. The environment strategy will build on the current program of assistance to strengthen these efforts but will also be responsive to emerging issues. It will reflect the importance of managing natural resources sustainably, building community resilience, and protecting natural heritage.

There are strong linkages between environmental goals and most other sectors of Australian development assistance. The strategy will support integration of environmental assessment and management across the aid program, and link with other sector and country strategies to achieve the best possible environmental outcomes. It will additionally develop a portfolio of assistance under three broad themes: climate change, water and environmental governance. This paper aims to build consensus on responses to environmental challenges under the three themes. The portfolio of assistance will be delivered through strategic partnerships with partner countries, multilateral and regional organisations.

2 Background

The 2006 White Paper on Australian aid¹ provides the Government's framework for the direction and delivery of Australia's overseas aid program. The White Paper recognised that sustainable economic growth is critical to long-term poverty reduction, and that one of the most fundamental ways in which growth can be sustained is by addressing key environmental challenges in the Asia-Pacific region.

Australia has made positive contributions to meeting environmental challenges in the region, and has developed ongoing partnerships and a strong base of environmental knowledge and expertise. Building on this history, the White Paper included commitments to increase environment-related assistance significantly and to develop a new, targeted environment strategy to guide the development of this growing portfolio of activities.

The White Paper set out two main ways that environmental outcomes could be enhanced through Australian assistance:

- ensuring that environmental impacts are identified and managed in the design and implementation of all aid activities; and
- building a portfolio of activities that directly target environmental challenges, including those of global concern.

Australian legislation requires that the environmental impacts of all Australian Government programs, including overseas aid programs, are appropriately assessed and managed. Accordingly, the aid program already has a well-established set of environmental safeguards to assess, manage and mitigate potential environmental impacts of aid activities, as set out in its environmental management guidelines². The guidelines are designed to ensure that good environmental outcomes are achieved across all sectors of the aid program, including infrastructure and rural development. They are subject to regular review as part of the process of continuous learning in the aid program. The next review will be completed during 2007.

¹ Australian Government (2006) Australian Aid: Promoting Growth and Stability. A White Paper on the Australian Government's Overseas Aid Program

² AusAID (2003) Environmental Management Guide for Australia's Aid Program 2003

Building on the guidelines, the environment strategy will facilitate enhanced application of environmental management principles across the aid program through linkages with sectoral and country strategies. However its main purpose is to guide the development and implementation of a portfolio of Australian assistance that more directly tackles priority environmental challenges to economic growth and social development in the region.

Collectively, these challenges are daunting (as noted in the White Paper) and the aid program's resources, though growing, are limited. The strategy will target areas in which Australia can contribute significant knowledge and expertise to achieve the greatest impact and effectiveness. In line with White Paper commitments, the strategy will focus on the following key themes:

1. climate change adaptation and mitigation (herein referred to as 'climate change');
2. water; and
3. implementing/strengthening environmental regulatory regimes (herein referred to as 'environmental governance').

The three themes encompass a broad range of environmental challenges, including the reduction of greenhouse gas (GHG) emissions from fossil fuel use, deforestation and other human activities (under the climate change theme), water resource and waste management (under the water theme), and reversing the depletion and degradation of environmental assets including land, water, habitat and biodiversity (under the environmental governance theme). The three themes offer scope for a wide range of engagement with existing and new partners in the region.

Within the framework of the Australian Government's international development policies, the aid program is responsive to the needs and requests of partner countries and seeks the closest possible alignment with their national development priorities. Consultations with partner countries, particularly in the context of discussions on bilateral aid strategies, will play a central role in determining specific priorities and activities under the environment strategy.

There are strong interrelationships between environmental goals and most other sectors of Australian development assistance. The environment strategy will link with sectoral and country strategies to leverage the best possible environmental outcomes across the whole aid program. The synergies with rural development (particularly water and sustainable forest management) are clearly strong but linkages with fisheries, education, health and infrastructure are also important.

Australia has a long history of engagement to address environmental challenges in the region. Water and waste management and forest management have received considerable Australian support over many years. Other environmental challenges have emerged more recently or have grown in urgency and become global in extent. Climate change and energy-related challenges are among these. The strategy will guide allocation of resources to deal with both long-standing and emerging environmental issues. It will promote a whole-of-government, forward-looking approach to the future impacts of climate change on the environmental assets and communities of the region. The strategy will include a monitoring and evaluation framework based on its objectives and outcomes, to track progress and result. The framework will also capture lessons learned and facilitate adaptive learning.

3 Aim of this paper

Australia's aid program engages in and supports a range of environment-related activities and initiatives in the Asia-Pacific region. This paper invites discussion on a policy framework for the aid program's environment-related assistance, and aims to build consensus on the key initiatives under the primary themes of climate change, water and environmental governance.

The Australian Government welcomes input from all stakeholders on this paper. The consultation process will include an AusAID-internal peer review, direct discussions with government agencies, web posting of the document for around four weeks, and review by a group of independent experts. The consultation will help to shape the environment strategy for the aid program. Further consultations will be conducted for the draft environment strategy prior to its expected launch in mid-2007.

4 Why does the environment matter?

4.1 Natural resources

The countries of the Asia-Pacific region face an urgent challenge to manage the escalating demand for natural resources in a manner that generates income, sustains growth and limits impacts on the natural environment. Achieving development that is environmentally sustainable is one of the United Nations Millennium Development Goals (goal 7)³.

The importance of a healthy environment and well-managed natural resources to developing countries cannot be overstated. Natural resources like water, land, forests and fisheries provide the fundamental building blocks for livelihoods and economic growth throughout the region. Without sustainable management of these natural (and cultural) assets, growth itself cannot be sustained. Furthermore the impacts of resource depletion (exacerbated by natural disasters, soil erosion, loss of habitat and biodiversity, water shortages, pollution and climate change) all have the potential to limit growth.

Natural resources account for a quarter of national wealth in low-income countries, compared with less than 4 per cent for the Organisation for Economic Cooperation and Development (OECD) countries⁴. In the Asia-Pacific region, 70 per cent of all jobs depend on natural resources. This proportion is even higher among the rural poor who tend to rely more directly on the environment for their largely subsistence livelihoods.

The Australian aid program encompasses a wide range of activities across the natural resources sectors. Assistance to rural development initiatives, directly and through improved governance, is a cornerstone of the program. The majority of these activities have significant potential to deliver positive environmental outcomes even though the environment may not be the primary focus. Water supply and sanitation and sustainable forest management activities are key examples. At the same time, development of the resource base must take account of and mitigate potential negative environmental impacts. The strategy will promote 'best practice' approaches to natural resources management as a key to achieving ecologically sustainable development in the resource development sectors.

4.2 Resilience in the face of change

Options in a future after resource depletion are few for communities in resource-limited environments. However, vulnerabilities to resource depletion, climate change and natural disasters are high even in relatively resource-rich areas of the Asia-Pacific region.

Unsustainable development of natural resources eventually undermines their inherent regenerative capacities and leads to adverse impacts on the surrounding environment and on people. In turn, these environmental impacts tax the resilience of poor communities and reduce the likelihood of their reaching an acceptable standard of living and avoiding poverty.

The poor are particularly exposed to the impacts of resource depletion (for example polluted water, degraded land, indoor air pollution, and exposure to toxic chemicals); they are vulnerable to environmental hazards (such as floods, prolonged drought, and attacks by crop pests) and environment-related conflict; and are least able to manage, mitigate or avoid those situations⁵. Poor communities in developing countries of the Asia-Pacific region will be especially susceptible to climate change because they depend on the natural resources that will be affected (such as water, fisheries and forests) and have limited opportunities to adapt. In addition to assisting nations and communities manage adverse environmental impacts, the environment strategy will continue to promote initiatives that build resilience and enable adaptation.

³ Goal 7- Ensure environmental sustainability; Targets: Integrate the principles of sustainable development into country policies and programs; Reduce by 50% the proportion of people without sustainable access to safe drinking water; and Achieve significant improvement in the lives of at least 100 million slum dwellers

⁴ OECD (2006) Meeting of the OECD Development Assistance Committee and the Environment Policy Committee at the Ministerial Level, April 2006

⁵ DFID, EC, UNDP, World Bank (2002) Linking Poverty Reduction and Environmental Management. Policy Challenges and Opportunities. World Bank

4.3 Intrinsic values and cultural importance

The intrinsic values of the natural environment and the cultural and scientific importance of biological diversity, are central tenets of Australian Government policy on environment and development^{6,7}. These principles, the rights of other species to exist, and the responsibilities incumbent on nations to protect and conserve the environment, are enshrined in international agreements⁸. Appreciation of intrinsic environmental values is relatively strong in the Asia-Pacific region, where many human societies retain strong culturally-defining ties with their natural environment. At the same time, there is wide-spread acceptance of trade-offs between environmental health and the achievement of economic benefits and poverty reduction.

Healthy ecosystems provide a range of essential ecological services⁹, including clean water, sustained runoff and spring flows, soil productivity and waste recycling, and are a renewable source of food, fibre, fuel and pharmaceuticals. Human societies are highly dependent on these services, which are costly (if not impossible) to restore once degraded.

5 What role does Australia play?

The Australian aid program sits within a whole-of-government approach to addressing development challenges in the Asia-Pacific region. As a key donor to the region, Australia has an important role to play in regional environmental initiatives. The environment strategy will see the Australian Government continue to build its engagement in:

- direct assistance targeting key environmental challenges;
- meeting regulatory obligations under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) by ensuring that the environmental impacts of all aid activities are appropriately assessed and managed;
- supporting international environment agreements and conventions; and
- building effective partnerships with multilateral and regional organisations and other bilateral donors for the achievement of shared goals.

5.1 Australian environment policy

The Australian Government's environment policies support an overarching goal of ecologically sustainable development. Policy frameworks specific to biodiversity (the National Strategy for the Conservation of Australia's Biological Diversity, 1996), water (the National Water Initiative 2006), forests (National Forest Policy Statement, 1992), climate change impacts on the environment (the National Biodiversity Climate Change Action Plan 2004) and natural heritage (Directions for the National Reserves System, 2005; National Action Plan for Marine Protected Areas 1999) aim to achieve a balance between social, economic and environmental outcomes. A national legislative instrument (EPBC Act, 1999) regulates development impacts and protects threatened species, ecological communities and other items of national significance. Whole-of-government national agreements are negotiated on key aspects of environmental management through the Council of Australian Governments and Natural Resource Management Ministerial Council.

At state and territory levels, policies, regulatory frameworks and action plans for management of natural assets including land, water, native vegetation and biodiversity are developed under the national agreements and reflect the diversity of environments and pressures in landscapes, societies and industries across the nation. The States and Territories carry out research and development to inform their policy and programs, and implement on-ground

⁶ AusAID (2003) Environmental Management Guide for Australia's Aid Program 2003

⁷ Australian Government (1996) National Strategy for the Conservation of Australia's Biological Diversity 1996–2006. Environment Australia

⁸ United Nations Conventions on Climate Change, Biological Diversity, World Heritage and Combating Desertification; the Montreal Protocol on Substances that Deplete the Ozone Layer, and the Basel Convention on hazardous wastes

⁹ Ecosystem services is a term used to describe the inherent capacity of the natural environment to provide services that are essential for human survival

actions to address key threats to the environment in pursuit of sustainable development goals (eg the Queensland and New South Wales regulatory frameworks to control clearing of native vegetation).

Australia has implemented wide-ranging reforms in natural resource policy and planning. Over the past decade, the Australian Government has significantly increased the level of public investment and has devolved responsibility for implementing key aspects of natural resource management programs to newly constituted regional groups (through Bilateral Agreements for the Natural Heritage Trust and the National Action Plan for Salinity and Water Quality). The groups are mandated to implement a comprehensive regional model for planning and investment in triple bottom line (social, economic and environmental) outcomes, based on locally negotiated priorities and investment plans.

There is a strong focus on public participation, engagement of civil society and Indigenous groups, and public-private partnerships in planning and investment in environmental management at all levels of government. Negotiated plans, co-investment and management arrangements, public-private partnerships to develop best management practice/ accreditation systems for industries, and public investment to leverage environmental outcomes through market based instruments and incentives are key mechanisms for achieving environmental goals in Australia (eg the Regional Forest Agreements were achieved through science-informed negotiations between governments and industry; the National Water Initiative was negotiated between governments and other stakeholders).

5.2 Environment-related aid

The Australian Government funds a range of environment initiatives in the Asia-Pacific region, both directly and in partnership with multilateral and regional organisations. Between 2001–02 and 2004–05 the Australian Government spent \$450 million on environment-related official development assistance. This represented 5–7 per cent of annual aid budgets, varying from year to year. More than half (53 per cent) of Australia's environment-related assistance was channelled through AusAID's bilateral country programs. Significant amounts were allocated to multilateral environment organisations (24 per cent), with the bulk of the funding being directed through the Global Environment Facility (GEF) – an independent financial organisation that helps developing countries fund projects and programs to protect the environment in five focal areas (biodiversity, climate change, international waters, land degradation and persistent organic pollutants). The GEF is the financial mechanism of the United Nations Framework Convention on Climate Change (UNFCCC) and other multilateral environment agreements. Regional organisations and AusAID's own regional programs accounted for 10 per cent of expenditure. Other government organisations administered 9 per cent of expenditure¹⁰.

The aid program has been supporting initiatives directly relevant to climate change in the Asia-Pacific region since 1989, especially in the Pacific, and in 2006–07 budgeted \$25 million for climate change-related programs. Of this funding, around \$7 million is for programs that specifically address climate change and a further \$18 million is for other relevant programs, mainly in water management and disaster preparedness.

5.3 Environmental safeguards

A key operating principle of Australia's aid program is the integration of environmental assessment into all aspects of development planning and programming. Environmental issues are considered in the development of Australia's country and regional aid strategies, and discussed with partner governments and organisations in that context.

Environmental safeguards are built into the aid program. The Australian Government's administration of aid must comply with the legislative and regulatory requirements of the EPBC Act and related regulations by applying appropriate levels of assessment and environment management to all aid activities. Accordingly, AusAID's environmental management guidelines¹¹ provide for assessment of activities and for managing and

¹⁰ AusAID (2006) Australian Environment Related Development Assistance: Rapid Review AusAID Internal Report

¹¹ AusAID (2003) Environmental Management Guide for Australia's Aid Program 2003

mitigating potential environmental impacts. The guidelines require that partners in delivery of the aid program implement the assessments and measures needed to manage the environment.

The changing context of the aid program means that the guidelines are regularly reviewed. For example, the combined impacts of scaled-up aid – particularly in the infrastructure sector under the new Infrastructure for Growth Initiative – and greater use of partner-government systems could have implications for applying the guidelines that need to be considered in the next review in 2007.

5.4 Multilateral action

Environmental challenges cut across administrative borders and some require global solutions (eg climate change, pollution of the atmosphere and oceans, and loss of biodiversity). The Australian Government plays an important role in developing international environment policy and is signatory to various multilateral agreements that seek regional/global solutions to these challenges. The aid program provides support for implementation of the agreements globally and in the Asia-Pacific region.

The United Nations Conference on Environment and Development in 1992 resulted in three conventions that are important to Australia's engagement on the environment at the international level: the United Nations conventions on climate change, biological diversity, and combating desertification. The conventions on waste and hazardous substances (*Stockholm and Basel Conventions*) and on conservation and species management such as the *Convention on International Trade in Endangered Species of Wild Fauna and Flora*, the *International Whaling Convention*, the *Convention on Migratory Species* and the *Convention on Wetlands*, and the *Montreal Protocol on Substances that Deplete the Ozone Layer* are also important.

Commonly, developing countries in the region are party to international environmental conventions but do not have the necessary legislation, regulations and/or capacities to implement them comprehensively. As well as helping to meet Australia's own regional responsibilities under international agreements, the aid program will continue to support initiatives that assist partner countries to implement them.

The aid program also provides financing for environmental initiatives of multilateral agencies of which Australia is a member. These include the multilateral development banks (The World Bank and Asian Development Bank), the GEF and United Nations agencies. AusAID recently contributed \$60 million to the fourth replenishment (2006–2010) of the GEF. Australia's broader environmental assistance includes targeted contributions to specific activities administered by these multilaterals – for example \$2.9 million to support the World Bank's Kiribati Adaptation Project Phase II which aims to address the potential impacts of climate change.

5.5 Regional organisations

The Australian Government will continue to develop partnerships with regional organisations. Support for Pacific organisations includes the Forum Fisheries Agency, the Pacific Islands Applied Geoscience Commission, the Secretariat of the Pacific Community and the Pacific Regional Environment Program (SPREP). Australia supports the Mekong River Commission (MRC) and other regional environment-related initiatives through its own Pacific, South Asia and East Asia regional programs.

The aid program's approach to building partnerships with regional organisations is increasingly based on funding through its regional programs. These aim to improve intra-regional cooperation on issues affecting economic management and service delivery in Asia and the Pacific. Examples of recent funding include a program of support (\$1.4 million) to SPREP, which focuses on sustainable management of island ecosystems and improving capacities to address pressures on island and ocean systems. AusAID's continued support for the Forum Fisheries Agency (currently \$2.3 million annually) plays an important role in fisheries management in the Pacific.

6 What are the challenges?

The countries of the Asia-Pacific face significant and escalating environmental impacts, including water shortages, water pollution, air pollution, land and soil degradation, deforestation, loss of habitat and biodiversity, and degradation of coastal, marine and freshwater aquatic resources as a result of temperature increases, sea level rise and the increasing incidence of high intensity natural disasters. The key environmental issues in the region are summarised in Table 1 from several sources^{12,13,14}.

Table 1: A summary of key environmental issues in the Asia-Pacific region

Asset	Issue	Risks and threats
Water	Access to safe drinking water in the Asia-Pacific region is among the world's lowest. Demands on fresh water supplies from domestic, agricultural and industrial users are escalating and many surface and groundwater sources are over-allocated and ecologically stressed.	Water shortages are a significant threat to economic growth and poverty reduction in the region.
	Pollution inflows from urban, industrial and agricultural sources to rivers, wetlands and aquifers, in addition to naturally occurring contaminants, have reduced water quality in many areas to levels that threaten the health of the people, plants and animals using the resource.	Many communities do not have access to safe and reliable water sources. Poor water quality is a significant cause of disease and death in the region, especially of children.
	Climate change is predicted to have wide-ranging but locally specific impacts on water resources in the region. For example, there will be a migration of monsoonal influences poleward leading to a change in rainfall patterns. More localised impacts could include melting of the glaciers which feed Asia's major rivers and more frequent extreme weather events.	Rainfall, river flows and the likelihood of flooding and drought may be significantly altered, placing increased stress on water resources, food production and subsistence livelihoods.
Air	Asian cities have amongst the highest levels of air pollution in the world.	Poor air quality impacts on health and is linked to respiratory disease, lung cancer, heart disease and premature death.
Land	Land degradation and desertification resulting from intensified and poorly allocated land use is reducing the productivity of land resources in many mixed farming and irrigation areas of the Asia-Pacific region.	Falling and uncertain crop and livestock yields from stressed agricultural land is a major contributor to rural poverty.
	Runoff of sediment and agricultural chemicals is a significant source of freshwater and marine pollution in the region.	Contamination from agricultural runoff is a threat to health in some parts of the region.
Forests	In Asia, reduction of forest cover is occurring at an unsustainable rate (eg Indonesia, the Philippines, Cambodia and Lao PDR). Deforestation is also significant in parts of the Pacific, including Papua New Guinea and the Solomon Islands. Deforestation can exacerbate a range of other impacts including increased flooding, land degradation and sediment pollution.	Deforestation is a major cause of habitat loss and loss of biodiversity in the region. It also contributes to land instability and poor water quality. In tropical and mid-latitude countries, deforestation is a significant source of GHG emissions and reduces the extent of carbon sinks. Deforestation is a major impediment in regional initiatives to reduce GHG emissions.

¹² Asian Development Bank (2002) Environment Policy of the Asian Development Bank

¹³ World Bank (2005) Environment Strategy for the World Bank in the East Asia and Pacific Region

¹⁴ Asian Development Bank (2004) Pacific Region Environmental Strategy 2005–2009

Asset	Issue	Risks and threats
Fisheries	Oceanic fisheries of Pacific and SE Asian countries produce >60% of global tuna catches, and are significant in national and regional economies and opportunities for economic growth.	Over-capacity and poorly-regulated fisheries are threatening sustainability, with potential impacts on ecosystem structure and resilience and national and regional economies and food security.
	Local climate regimes and rainfall are strongly influenced by oceanographic cycles, with potential impact of climate change on distribution and abundance of oceanic species.	The effects of climate change on major water bodies and currents in the region, the intensity and duration of El Niño – la Niña cycles, and their impacts on the abundance, distribution and yields of species important for subsistence and commercial fisheries is poorly understood. ¹⁵
Habitat and biodiversity	The Asia-Pacific region includes seven of the world's 17 'megadiverse' countries. However, a number of biodiversity 'hotspots' have been identified where exceptional concentrations of endemic species are undergoing severe loss of habitat. The existence of many species in the region is threatened by escalating reductions in range and habitat, the illegal trade in wildlife and incursions of exotic pests and diseases.	Loss of habitat and biodiversity reduces resilience in ecosystems and lessens their capacity to adapt to climate change. Degraded landscapes can not function to provide essential ecological services.
	Climate change is a significant threat to terrestrial and marine biodiversity. Projected impacts include altered species growth patterns, species range, lifecycle seasonality and whole-ecosystem disruption as observed in coral bleaching events.	Habitat loss and extinctions have potential ramifications for major sectors of the economy including subsistence livelihoods and tourism.
Coasts and estuaries	More than 250 million people in Southeast Asia and the Pacific live within 30 kilometres of the coast, and are highly dependent on the productivity of marine and nearshore resources. Over-fishing and destructive fishing methods have reduced stocks to dangerously unsustainable levels in most inshore fisheries in Asia.	Falling inshore fish stock exacerbates poverty throughout the region, and significantly increases pressure on other natural resources.
	The Pacific region is recognised as a globally significant area of biodiversity; the western Pacific contains the greatest marine diversity in the world. Coastal zone ecosystems are among the most productive in the world. Many coastal zones in the Asia-Pacific region, including coral reefs, mangroves, estuaries and small islands are being degraded through drainage for farming and settlement, effluent pollution, destructive fishing and hunting.	Degradation of coastal ecosystems is directly linked to loss of marine and aquatic biodiversity, including loss of important economic species. These species underpin both formal and subsistence economies in the Pacific and in coastal regions of Asia.
	Coastal erosion and salt water intrusion due to sea-level rise and associated increased intensity and frequency of tidal surges is a particular issue for Pacific Island countries and for the extensive low-lying deltas of Asia, particularly in Bangladesh and Vietnam.	Livelihoods of coastal communities are likely to be extensively disrupted under probable climate change and sea level scenarios. Increased poverty and population displacement are predicted consequences.

¹⁵ AusAID (Draft) Fish and Development Strategy for the Pacific

7 Principles for assistance

7.1 Goal of the aid program's environment strategy

The governments of the region face major challenges in addressing the issues outlined in Table 1. Many of these challenges can be considered under the three environmental themes from the White Paper on Australian aid. The climate change and environmental governance themes encompass the range of environmental assets and issues, while the water theme focuses on a key natural asset for development.

The goal of the aid program's environment strategy is to:

Increase the sustainability of economic growth and poverty reduction in the Asia-Pacific region, by improving the management of natural resources, increasing community resilience and better conserving natural heritage.

7.2 The aid program's operating principles

The Australian Government, recognising the complex interplay between environment and development interests in the Asia-Pacific region, has given a clear commitment to strengthen its support for partner countries to achieve higher standards of environmental management and move toward more sustainable pathways to development. More specifically, the following principles will guide programming of resources.

Integration of environment issues into all aspects of development planning and programming, at the earliest possible stage so that strategic environmental issues can be identified and addressed in positive ways, and harm can be prevented or mitigated.

Partnerships in environmental initiatives through alignment with country-led approaches based on national strategies for sustainable development and poverty reduction; and working with government, civil society and other stakeholders to improve local capacity in environment policy, management and governance.

Knowledge management and sharing: Environmental management is often controversial, and should be based on the best available information. Negotiation of trade-offs between resource use and conservation requires shared and agreed information as a starting point. All environment-related programs should promote evidence-based approaches and effective knowledge sharing.

Coordinated approaches across the Australian Government: The environment-related goals and strategies of development assistance programs should be consistent with policies in other areas, such as trade and foreign policy.

Accountability: Monitoring and reporting of environmental outcomes is needed at the program level to ensure that outcomes are consistent with the over-arching aim of sustainable development; and at the activity level to prevent adverse environmental impacts.

8 Directions for assistance: the three themes

The focus of Australia's environment assistance varies throughout the region. In Asia, Australia has traditionally focused on natural resources management, particularly water. Community-based water and sanitation initiatives are broadly supported throughout the region. In the Pacific, the aid program has supported regional programs related to water, climate and sea level monitoring, climate prediction, and vulnerability and adaptation, as well as natural resources management and waste management.

Under the proposed environment strategy, the future program will continue to support these areas of assistance while incorporating initiatives to mitigate climate change (in energy and forest management), extend and deepen climate change adaptation measures and improve environmental governance through strengthened partnerships between Australian and national or regional institutions in the Asia-Pacific.

Table 2 summarises the strategic directions and options for assistance under the environment strategy. These are elaborated in Part 9.

Table 2: Directions for the environment strategy

Theme: Climate change		
Issues	Objectives and outcomes	Responses
<p>Monitoring/prediction and adaptation responses to climate change</p> <ul style="list-style-type: none"> Climate change is predicted to have wide-ranging impacts in the Asia-Pacific region but these will vary markedly geographically and between sectors. Further analysis is needed to determine locally specific vulnerabilities and responses 	<p>To support climate change monitoring and prediction, adaptation planning and adaptation measures</p> <ul style="list-style-type: none"> A sound knowledge base to determine appropriate adaptation responses to climate change in vulnerable areas of the region Improved adaptive capacity 	<ul style="list-style-type: none"> Continued support for sea level and climate monitoring, including scenario analysis to inform policy responses in the Pacific Continued support for adaptation planning and adaptation in the Pacific Improved analysis of the vulnerability of water resources in key geographic zones to climate change, and development of appropriate policy and technical responses Continued support for climate prediction services, including support for improved communication of results to policy makers and planners Continued or expanded support in the Pacific and elsewhere for awareness and education programs to build community resilience Integration of climate change vulnerability analysis and planning into disaster preparedness and mitigation programs in Asia and the Pacific Ongoing contributions to multilateral initiatives to support adaptation to climate change in the region
<p>Energy</p> <ul style="list-style-type: none"> The Asia-Pacific region depends largely on fossil fuels to meet its current energy needs, resulting in high and unsustainable GHG emissions 	<p>To reduce greenhouse gas emissions through energy efficiency and alternative energy initiatives</p> <ul style="list-style-type: none"> Improved energy efficiency and strengthened development, use and transfer of cleaner energy 	<ul style="list-style-type: none"> Continued support for climate change mitigation through GEF Partnerships to build capacities in policy development for clean energy systems Support for energy policy development and energy efficiency planning through regional partnerships

Theme: Climate change		
Issues	Objectives and outcomes	Responses
<ul style="list-style-type: none"> Emissions must be reduced to mitigate dangerous global climate change impacts 	<p>technologies</p> <ul style="list-style-type: none"> Policy frameworks for renewable energy and advanced energy technologies 	<ul style="list-style-type: none"> Strategic support for activities to complement large-scale energy and infrastructure projects where these activities can leverage mitigation outcomes Measures could include provision of specific design expertise, energy audits, emissions reduction technology and renewables infrastructure
<p>Forests</p> <ul style="list-style-type: none"> Approximately 20% of global emissions are credited to deforestation Reducing deforestation and supporting reforestation are considered to be highly cost-effective mitigation measures 	<p>To reduce greenhouse gas concentrations through reforestation and avoided deforestation</p> <ul style="list-style-type: none"> Reduced rates of deforestation in the region Sustainable forest management systems 	<p>On 29 March 2007 the Australian Government launched its Global Initiative on Forests and Climate. This \$200 million (mostly aid) initiative will support projects in selected developing countries (particularly in South East Asia and the Pacific) to help:</p> <ul style="list-style-type: none"> Assist in building technical capacity to assess and monitor forest resources, and to develop national forest management plans Support effective regulatory and law enforcement arrangements to protect forests, including through preventing illegal logging Promote sustainable use of forest resources and diversification of the economic base of forest-dependent communities Support practical research into the drivers of deforestation Encourage reforestation of degraded forest areas Support pilot approaches to providing incentives to countries and communities to encourage sustainable use of forests and reduce destruction of forests

Theme: Water		
Issues	Objectives and outcomes	Responses
<p>Safe water</p> <ul style="list-style-type: none"> • Safe drinking water availability in the Asia-Pacific region is among the world's lowest • Pollution inflows to rivers, wetlands and aquifers have reduced water quality to levels that threaten the health of people, plants and animals using the resource • Many communities do not have access to safe and reliable water sources • High morbidity and mortality in the region are linked to unsafe water supplies • Groundwater sources commonly contain natural (hazardous) contaminants 	<p>To improve water safety and availability</p> <ul style="list-style-type: none"> • Reduced pollution of domestic water supplies through improved waste management and sanitation • Improved access to safe water 	<ul style="list-style-type: none"> • Support for water, sanitation and waste management infrastructure and policy (with particular emphasis on community-managed water and sanitation systems and 'best practice' solid waste management systems) • Risk-based approaches to delivery of safe water, including in areas with naturally occurring contamination or polluted groundwater • Support for the development of water safety plans to reduce the risk of water-related diseases • Partnerships for the provision of safe water and sanitation facilities
<p>Integrated water resources management (IWRM)</p> <ul style="list-style-type: none"> • Demands on fresh water supplies from domestic, agricultural and industrial users are escalating and many water sources, both surface and groundwater, are over-allocated and ecologically stressed • Climate change will exacerbate water shortages, flooding, and drought in many areas of the region and could impact adversely on water quality • Poor management of catchment resources (including water, land and vegetation) impacts on water availability 	<p>To strengthen integrated water resources management, including planning and allocation processes</p> <ul style="list-style-type: none"> • A sound knowledge base for determining water balances and sustainable yields for key water sources • Adaptive responses to the impacts of climate change on water resources • Strengthened institutional capacities and regulatory frameworks for integrated planning and management of water resources 	<ul style="list-style-type: none"> • Support for IWRM initiatives in key river basins • Support for assessments of water resources including aquifers • Technical assistance in hydrological modelling, water allocation and defining environmental flow requirements • Assist in building capacities in water management including policy, regulatory frameworks, negotiated planning schemes, measurement and monitoring systems and water markets • Assist implementation of the Pacific Water Plan and Action Strategy • Assist in building capacities with Pacific and interested partners in Asia (including China and

Theme: Water		
Issues	Objectives and outcomes	Responses
<p>and quality</p> <ul style="list-style-type: none"> • Water management regimes in the region are commonly hindered by weak supporting legislation and regulatory frameworks • Poor allocation processes result in inefficient use, sub-optimal returns and reduced availability of water resources 	<ul style="list-style-type: none"> • Integrated management of water and other river basin resources 	<p>the Mekong Region) to respond to climate change</p>

Theme: Environmental governance		
Issues	Objectives and outcomes	Responses
<p>Environment institutional capacities</p> <ul style="list-style-type: none"> • A lack of institutional capacity undermines sound policy setting for environmental management 	<p>To strengthen institutional capacities for environmental management</p> <ul style="list-style-type: none"> • Stronger capacities for environment policy development and management 	<ul style="list-style-type: none"> • Support for initiatives to strengthen environmental planning, assessment and monitoring, and reporting tools • Support for technical capacities for environmental management in the resource management, energy and infrastructure sectors • Support for initiatives that promote better co-ordination and participation across ministries, and with industries and communities • Strengthen technical capacities through scholarships work placements and exchanges that address critical knowledge and skills gaps • Support for regional dialogue on environment policy and management practices (eg through regional workshops, research collaboration, partnerships across industries and through international financing facilities such as GEF)

Theme: Environmental governance		
Issues	Objectives and outcomes	Responses
<p>Environment policy, legislation and regulations</p> <ul style="list-style-type: none"> • Even where good environmental management legislation exists, poorly developed regulatory frameworks and weak enforcement regimes limit their value 	<p>To improve policy, legislative and regulatory frameworks for environmental management</p> <ul style="list-style-type: none"> • More effective regulatory frameworks for natural resource and environmental management 	<ul style="list-style-type: none"> • Support for regulatory frameworks and administrative guidelines, and capacities to implement and enforce existing legislation (including forestry, land tenure, coastal zone, catchment management, waste management/pollution control and pest and disease control) • Support for the mainstreaming of environmental management into coordinating (planning and finance) functions in partner governments

9 Proposed responses to environmental challenges

The initiatives and activities that Australia could support in response to the region's varied environmental challenges are wide-ranging and numerous (see Table 2). However, it is important that Australia's assistance is strategically targeted to make a difference. Limited resources need to be marshalled around a set of clear objectives under the White Paper environmental themes. The following options are canvassed under the three themes: climate change, water and environmental governance.

9.1 Climate change

Climate change is predicted to have significant widespread impacts in the Asia-Pacific region¹⁶. Its effects include increased incidence of floods and droughts and, in future, the potential inundation of low-lying areas with consequent displacement of large numbers of people within and across borders¹⁷. Climate change impacts will compound other environmental pressures. Agricultural enterprises will become increasingly risky, particularly in marginal lands and in the extensive low-lying deltas of major river systems. Threats to rural communities include more frequent and prolonged food insecurity, exacerbated by the sensitivities of major cereal and tree crops and marine and freshwater resources to temperature, rainfall and CO₂ concentrations.

The small island states of the Pacific are highly vulnerable to drought and low-pressure storm surges, coastal erosion and sea encroachment. Islands located further from the equator will also experience more intense cyclonic events and flooding. The atoll states and other low islands are vulnerable to sea level rise and increased salination of freshwater lenses and agricultural land.

Throughout the region, climate change has the potential to impede economic growth and poverty reduction, and has serious implications for regional security and population displacement. However, many countries have limited capacity to anticipate and cope with its effects. The aid program's role in helping governments and communities to build awareness of and adapt to climate change will become increasingly important. The 2006 Stern Review on the Economics of Climate Change recommended that:

*"Sustainable development itself brings the diversification, flexibility and human capital which are crucial components of adaptation... Adaptation action should be integrated into development policy and planning at every level."*¹⁸

Investment to help developing countries reduce risk, diversify and adapt to climate change is now a major focus of aid programs¹⁹. Some developing countries in our region are also significant greenhouse gas emitters through energy consumption and deforestation, and in these cases aid for greenhouse gas abatement will also be important. The Stern Review found that most future emissions will come from today's developing countries but that:

*"... with strong, deliberate policy choices, it is possible to 'de-carbonise' both developed and developing economies while maintaining economic growth in both."*²⁰

Priority areas for assistance relating to climate change include:

- climate monitoring and prediction, adaptation planning and adaptation measures;
- energy efficiency and alternative energy; and
- sustainable forest management.

¹⁶ Intergovernmental Panel on Climate Change Special Report (1997) Regional Impacts of Climate Change and Assessment of Vulnerability. Summary for Policy Makers

¹⁷ Intergovernmental Panel on Climate Change. Climate Change (2007) The Physical Science Basis: Summary for Policy Makers

¹⁸ The Stern Review (2006) The Economics of Climate Change. HM Treasury, United Kingdom. p 22

¹⁹ DFID (2006) Eliminating World Poverty. Making Governance Work for the Poor. A White Paper on International Development

²⁰ The Stern Review (2006) The Economics of Climate Change. HM Treasury, United Kingdom. P 11

Objective 1: To support climate change monitoring and prediction, adaptation planning and adaptation measures

Challenges and issues

The impacts of climate change will vary markedly between countries and sectors in the Asia-Pacific region. In many parts of the region further analysis may be required to determine locally specific vulnerabilities so that responses can be tailored to meet the particular adaptation needs of each country or, in some cases, identify mitigation opportunities.

For the Pacific, analysis and reporting of the likely impacts of climate change on coastal zones (especially for mangrove areas, beaches and coral reefs), water in low coral-based islands, agriculture and health commenced in 1989²¹. However, it is important that these analyses are regularly updated using current modelling methods and improved data.

Across the region, additional detailed information is needed to enable assessments of vulnerabilities and the range of associated impacts. The analyses could lead to specific initiatives in disaster preparedness, health, agriculture, water resources and coastal management.

Disaster preparedness is particularly important for Pacific island countries given the predicted climate trend of more extreme conditions and increased climate variability²². Several countries in the region have completed or in the process of preparing National Adaptation Plans of Action to analyse the impacts of climate change and identify their immediate and urgent adaptation needs.

Responses

Australia supports climate change monitoring, prediction and adaptation activities in the Pacific, predominantly on a regional basis. Activities include:

- a Sea Level and Climate Monitoring Project, now in Phase 4 (\$9 million 2006–2010), which collects, analyses and distributes sea level change data.
- improvement of meteorological predictive services in the region through the Enhanced Climate Predictions Phase 1 (\$2 million 2004–2006) and the Pacific Vulnerability and Adaptation (\$4 million 2005–2007) projects. The latter also provides small grants and supports the Tuvalu Water Security project.
- recognising Kiribati's particular challenges, the Kiribati Adaptation Project supports climate change adaptation measures, now in Phase II (\$2.9 million 2006–2008).

Australia assisted in the development of the Pacific Islands Framework for Action on Climate Change 2006–2015. This framework aims to ensure Pacific Islanders build awareness of the risks and resilience impacts of climate change.

Australia also supports the Global Crop Diversity Trust (GCDT). This is a joint initiative between the Food and Agriculture Organisation (FAO) and the Consultative Group on International Agricultural Research (CGIAR) that aims to conserve important plant genetic resources (\$11 million has been provided to date with \$2 million in 2006–07). Genetic diversity increases overall resilience to climate change impacts by providing more inbuilt options for adaptation of agricultural crops to shifts in rainfall and temperature patterns.

It is proposed that support for programs currently being funded should continue to receive high priority and in some cases be enhanced or extended. This could entail:

- continued support for sea level and climate monitoring, including scenario analysis to inform policy responses in the Pacific;
- continued support for adaptation planning and adaptation in the Pacific;

²¹ Pernetta, J.C., and Hughes, P.J. (eds) (1990) Implications of Expected Climate Changes in the South Pacific Region: An Overview. UNEP Regional Seas Reports and Studies No. 128. UNEP

²² Bettencourt, S. et al. (2006) Not if But When. Adapting to Natural Hazards in the Pacific Islands Region. A Policy Note 2006. World Bank

- improved analysis of the vulnerability of water resources in key geographic zones to climate change, and development of appropriate policy and technical responses;
- continued support for climate prediction services, including support for improved communication of results to policy makers and planners;
- continued or expanded support in the Pacific and elsewhere for awareness and education programs to build community resilience; and
- integration of climate change vulnerability analysis and planning into disaster preparedness and mitigation programs in Asia and the Pacific.

Effective implementation of adaptation projects is integral to reducing the future vulnerability of Asia-Pacific countries to climate change. This requires a strong knowledge base in climate change, and effective institutions with capacities in strategic decision-making, resource allocation, and risk management²³. To help build knowledge and capacities in the region, the aid program could expand its research collaboration with other Australian Government organisations (eg Bureau of Meteorology, the CSIRO). This may include additional or extended training of the National Meteorological Services in partner countries and targeting of aid scholarships in areas such as climatology and risk management at Australian institutions.

In its current rural development and environment programs, Australia will continue to provide assistance to build the capacity of communities in partner countries to manage climate change vulnerabilities through better planning, integrated risk management strategies and improved disaster preparedness.



²³ Preston, B.L., et al. (2006) Climate Change in the Asia/Pacific Region. A consultancy report prepared for the Climate Change and Development Roundtable. CSIRO

Objective 2: To reduce greenhouse gas emissions through energy efficiency and alternative energy initiatives

Challenges and issues

The heavy reliance on fossil fuels to meet energy needs in the Asia-Pacific region (41 per cent from coal, 25 per cent from oil, and 7 per cent from natural gas) and extensive wood burning, result in significant and growing emissions of greenhouse gases²⁴. Mitigation of GHG emissions in the region will be a crucial part of global efforts to slow the rate of climate change. Energy-related mitigation measures include clean energy technologies, fuel substitution and/or support for energy efficiencies.

Management of emissions in the region will require a strong commitment to development, use, and transfer of cleaner energy technologies and development of regulatory frameworks and complementary measures to promote renewable energy and advanced energy technologies and efficiencies. Energy-related mitigation strategies are particularly relevant for Asian countries given their high levels of GHG emissions and industrial growth.

Responses

At the multilateral level Australia continues to support the GEF in climate change mitigation. Australia has strengths in energy policy, markets and institutions, and is well placed to complement the energy policy and infrastructure programs of other donors, particularly the multilateral development banks, through support for the mitigation aspects of their energy development programs. Under the Asia-Pacific Partnership on Clean Development and Climate (AP6), the Australian Government is working with China and India to develop initiatives in (amongst other areas) cleaner fossil energy, renewable energy and distributed generation²⁵.

In future, the aid program could seek opportunities to leverage mitigation outcomes from large-scale multilateral development bank energy and infrastructure projects. The emphasis would be on identifying where Australia can have the biggest impact through co-financing arrangements that might see Australia strategically fund appropriate technical assistance, analytical support and policy advocacy. Measures could include provision of specific design expertise, energy audits and emissions reduction technology. The Infrastructure For Growth Initiative provides a capacity to partner with larger development initiatives to leverage mitigation benefits from large infrastructure projects. For example, Australia could finance renewables energy infrastructure or low-emissions technology as part of a larger energy development program financed by a multilateral development bank in the region.

Objective 3: To reduce greenhouse gas concentrations through reforestation and avoided deforestation

Challenges and issues

When forests are cut down (and especially when burnt or allowed to decompose) carbon compounds stored in trees and forest soils are released to form carbon dioxide and other greenhouse gases (eg carbon monoxide and methane). Approximately 20 per cent of global GHG emissions are credited to deforestation²⁶. Around half of these emissions occur in Asia, with Indonesia being by far the largest source country.

Reducing deforestation and encouraging reforestation/plantations are highly cost effective mitigation measures. Schemes that provide financial incentives to reduce deforestation have the potential to contribute to climate change mitigation²⁷. The possible returns from carbon trading could further encourage greater action to control deforestation and forest degradation. However, policy and technical issues need to be resolved before incentives or carbon trading

²⁴ Asian Development Bank (2006) Towards a Cleaner Energy Future in Asia and the Pacific

²⁵ The countries of the AP6 are Australia, China, India, Japan, South Korea and United States

²⁶ The Stern Review (2006) The Economics of Climate Change. HM Treasury, United Kingdom

²⁷ Peskett et al. (2006) Can Payments for Avoided Deforestation to Tackle Climate Change also Benefit the Poor?. Forestry Briefing 12. Overseas Development Institute

schemes can be made operational on a large scale²⁸. The Australian Government is playing a lead role internationally in stimulating discussion on such arrangements, and in supporting pilot initiatives, through its Global Initiative on Forests and Climate. At the same time, it has committed to a major expansion of enabling programs to countries in the Asia-Pacific region, particularly in Indonesia. These programs will target both governments and forest dependent communities because this approach builds on existing programs and offers good prospects for achieving effective and early outcomes. Examples of such approaches in the current aid program include the Solomon Islands Forestry Management Project (Phase 2 \$7.5 million 2004–2008) which takes a community-based approach coupled with institutional strengthening, policy and legislative reform; and the Qinghai Forestry Resources Management Project (\$11.5 million 2002–2007) which aims to improve forest management and contribute to environmental sustainability and poverty alleviation in China's Qinghai Province.

Responses

Apart from reducing GHG concentrations, the sustainable management of forests has many other benefits. It protects habitat and biodiversity, helps to reduce soil erosion and land degradation and over the long term, can improve the living standards of forest-dependent communities. Hence there is strong incentive for the Australian aid program to consider increased support for sustainable forestry management in countries where deforestation is a key issue (including Indonesia, the Philippines, Cambodia, Lao PDR, Papua New Guinea and Solomon Islands). This could build on existing Australian programs or in some cases involve making investments in successful programs supported by other donors. The World Bank's Global Forest Alliance²⁹ offers opportunities for partnerships in sustainable forest management and the GEF is revising its forest strategy to focus more on sustainable forest use over conservation strategies.

Corruption is a particular problem in the forest sector. Corruption is evident in illegal logging, transfer pricing and illegal trading in forest products and is a key barrier to achieving sustainable forestry management in the region. These problems have at times led to donors withdrawing assistance. More recently, however, it has been recognised that the need for action on deforestation is urgent and that even where corruption is a barrier, good outcomes can often be achieved by working directly with communities and civil society organisations.

On 29 March 2007 the Australian Government launched its Global Initiative on Forests and Climate. This \$200 million (mostly aid) initiative will support projects in selected developing countries (particularly in South East Asia and the Pacific) to help:

- assist in building technical capacity to assess and monitor forest resources, and to develop national forest management plans
- support effective regulatory and law enforcement arrangements to protect forests, including through preventing illegal logging
- promote sustainable use of forest resources and diversification of the economic base of forest-dependent communities
- support practical research into the drivers of deforestation
- encourage reforestation of degraded forest areas
- support pilot approaches to providing incentives to countries and communities to encourage sustainable use of forests and reduce destruction of forests

9.2 Water

Global demand for water is increasing rapidly and access to reliable, safe water supplies in the Asia-Pacific region is among the world's lowest. In some parts of the region, water is seasonally abundant but is not widely accessible. In others, seasonal dry periods are exacerbated by more prolonged drought. Severe water shortages can occur in both

²⁸ The World Bank is working towards creating an instrument for keeping forests in place to limit GHG emissions

²⁹ World Bank (2007) Global Forest Alliance: Proposal for a Comprehensive Partnership Approach to Conservation and Sustainable Use of the World's Forests

situations. Across the region, uncontrolled effluent inflows have degraded freshwater resources to the extent that available water, even if plentiful, is commonly unsafe.

Competition for water is growing. Agriculture is the largest water-user in Asia and the Pacific, accounting for 90% of consumptive uses overall. The area under irrigation in the region increased by 15 million hectares between 1993-2003³⁰. Overallocation of sources has resulted in conflict and degraded aquatic ecosystems³¹.

Freshwater resources must be effectively managed to support livelihoods and maintain water quality. This can be facilitated by³²:

- improving water quality, particularly in rural communities (necessitating a focus on sanitation and safe water); and
- strengthening integrated water resources management (IWRM), including science-based, participatory water management planning, frameworks for regulation and negotiation, and equitable allocation systems that promote fair and efficient water use through markets, complementary allocation measures and support for river basin organisations.

Future water-related assistance will build on current initiatives (eg those implemented within the framework of the 2003 water policy³³). The aid program will increasingly work in close partnership with other key donors in its support for water initiatives in the countries of the Mekong Basin and Pacific.

Objective 4: To improve water safety and availability

Challenges and issues

Agriculture, domestic users and manufacturing industries place high demands on freshwater supplies in the Asia-Pacific region. Effluent from these users is a major problem affecting water quality throughout the region. Water shortages related to poor planning, unsustainable extraction and poor water quality are already severe in many areas, especially in the highly urbanised, low-rainfall and intensively developed areas of Asia. In the Pacific island countries, freshwater 'lens' groundwater resources continue to be extracted unsustainably and many are contaminated by salt and wastes³⁴.

Responses

Water quality may be managed (and conserved) through:

- support for water, sanitation and waste management infrastructure and policy (with particular emphasis on community-managed water and sanitation systems and 'best practice' solid waste management systems); and
- risk-based approaches³⁵ to delivery of safe water to poor rural areas.

Options for assistance relating to water quality will be implemented within the framework of AusAID's Safe Water Guide³⁶, which promotes awareness raising, training and research on water quality issues in the Asia-Pacific region.

In the Pacific, Australia is working with the SOPAC and the World Health Organisation to develop water safety plans that reduce the risk of water-related diseases. The safety plans aim to improve the quality of water through the safe storage of water, efficient water

³⁰ FAO (2007) The State of Food and Agriculture in Asia and the Pacific 2006

³¹ Asia-Pacific Regional Document on the 4th World Water Forum Mexico City 2006: Summary Position Paper of the South East Asia Sub-Region (2007)

³² Asia-Pacific Water Forum (2006) www.apwf.org

³³ AusAID (2003) Making Every Drop Count: Water and Australian Aid

³⁴ Asian Development Bank (2004) Pacific Region Environmental Strategy 2005–2009

³⁵ Risk-based approaches refer to weighing up the risks of treatment at source versus finding alternative safe sources, especially for naturally contaminated sources

³⁶ AusAID (2005) Safe Water Guide for the Australian Aid Program 2005. A Framework and Guidance for Managing Water Quality

distribution to households, and effective water treatment. Pilot projects are underway in Vanuatu, Tonga, Cook Islands and Palau, and, contingent on their outcomes, the aid program could fund similar activities in other Pacific island countries. Australia is also supporting the development, implementation and scaling-up of water safety plans in South Asia and the Mekong region.

A large proportion of Australia's recent investments in water and sanitation have been in South and Southeast Asia – especially in Vietnam, East Timor, Indonesia, India and Bangladesh. In Indonesia, Australia directly supports the Water Supply and Sanitation Policy Formulation and Action Planning Project (WASPOLA) now in its second phase (\$8.5 million, 2004-2008). In Vietnam, water and sanitation projects have focused mainly on rural areas and the Mekong Delta (eg Cuu Long Delta \$27 million, 2001-2007; Three Delta Towns \$50.6 million, 2001-2008). In East Timor, a new Rural Water Supply and Sanitation Program (\$28 million, 2007–2012) will build the capacity of local institutions to manage and deliver services.

There is a relatively strong emphasis on working with regional organisations, other donors and multilateral agencies. Examples include support for the World Bank's Water and Sanitation Program (WSP) and for UNICEF's assistance to water testing and mapping in South and Southeast Asia. Other examples include the WHO–AusAID partnership (\$2 million, 2005–2007); the \$750 000 UNICEF Arsenic project; and a collaborative project with UNICEF in Lao PDR to improve sanitation facilities in 100 schools in three provinces.

Australia is the largest donor globally to the WSP. In Indonesia, Australian assistance supports WSP through WASPOLA, and includes co-financing with the World Bank of the Water Supply and Sanitation for Low Income Communities (WSLIC) project (\$12.5 million 2000–2008). In South Asia, Australian support through WSP has focused on institutional reforms in delivery of water and sanitation services.

The Australian Government will continue to build partnerships with regional organisations, other bilateral donors and multilateral agencies in the provision of safe water supply and sanitation (eg the Vietnam Rural Water Supply and Sanitation Program in collaboration with other donors such as Denmark and the Netherlands (\$7 million, 2006–2008) is being considered for significant expansion (2008–2010). The Infrastructure for Growth Initiative announced in the White Paper will include a substantial expansion of Australian support for water and sanitation services in the Asia-Pacific region.



Objective 5: To strengthen integrated water resources management (IWRM) including planning and allocation processes

Challenges and issues

Sustainable management of water resources in shared river basins demands an integrated approach to planning, and equitable sharing of basin resources. However, many countries and major basins of the Asia-Pacific region lack appropriate institutional frameworks to address the development of water and related land resources in an integrated manner, and water resources management tends to be fragmented among multiple agencies³⁷.

Integrated approaches seek to balance social, economic and environmental needs in the use of water resources. To be effective, IWRM involves participation of the range of legitimate stakeholders including governments, non-government organisations, communities, irrigators and other rural water users, urban domestic users, fisheries, industrial and hydropower and transport industries, river and wetland managers, recreation, and tourism industries. To balance competing demands and maintain the health of rivers, wetlands and groundwater, the integrated plan needs to account for environmental (resource protective) water flows and ecosystem requirements. It must also ensure that, overall, water is used efficiently and managed as a basic right for human consumption.

Water shortages in low and mid-latitude areas will be exacerbated by climate change impacts including changed rainfall and evaporation patterns, altered river flows, more extreme weather conditions and rising sea levels. Hence any future water management plans will need to include adaptation responses to climate change.

Responses

Integrated frameworks provide a sound setting for water resources planning and management. Australia has a long history of developing and implementing IWRM at catchment scale and has recently reached a national agreement through the National Water Initiative (NWI) on a comprehensive set of consistent principles for IWRM. The NWI firmly sets environmental outcomes and security of supply as cornerstones of water resources planning and allocation across the nation.

Australian experience in the Murray-Darling Basin indicates that specific basin or catchment IWRM frameworks need to be cast in over-arching policies that guide planning and allocation. The mechanisms for allocation should take account of water value/price so that water resources are used rationally and conservatively.

The aid program currently supports a range of IWRM initiatives, including a partnership with the Mekong River Commission (MRC) over the past decade (\$9 million, 1995-2005) and more recently, under the Mekong Water Resource Strategy (MWRS), The MWRS is a key element of the proposed Australian Mekong Sub-Regional Strategy, which recognises that effective and sustainable utilisation of natural resources, particularly water resources, is critical to economic growth.

In Cambodia, the Cambodian Development Research Institute (CDRI) Water Resource Management project (\$2.99 million, 2006–2012) aims to promote the research capacity of the CDRI in areas such as integrated water resources management, policy and practice by involving farmers, researchers, managers and policy makers. Effective river basin management in Quang Ngai province, Vietnam, is being supported (\$15 million, 2003–2007) to mitigate the impacts of flooding.

New initiatives in water management include a strong focus on good governance. For example, the new Australia China Environment Development Program (ACEDP, \$25 million) will provide support for co-operation between Australian and Chinese institutions, particularly in water policy and governance. Current activities in China include the Water Entitlements and Trading (WET) Project (\$920,000) managed jointly by AusAID and the Department of Agriculture, Fisheries and Forestry (DAFF). Water governance will continue to be a key priority for assistance in water resources management.

³⁷ Asia-Pacific Regional Document on the 4th World Water Forum Mexico City 2006: Summary Position Paper of the South East Asia Sub-Region (2007)

Australia will seek other opportunities to support components of larger IWRM projects in the region, and will encourage the development of IWRM principles and institutional arrangements more broadly. In line with current directions, Australia will focus on strengthening overall frameworks for IWRM by strategically targeting activities to leverage better environmental process and outcomes. Examples of activities under the framework of IWRM include:

- support for IWRM initiatives in key river basins, including strategic partnerships with other agencies to strengthen river basin organisations;
- support for assessments of water resources including aquifers;
- technical assistance in hydrological modelling, water allocation and defining environmental flow requirements;
- assisting to build capacities in water management including policy, regulatory frameworks, negotiated planning schemes, measurement and monitoring systems and water markets;
- strengthening water policy, particularly in relation to water sharing and trading;
- assisting implementation of the Pacific Water Plan and Action Strategy; and
- building capacities with Pacific and interested partners in Asia (including China and the Mekong Region) to respond to climate change.



9.3 Environmental governance

The critical environmental threats affecting the Asia-Pacific region demand a strong response from governments, nationally and in partnerships across the region. Experience in developed countries shows that long-term gains in environmental outcomes are best achieved through a combination of strong environment institutions, evidence-based policy, engagement of civil society and public participation, and widely-agreed, devolved, integrated environmental management frameworks that apply consistently across all sectors of development.

Environment policy development needs to be based on a firm understanding of the underlying science, the socio-economic challenges and the drivers of change. Once sound policies are in place, particular mechanisms for achieving environmental outcomes will vary depending on the nature of the development/environment interactions but they must take account of both the potential public and private benefits when it comes to sharing costs.

Regulatory mechanisms, opportunities for negotiated outcomes, incentives for environmental stewardship, best-practice management systems, strong disincentives to corruption and free-riding, and initiatives to encourage awareness are all important tools in environmental

management. The most successful frameworks integrate different mechanisms that in combination build capacities for change, seek win-win outcomes and include mechanisms that specifically target environmental objectives.

The countries of the Asia-Pacific region are at different stages in the development of their environment policies and frameworks. In many, environment policy and institutions are maturing but a balance is yet to be achieved between environmental outcomes and the imperatives of economic growth that can deliver the dual benefits of sustainable development and poverty reduction. As a consequence, long-term economic growth is directly undermined, and gains in living standards are placed at risk. Furthermore, the adverse environmental outcomes of weak environmental governance diminish the rights of individuals and communities throughout the region to a healthy environment.

Most countries in the region have enacted laws to govern development and manage environmental degradation, but many do not have sufficient enabling regulations – or the laws are not effectively implemented or enforced.

Corruption is also a major problem, particularly with respect to illegal logging, illegal harvesting of wildlife and illegal/unregulated fishing. Australia recently released *Tackling Corruption for Growth and Development*; a policy for Australian development assistance on anti-corruption (March 2007)³⁸. This policy outlines ways in which Australia will work with developing countries to combat corruption, including corrupt use of aid money. The policy together with lessons from environment and water sector projects can frame and support future environmental governance initiatives. Programs to improve the rule of law, promote public sector reform, and strengthen civil society are of particular importance for environmental reform.

Fostering functioning and effective states is a major focus for Australia's aid program. Over the last decade, Australia has greatly increased cooperation with partners in the region on governance, institutional capacities, and judicial and legislative issues, especially in the Pacific. Governance is a key focus for the aid program in countries where the need for development assistance on the whole is diminishing (eg China). Australia will build on this experience to respond to specific challenges in environmental governance. Government-to-government dialogue and linkages between environment institutions, as supported in China under the ACEDP and elsewhere under the Public Sector Linkages Program, can help to identify specific priorities for assistance in this area. Broadly, Australia will seek opportunities to strengthen environmental governance through:

- assisting the development of environment policy, legislation and regulations; and
- strengthening administrative and technical capacity for environmental management.

Objective 6: To strengthen institutional capacities for environmental management

Challenges and issues

Strong institutional capacities are essential for the development and implementation of effective environmental management systems. These capacities include sound analytical and technical skills that enable governments to take account of the mutually reinforcing linkages between poverty, environmental degradation and health. A capacity for analyses of key economic, social and environmental linkages is also imperative in rapidly developing economies.

Environment agencies in developing countries tend to be poorly resourced. They are required to set, monitor, evaluate and oversee the enforcement of environment policy yet they sit low in hierarchies and often lack the necessary authority, capacity and credibility to influence outcomes and discharge their mandates.

Good environmental governance requires agencies with the mandate, institutional capacity and will to develop and enforce appropriate policy and legislation. Their mandate must enable them to engage with development ministries, particularly in the resource management and infrastructure sectors, and encourage whole-of-government adoption of environment policy.

³⁸ <http://www.ausaid.gov.au/publications/pdf/anticorruption.pdf>

Responses

Australia will seek opportunities to engage with partner governments across the spectrum of capacities required for good environmental governance. These could encompass support to:

- address critical knowledge and skills gaps;
- build technical capacities in environmental management in the resource management, energy and infrastructure sectors;
- build stronger partnerships and engagement in environmental impact assessment and management across government sectors and with industry and communities;
- enhance regional dialogue and action on environmental issues.

Research collaboration, scholarships and work placements or exchanges with regional and Australian institutions could target specific areas of capacity building and knowledge gaps, covering policy development, environmental assessment, management, planning and monitoring, natural resource management, and environmental law.

Australian experience in inter-government agreements and partnerships in environmental management across administrative borders offers opportunities for assistance in building cross-border responses to environmental issues (for example the Australian bilateral agreements for the Natural Heritage Trust and the National Action Plan for Salinity and Water Management and the NWI). Within the region, Australia has the opportunity to build and promote good environmental governance by supporting partner governments in broad engagement and regional dialogue in environment policy and management practices. This could be supported through regional workshops, research collaboration, partnerships with the private sector, and assisting access to international financing facilities (eg the GEF).

Australia channels most of its funding in support of international environmental initiatives through the GEF and there is an opportunity to improve the presence and effectiveness of the GEF in our region (and its complementarity with the Australian aid program) through a number of approaches that aim to improve both the operational structures of the GEF and the capacity of partner country governments to interact with the GEF process. Options include:

- more active participation in the GEF Council meetings (eg input to the current reform agenda and the ongoing work program);
- improved engagement in the decision-making fora with the environmental conventions associated with the GEF; and
- working to address the capacity issues associated with the introduction of GEF projects in the region.

Objective 7: To improve policy, legislative and regulatory frameworks for environmental management

Challenges and issues

Even where good environmental management legislation has been enacted in the region, weak enforcement and poor implementation tend to limit its value. In some cases, the regulatory frameworks and administrative guidelines for implementation are poorly developed, rendering the legislation unenforceable. Corruption is also a major problem in many aspects of natural resource management in the Asia-Pacific region, particularly in forestry and fisheries. Problems include inequitable allocation of access rights, and failure to enforce environmental regulations.

Responses

Domestically, Australia has implemented an increasingly sophisticated set of regulatory frameworks for environmental management that cascade through federal, state and local government levels. In common with other countries around the world, Australia has had to tackle the challenges of engaging with industry and enforcing standards consistently, while continuing to encourage growth and development. Regulatory frameworks have been tailored to the different industry and resource use structures. They do not entirely rely on legislation but also increasingly provide scope for industry engagement in accreditation systems to meet

agreed regulatory standards. Partnerships between governments and industry are now driving the development of new standards and best-practice technology. Australia's regulatory frameworks involve mandatory community consultation and opportunities for negotiation on issues affecting property rights and access. They are largely implemented through negotiated planning and allocation systems.

This history means that Australian agencies offer significant expertise in environment policy and regulatory frameworks and have provided advice and assistance throughout the region on a range of policy matters. For example, DAFF is currently engaged in developing water management policy in China (through WET) and offers expertise in combating illegal logging³⁹, and the Department of Environment and Water Resources supports climate change responses in the region through the Australian Greenhouse Office (eg the Australia-China Climate Change Partnership) and provides advice on management of protected areas.

Australia will seek other opportunities to engage with partner governments in the region in initiatives to support development of regulatory frameworks and implementation and enforcement of existing legislation (including frameworks for management of forests, land, coastal zones, water resources, wastes and pollution and pests and diseases). The program may also address specific priority issues relating to regulatory frameworks. For example, poorly defined or disputed property and access rights have been identified as key constraints to sound resource allocation and management. Secure property rights that provide financial assets are also fundamental to the initiation and ongoing development of rural enterprises. Land as a financial asset is particularly important in Pacific island countries where approximately 80–90 per cent of land is held under customary tenure⁴⁰. The aid program will fund the Pacific Land Program, a White Paper initiative to help partner governments strengthen land systems within the framework of customary tenure.

10 Next steps

The consultation process for this paper will enable a wide-range of stakeholders and the general public to comment on and discuss the ways in which Australia can assist developing countries to tackle environmental challenges in the Asia-Pacific region. The consultation will guide development of a strategy for Australian responses through the aid program.

A further round of consultations will be conducted once a draft strategy has been prepared. The draft strategy is likely to be released for comment in April 2007 and will be finalised towards the end of June 2007.

Submissions and written comments on this paper can be directed to:

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Phone: 02 62064682

³⁹ Department of Agriculture Fisheries and Forestry (2006) Bringing Down the Axe on Illegal Logging. A Practical Approach. An Australian Government Discussion Paper, November 2006

⁴⁰ AusAID (2006) Pacific 2020. Challenges and Opportunities for Growth