



Good Practice Note: Environment Protection

Principle 2: Assess and manage environmental risks and impacts

March 2016

Version	1.2
For help, contact	environment@dfat.gov.au

This Good Practice Note is for DFAT staff, delivery partners and environment specialists involved in delivering Australia's aid program and explains how to screen, assess and manage environmental risks when planning and implementing an investment. It is one of a series of notes which explains the principles of the aid program's [Environment Protection Policy](#) and how they should be addressed. The notes complement the [Operational Procedures of the Environment Protection Policy](#).

Contents

Contents	1
2.1 Complying with legal obligations	1
2.2 How to screen investments for environmental risks	3
2.3 How to assess environmental risks and impacts	5
2.4 How to assess and manage the impacts of environmental factors on aid investments	7
2.5 How to manage impacts of aid investments on the environment	10
2.6 Environmental Assessment and Review Frameworks	12
Annex 1: Multilateral Environment Agreements	15
Annex 2: Potential impacts and mitigation measures for common sectors	18
Annex 3: Useful standards and guides	25

2.1 Complying with legal obligations

2.1.1 What are the legal obligations?

The environmental risks of all aid program investments should be identified and managed to enable compliance with:

- The [Environment Protection and Biodiversity Conservation Act 1999](#) (EPBC Act)
- Partner country laws
- Multilateral environment agreements.

The EPBC Act is Australia's principle national legislation for protecting the environment. The objects of the EPBC Act include to:

- provide for the protection of the environment
- assist in the co-operative implementation of Australia's international environmental responsibilities
- promote ecologically sustainable development.

The EPBC Act requires DFAT to obtain and consider the advice of Australia's Minister for the Environment before authorising any aid project that has, will have, or is likely to have, a significant impact on the environment anywhere in the world.

The Act may apply to aid investments regardless of their value or whether they will be implemented by DFAT or through a partnership arrangement. The responsibility to comply with the EPBC Act is DFAT's –it cannot be devolved or transferred to delivery partners or contractors. Delivery partners can, however, be required to meet conditions in DFAT contracts and agreements relating to assessment, management and reporting of environmental risks. If you are working with delivery partners, consult the *Good Practice Note: Environment Protection Principle 5: Work with partners*.

Aid program investments should also be consistent with [multilateral environment agreements](#) which Australia or a partner government has signed. These agreements may protect aspects of the environment including biodiversity, migratory and threatened species, wetlands the management of hazardous materials and places of heritage significance.

Aid investments, including any environmental assessment and management plan processes should also comply with partner country environment laws.

2.1.2 What DFAT should do to comply with its obligations

For all aid investments DFAT should:

- **Screen** aid investments for potential risks to the environment (usually at concept stage) and, if screening identifies risk, categorise the risk of a significant impact on the environment (low, medium or high)
- Complete an **environmental assessment** and an **environmental management plan (EMP)** for all medium and high risk investments. The EMP should include measures to mitigate, monitor and report on environmental risks that have been identified
- **Refer** the activity to the Minister for the Environment if, considering the assessment and mitigation measures, the activity will have or is likely to have a significant impact on the environment (high risk)
- Consider the advice of the Minister and Report back to the Minister on DFAT's response to the advice.

The [Operational Procedures for DFAT's Environment Protection Policy](#) provide a step-by-step outline of the screening, assessment and management processes.

The referral of investments and consideration of any advice of the Minister for the Environment must occur before entering into a contract or any other authorisation of the investment. Before providing advice, the Minister may require an [assessment under the EPBC Act](#). While in many cases this assessment could be based on an existing assessment (such as that of a development bank) there are time and resource implications should a referral be needed.

You should consult environment@dfat.gov.au as early as possible if you think that a referral may be required.

[Significant Impact Guidelines 1.2](#) provide further information on the Commonwealth's obligations under the EPBC Act and what 'likely to have a significant impact on the environment' means. The guidelines include a self-assessment process for identifying potentially significant impacts on the environment. Consideration should be given to all adverse impacts that could be reasonably predicted to result from the investment.

There is no requirement for referral if, considering the environmental assessment and the measures in the EMP, a significant impact is no longer likely. However you should ensure that EMPs are effectively monitored to avoid significant impacts arising during implementation.

You may need to consult with partner country governments and consultants to identify any national, provincial and local environment laws that may apply to the investment. Resources such as the [Asian Development Bank country environment analyses](#) may also be useful. Relevant multilateral environment agreements include those at Annex 1.

2.2 How to screen investments for environmental risks

2.2.1 Screening and categorising environmental risks

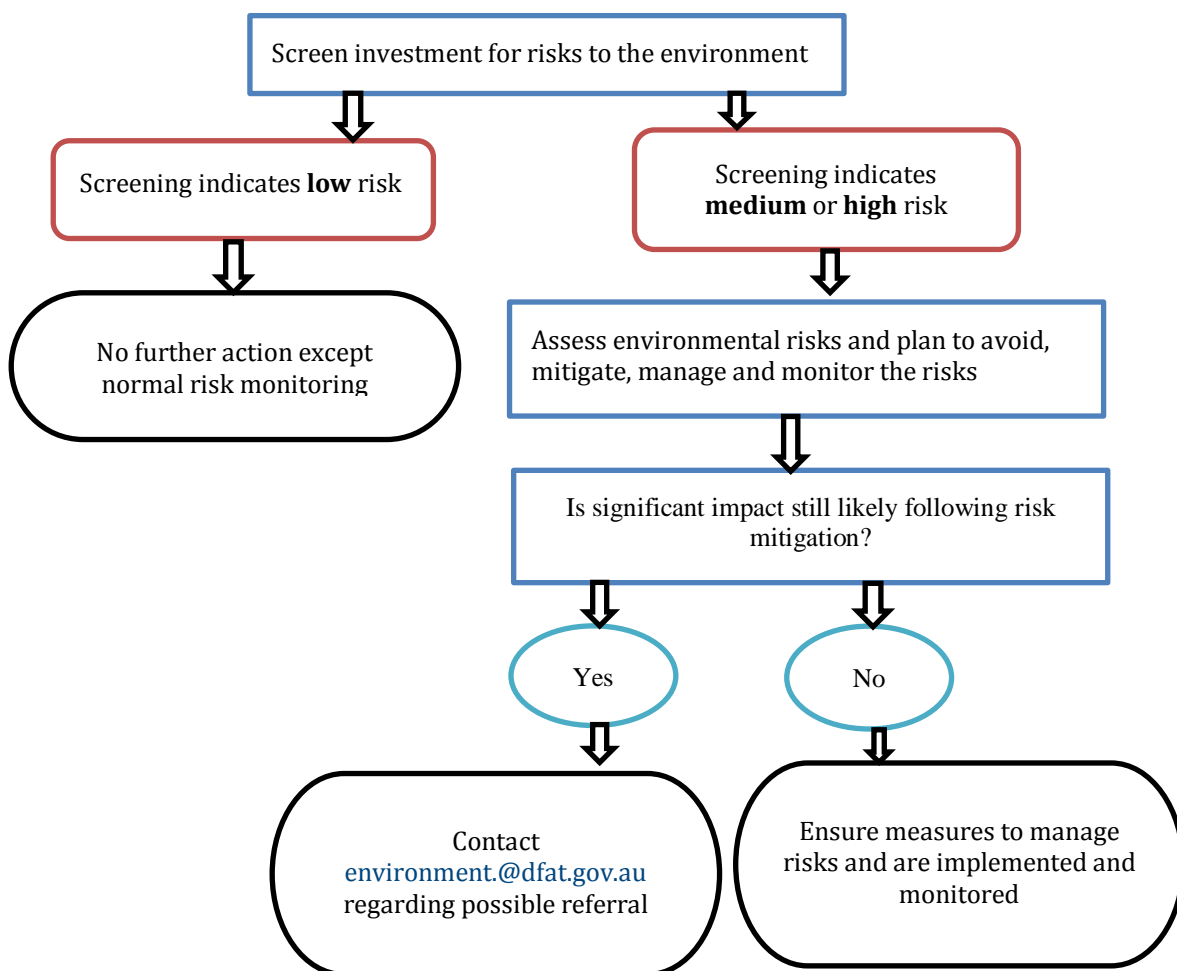
All aid program investments should be screened for potential environmental risks using the checklist in the investment concept template and *Operational Procedures* of the *Environment Protection Policy*. The screening process helps to identify potential environmental risks and guides the next steps in risk assessment and management.

Investments likely to be low risk include those in sectors that have no direct interaction with the environment including most (non-construction) activities in health, education and governance.

Keep in mind that investments may have indirect as well as direct environmental impacts. Support for trusts and facilities which are not managed by DFAT could also have environmental impacts where these could reasonably be predicted to result from DFAT support.

Where environmental screening indicates the potential for environmental risk (i.e. the answer to a screening question is yes or unsure), the level of risk should be categorised.

Figure 1 Outline of environmental screening and assessment process



2.2.2 You are following good practice if you:

- Answer the screening questions and categorise the risks to the environment early in investment concept development, guided by the *Operational Procedures*
- Document your decisions and the basis on which they were taken
- Follow the instructions for what to do next if your investment has a medium to high risk of causing a significant environmental impact.

2.3 How to assess environmental risks and impacts

2.3.1 What you should do

Where environmental **screening** indicates a medium to high risk of a significant impact on the environment, you should ensure that an **assessment** of environmental impacts is completed. Assessments should be proportional to the environmental risks and the scale of the investment.

This assessment would usually be done during design and be accompanied by an **environmental management plan** to avoid identified risks and to reduce, manage, monitor and report on unavoidable risks.

If an investment is to support a partner-led design, you should ensure the partner's environmental assessment and management plans adequately identify and address risks, enabling DFAT to meet its obligations. You may need to engage technical experts to review complex assessments (contact environment@dfat.gov.au for advice). Where possible you should ensure that environmental assessments and management plans are completed in cooperation with the partner.

The assessment should enable DFAT to determine with confidence if a significant impact on the environment is likely, or can be avoided. The *Significant Impact Guidelines 1.2* of the Department of the Environment include a tool to self-assess the significance of impacts.

Indirect as well as direct impacts should be considered: consider all impacts that could be reasonably predicted to result from the activity, whether they are within the control of DFAT or its partners or not.

In considering whether a significant impact on the environment is likely as defined by the EPBC Act your assessment can consider:

- Proven, reasonable, feasible measures to avoid and manage the impacts that have been identified can be considered
- The capacity and capability of delivery partners, local contractors/agents to effectively implement these measures in a manner that will reduce the likelihood of a significant environmental impact occurring should be taken in to account.

In the first instance, impacts should be avoided. If they can't be avoided, measures should be developed to mitigate impacts. Common approaches include:

- **Site selection** – to avoid sensitive, high-value sites and vulnerable communities
- **Timing** – to avoid monsoons, large migrations
- **Design** – to reduce or avoid damage, and to repair and restore environmental assets and values.

Examples of aid investments that could lead to a significant impact include those that:

- Result in environmental impacts in the event of natural disasters and extreme weather

- Damage, reduce or fragment populations or habitat of listed threatened or migratory species
- Damage, reduce or fragment a [Ramsar](#) listed wetland, a [World Heritage](#) listed site or a national park/protected area
- Measurably reduce the quality of air, water, sea or soil (against, for example, [World Bank Environmental Health and Safety Guidelines](#) and [World Health Organization Air Quality Guidelines](#))
- Promote the use of harmful substances that are listed under [multilateral agreements](#) or are banned or being phased out internationally, or pesticides that in the local context are unlikely to be managed under [international Integrated Pest Management standards](#)
- Import or transport harmful substances listed in the [Basel Convention](#) and [Waigani Convention](#)
- Significantly reduce women or men's access to resources and socio-economic development opportunities
- Significantly disadvantage women, people with disabilities or other vulnerable groups
- Cause dislocation or relocation of individuals or communities.

2.3.2 How to write an assessment report?

The content of the assessment report should be commensurate with the level of risk to the environment, be guided by the [Significant Impact Guidelines 1.2](#) and include:

Summary of findings and recommendations

Requirements of Australian and national laws

Description of the components and **features** of the environment

Description of the components and **stages** of the activity

An **analysis of the risks** and threatening processes

An **analysis of the impacts**

An **assessment of the severity of the impacts** and whether they can be avoided or managed

A **recommendation** regarding the significance of the impacts.

A good annotated example of an environmental assessment and environmental management plan is at: www.adb.org/documents/safeguard-policy-statement.

2.3.3 What's next?

If a significant impact may still be likely after risks have been assessed and reasonable measures for avoiding and managing the risks have been considered, you should seek help

from the environment@dfat.gov.au to decide if the activity should be referred for advice to the Minister for the Environment under the EPBC Act.

If a significant impact is no longer likely because the risks have been assessed and any significant risks can be avoided or mitigated with a high degree of confidence, you should still prepare and implement a plan for managing, monitoring and reporting on the risks, based on the risk assessment.

2.4 How to assess and manage the impacts of environmental factors on aid investments

2.4.1 What are environmental risks to aid investments?

Disasters, environmental degradation, climate change, and other environmental factors can have an impact on aid investments and communities. Good design should consider the impacts of environmental factors on the success of investments – as well impacts that investments might have on the environment.

[Reducing disaster risks](#) and building resilience to natural disasters is one of the six pillars of Australia's aid policy framework. This protects our aid investment and advances our goal of contributing to sustainable economic growth and poverty reduction in the Indo-Pacific region. Australia advocates for strong global disaster risk reduction action

Parts of our region, including the Philippines, Indonesia, Vietnam, Pacific islands and coastal areas across the Indo-Pacific are among the most vulnerable in the world to disasters and climate change.

Designing investments that reduce disaster, environmental and climate risks can help protect investment outcomes, communities and natural resources.

2.4.2 Assess risks to investments

Potential impacts of disasters, climate change and extreme weather on the integrity and longevity of Australian aid investment should be considered in their design, particularly if the activity is in a vulnerable location or sector.

Vulnerable locations include sites exposed to natural disasters, and areas likely to experience higher intensity disasters as a result of climate change. Impacts of slow-onset climate changes such as to temperature and rainfall patterns should also be considered where they could affect the investment (for example by making agriculture more marginal).

The assessment should consider:

- Partner country natural hazard and vulnerability mapping and disaster risk assessments for the sector and location of the aid activity
- Any available Australian disaster early warning data and climate modelling relevant to in-country risk assessments (e.g. from the aid program-funded [climate science program in the Pacific](#) and recent modelling in Indonesia, the Philippines and Vietnam, available through the CSIRO, the Australian Bureau of Meteorology and Geoscience Australia)

- International assessments and guides for risk reduction and [climate change adaptation](#) in relevant countries.

Managing environmental risks: Cao Lanh Bridge Vietnam (AU \$160M 2011-2017)

The Cao Lanh Bridge, co-financed by the Asian Development Bank and Australia, was subject to an environmental impact assessment, funded through Australian technical assistance. The assessment identified a risk of increased flood levels due to changing rainfall and river flooding patterns. As a result of subsequent modelling, the access road to the bridge was raised in the design to accommodate more extreme flood events.

2.4.3 Manage risks to investment

Good practice measures for managing risks posed by natural disasters, environmental and climate change impacts could include:

- Location and alternative approaches in the planning phase
- Design standards and guidelines, materials selection, maintenance regime, technology and relocation to less hazard prone areas
- Adjustment of operations
- Plans for emergency and disaster management.

Australia has been a signatory member of the Hyogo Framework for Action 2005-2015 and has endorsed the [Sendai Framework](#). It includes measures for ‘disaster proofing’ development investments, including ‘build back better’ principles for humanitarian action and building knowledge and skills to understand impacts, forecast intensity and prepare better for disaster events.

Table 1: Examples of environmental risk management measures for vulnerable aid sectors

<p>Transport infrastructure-roads, bridges, ports</p>	<ul style="list-style-type: none"> • Locate infrastructure and plan alternative transport routes based on hazard maps to avoid disruption from earthquakes, floods and storm surges • Consider regional sea level rise projections in the design of port and coastal facilities. Sea level rise projections are typically conservative therefore an additional “safety buffer” is recommended • Plan maintenance regimes to target vulnerable sections of transport systems (applies to most infrastructure sectors) • Design drainage and storm water systems taking account of flood history and climate projections. If no projections are available, include a precautionary overestimation in the design to provide a safety buffer
<p>Buildings</p>	<ul style="list-style-type: none"> • Avoid high-risk areas with known hazards (i.e. where there are tectonic, forest fires, flood or storm surge risks) • Use building standards and codes (e.g. insulation, window area and wind and flood protection) that are appropriate to current and future natural hazard and climate conditions (and can withstand projected events) • Include natural air circulation and insulation in building design • Inform actual and future owner and tenants of the hazard zoning (mention on the contract and land title) • Maximise shade around buildings and minimise tarmac/bitumen surfaces. Enable shade to be added or removed

Water	<ul style="list-style-type: none"> • Increase the capacity and the number of rain water tanks and locate them to avoid disaster risks • Consider alternative water supply options (e.g. recycled water systems) and conservation measures (e.g. restrictions on water use) • Design water supply and irrigation systems, taking account of rainfall and temperature projections • Use mesh and filters to minimise potential for mosquito breeding • Design drainage systems taking account of natural hazard maps and climate change projections. If no projections are available, provide a safety buffer
Sanitation	<ul style="list-style-type: none"> • Design sewage systems taking account of flood history and climate projections, and to avoid contamination of water sources and other assets during a disaster • Design drain and storm water systems informed by climate change projections. If no projections are available, include a safety buffer • Plan retention and safety basins taking account of flood history and climate projections to avoid overflow and pollution spills downstream • Integrate flood management procedures (forecasting and early warning systems) in sewer and landfill operational planning • Equip the sewage system with independent power generation backup to ensure pump power during electricity blackout

2.4.4 You are following good practice if you:

- Assess and take account of the risks of disasters and climate change early in the location and design of all aid activity
- Engage risk reduction specialist expertise in the design of activity in highly disaster-prone locations and sectors
- Consult in-country natural disaster and climate change agencies to identify and comply with local legal and operational frameworks for disaster risk reduction and climate change adaptation
- Plan measures to avoid, reduce and manage disaster risks to the integrity and longevity of aid investments, and provide resources for their effective implementation
- Include indicators of disasters and climate change risks in activity monitoring and reporting frameworks
- Build capacity in local agencies to develop disaster and climate resilient investment in infrastructure, natural resources, education, health, humanitarian aid and other vulnerable sectors.

Useful resources include:

[Organisation for Economic Cooperation and Development, \(OECD\), 2009, Policy Guidance on Integrating Climate Change Adaptation into Development Co-operation](#)

[UN Global Assessment Report on Disaster Risk Reduction 2013](#)

[Asian Development Bank, Economics Working Paper Series, Climate-Related Disasters in Asia and the Pacific, July 2013](#)

2.5 How to manage impacts of aid investments on the environment

2.5.1 What you should do

An environmental management plan should be prepared for all aid activity classed as medium to high risk as determined by the screening questions in the Operational Procedures for DFAT's *Environment Protection Policy*. The plan should be developed alongside the environmental assessment.

Your environmental management plan should ensure risks are being managed, monitored and reported to avoid any **significant impact** on the environment arising in implementation.

Technical specialists engaged to develop environmental management plans for DFAT supported investments should refer to this guidance.

An environmental management plan should provide for:

- Avoiding and managing environmental risks identified early in the design of an aid activity
- Monitoring and reporting on environmental risks during implementation
- Adjusting risk management measures and responding to new risks during implementation.

The management plan should be developed with reference to national standards and should take account of planning instruments applying to the activity such as local government environmental and coastal management plans, and management plans for protected areas and other locally significant environmental assets.

2.5.2 What does a good environmental management plan look like?

The environmental management plan should cover the following items drawing on the assessment of environmental risks conducted for the investment:

Summary of activity approvals – including environmental compliance permits required under partner country laws.

Summary of environmental risks – focusing on medium to high risks.

For each medium to high risk – a detailed action plan using the mitigation hierarchy to firstly avoid the risks and if they can't be avoided, to effectively manage the impacts to within accepted national and international standards. The environmental management plan has to provide sufficient information about the action(s) to be taken so that it is unambiguous in terms of what is required, when it is required, and who will implement it.

- The action plans should specify the standard of environmental management being met according to national and international standards, how this standard will be achieved and the skills/resources likely to be needed, considering the capacities of

local agencies and contractors to effectively implement the actions. It should identify additional skills and resources that may be required

- The action for each mitigation measure should be described in terms of the impact it will mitigate, when it is required, its general design, equipment required, and operating procedures as appropriate
- The action plans should link to the overall project design, indicating the timing, phasing and resource implications of actions

Acceptable mitigation measures and international good practice guides for impacts that are potentially significant are outlined at the end of this guide.

Offsets can be considered for risks that can't be avoided or effectively managed, see [guidance under the EPBC Act](#).

Framework for monitoring – including indicators and performance measures, and monitoring and reporting schedules for each mitigation measure to be incorporated in the activity monitoring and evaluation framework.

Adaptive management – providing management mechanisms for adjusting mitigation measures and responding to new environmental risks that emerge during implementation.

Implementation arrangements – allocating resources for implementation including who is responsible.

Contract conditions – specified for delivery partners.

Arrangements for building local capacity – including engaging and mentoring local specialists to ensure that skills and resources are sufficient to achieve the relevant standards of environmental management outlined in the action plans, and to foster ongoing management and maintenance.

Measures should be proven and be able to be successfully implemented, given local capacities, technology and resources.

Investigate and consult:

Consider the need for investigations and consultations by technical specialists in country to identify risk avoidance and mitigation measures.

Consultations should include government agencies and civil society groups active in the sector and the activity area, and people and communities likely to be impacted by the activity, including women, people with disabilities, and other vulnerable groups. Specific measures may be needed to facilitate their informed participation.

An annotated outline of a best practice environmental assessment and environmental management plan is available at: www.adb.org/documents/safeguard-policy-statement. See also: [Asian Development Bank Environmental Safeguards: A Good Practice Sourcebook, Draft 2012](#).

2.6 Environmental Assessment and Review Frameworks

2.6.1 What is an Environmental Assessment and Review Framework (EARF)?

An Environmental Assessment and Review Framework (EARF) is a document that describes the scope of the potential environmental risks of activities and outlines the approach that will be taken to their identification, assessment and management.

In the case of Australia's aid program an EARF should set out how activities of investments will be screened for environmental risk and how these risks will be assessed and managed in a way that is consistent with DFAT's Environment Protection Policy as well as the requirements of other partners and government agencies.

EARF's are used by multilateral development banks and are known as Environment and Social Management Frameworks in the World Bank.

An EARF should set out the roles and responsibilities of partners involved in the delivery of activities.

2.6.2 When should you complete an EARF?

An EARF should be completed when designing a program or investment that will support the future development and implementation of separate activities, any of which could have an impact on the environment. This may be the case, for example, when working with facilities.

Generally environmental risk screening, assessment and management plans should be completed as part of the concept development and design of investments and activities. But sometimes, such as when DFAT is contributing to a sectoral trust fund or using a facility, there is not enough information about the activities to be funded to adequately identify and assess their environmental impacts in the investment design process. In these circumstances, completion of an EARF should be considered.

When DFAT is contributing to a trust fund or delivering aid through a facility, it may still need to meet safeguard requirements, including for environmental protection. DFAT cannot 'delegate' its responsibilities for environmental protection to other parties. DFAT can however ensure that designs, agreements and contracts provide for environmental risks to be identified assessed and managed in a way that will assist DFAT to meet its responsibilities.

2.6.3 Why do an EARF?

Completing an EARF is important because it identifies potential environmental risks and the measures that exist, or can be put in place, to address them when implementing activities under an investment. An EARF allows:

- the potential environmental impacts of an investment to be considered early in the design;
- measures that exist to address the environmental impacts that may arise from to be understood;

- the roles and responsibilities of DFAT and implementing partners to be clearly set out;
- delegates to understand the potential environmental risks of investments and related resource and contractual implications in ensuring risks are managed; and
- capacity development requirements of implementing partners to be identified.

2.6.4 What does a good EARF look like?

The following is a guide to the contents of an EARF, adapted from the Asian Development Bank Safeguard Policy Statement 2009. In the World Bank, EARFs are called Environment and Social Management Frameworks.

EARFs should reflect the principles of the DFAT's EPP including doing no harm to the environment, harmonising with development partners and promoting improved environmental outcomes. EARFs should be proportional to the potential environmental risks and scale of investments.

Introduction - Briefly describe the investment and the activities, or type of activities that will be delivered. Explain why environmental assessments and management plans for the investment and/or activities under the investment cannot be prepared before investment approval.

Assessment of Legal Framework and Institutional Capacity - Identify and assess the adequacy of the applicable national and local laws, regulations, and standards in environmental assessment and management, including applicable multilateral environmental agreements. Assess the adequacy of the implementing partners' institutional policies and capacity to assess and manage environmental risks.

Anticipated Environmental Impacts - Provide information on project activities to be supported, and their potential direct and indirect impacts on the environment. Don't forget to consider impacts on communities. Good Practice Note 2 Assess and manage environmental impacts provides further guidance on identifying potential impacts.

Environmental Assessment for Activities - Provide a plan for carrying out environmental assessment and planning for activities, including requirements and schedules for

- environmental risk screening
- preparation of environmental assessments and environmental management plans

This section may also outline specific environmental criteria to be used for activity selection, for example, by specifying any activities that will not be permitted under the program because risks to the environment are too high. Remember that if an activity is likely to have a significant impact on the environment, DFAT may still have to refer this for advice under the EPBC Act.

Consultation and Information Disclosure - Establish a framework for ensuring meaningful consultation with affected people during project preparation and implementation. Discuss information disclosure arrangements, including disclosure of subproject EIAs to be prepared under this framework. Identify arrangements for addressing grievances.

Institutional Arrangement and Responsibilities - Specify the roles and responsibilities of DFAT, implementing partners and government agencies for the preparation, submission, review, and clearance of environmental assessment reports of activities. Estimate staffing requirements, and recommends a capacity development program, where necessary. Estimate costs for implementing the EARF and indicate how it will be funded.

Monitoring and Reporting - Specify monitoring and reporting arrangements, including when and how reports will be made to DFAT.

References and consultations - List of the references and consultations used to inform the strategic assessment report.

Annex 1: Multilateral Environment Agreements

Multilateral environment agreements that may be relevant to the implementation of Australia's aid program include those listed below. A complete list of agreements signed by Australia on environment and resources is available at www.info.dfat.gov.au/treaties.

Biodiversity and ecosystems

The Convention on Biological Diversity (CBD)

The Convention on Biological Diversity has 3 main objectives:

1. The conservation of biological diversity
2. The sustainable use of the components of biological diversity
3. The fair and equitable sharing of the benefits arising out of the utilization of genetic resources.

The Convention obliges all parties to develop and implement national biodiversity strategies and action plans.

Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention)

The Convention provides a global platform for the conservation and sustainable use of migratory animals and their habitats. The Convention brings together the States through which migratory animals pass, and lays the legal foundation for internationally coordinated conservation measures throughout a migratory range.

Migratory species threatened with extinction are listed on Appendix I of the Convention. CMS Parties strive towards strictly protecting these animals, conserving or restoring the places where they live, mitigating obstacles to migration and controlling other factors that might endanger them. Besides establishing obligations for each State joining the Convention, CMS promotes concerted action among the Range States of many of these species.

Migratory species that need or would significantly benefit from international co-operation are listed in Appendix II of the Convention.

Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)

CITES aims to ensure that international trade in specimens of wild animals and plants does not threaten their survival. The Convention accords varying degrees of protection to more than 35,000 species of animals and plants, whether they are traded as live specimens or products.

Convention on Wetlands of International Importance (Ramsar Convention)

The Convention provides the framework for national action and international cooperation for the conservation and wise use of wetlands and their resources.

A key commitment is to identify and place suitable wetlands onto the List of Wetlands of International Importance (Ramsar wetlands).

United Nations Convention to Combat Desertification in those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa

The Convention addresses arid, semi-arid and dry sub-humid areas, where some of the most vulnerable ecosystems and peoples can be found. In the 10-Year Strategy of the UNCCD (2008-2018), Parties to the Convention further specified their goals: "to forge a global partnership to reverse and prevent desertification/land degradation and to mitigate the effects of drought in affected areas in order to support poverty reduction and environmental sustainability".

Heritage

The Convention Concerning Protection of the World Cultural and Natural Heritage (World Heritage Convention)

The Convention encourages the identification, protection and preservation of cultural and natural heritage considered to be of outstanding value to humanity. Cultural heritage refers to monuments, groups of buildings and sites with historical, aesthetic, archaeological, scientific, ethnological or anthropological value. Natural heritage refers to outstanding physical, biological and geological formations, habitats of threatened species of animals and plants and areas with scientific, conservation or aesthetic value.

The Convention encourages its Parties to nominate sites within their national territory for inclusion on the World Heritage List and encourages international cooperation in the conservation of our world's heritage.

Hazardous materials

The Convention to Ban the Importation into Forum Island Countries of Hazardous and Radioactive Wastes and to Control the Transboundary Movement of Hazardous wastes within the South Pacific Region 1995 (Waigani Convention)

The objectives of the Waigani Convention are to:

- reduce or eliminate transboundary movements of hazardous and radioactive waste into and within the Pacific region
- minimise the production of hazardous and toxic wastes in the Pacific region
- ensure that disposal of wastes is completed in an environmentally sound manner and as close to the source as possible
- assist Pacific island countries that are parties to the Convention in the environmentally sound management of hazardous wastes they generate.

At October 2012, there are 13 parties: Australia, Cook Islands, Federated States of Micronesia, Fiji, Kiribati, New Zealand, Niue, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu and Vanuatu.

Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (Basel Convention)

The Convention has the following principal aims:

- the reduction of hazardous waste generation and the promotion of environmentally sound management of hazardous wastes, wherever the place of disposal;
- the restriction of transboundary movements of hazardous wastes except where it is perceived to be in accordance with the principles of environmentally sound management; and
- a regulatory system applying to cases where transboundary movements are permissible.

The Convention requires developed countries provide financial resources and measures to eliminate production and use of persistent organic pesticides and manage and dispose of their wastes in an environmentally sound manner. At 2014, 23 chemicals were listed as eliminated or restricted.

The Basel Convention is implemented in Australia by the *Hazardous Waste (Regulation of Exports and Imports) Act 1989*.

Stockholm Convention on Persistent Organic Pesticides

The Stockholm Convention on Persistent Organic Pollutants (POPs) is to protect human health and the environment from chemicals that remain intact in the environment for long periods, become widely distributed geographically, accumulate in the fatty tissue of humans and wildlife, and have harmful impacts on human health or on the environment.

The Convention, requires its parties to take measures to eliminate or reduce the release of POPs into the environment.

Rotterdam Convention

The Convention promotes shared responsibility and cooperative efforts among Parties in the international trade of certain hazardous chemicals in order to protect human health and the environment from potential harm. The Convention contributes to the environmentally sound use of those hazardous chemicals, by facilitating information exchange about their characteristics, by providing for a national decision-making process on their import and export and by disseminating these decisions to Parties.

The Convention covers pesticides and industrial chemicals that have been banned or severely restricted for health or environmental reasons by Parties and which have been notified by Parties for inclusion in the PIC procedure

Annex 2: Potential impacts and mitigation measures for common sectors

Infrastructure including construction for Health and Education	
Impact	Examples of mitigation options
Erect buildings or other structures near a legally or locally protected heritage area	Locate and design activities to reduce and minimise impacts on heritage values
Substantially change or diminish cultural identity, social organisation or community resources	Avoid activities that could reduce access to resources and development opportunities
Release, leakage or spillage of hazardous materials commonly used in school buildings such as asbestos	Provide design measures that ensure hazardous materials are used, stored, transported and disposed of in accordance with Australian or equivalent standards
Release large quantities of sewage or other waste into the environment	Discharge wastewater from toilets and kitchens into an appropriate sewer or sewage system. Provide design measures that ensure waste is stored, transported and disposed of in accordance with Australian or equivalent standards
Substantially alter natural landscape features	Avoid major construction activities in natural landscapes unless there are no adverse impacts on landscape values Incorporate design measures to reduce and minimise disturbance to natural processes
Erect buildings or other structures near a legally or locally protected heritage area	Locate and design activities to reduce and minimise impacts on heritage values
Cause physical dislocation of individuals or communities	See DFAT's Displacement and Resettlement Policy
Substantially alter demand for community services including	Provide design measures that cater for increased demand for community services

water supply, energy, roads, waste disposal and housing	Prepare a waste management plan as part of the EMP
Generate smoke, fumes, chemicals, sewage, nutrients or other pollutants which will substantially reduce local air or water quality	Avoid emissions to natural environments Provide design measures to reduce and minimise emissions to within good practice standards
Affect the health, safety, welfare or quality of life of people through exposure to pollution or noise from unsafe work practices	Avoid activities that will harm people Provide design measures to ensure safe work practices are taught and used to within good practice standards
Alter coastal and estuarine processes including wave action, sediment movement or accretion, tidal patterns, water quality or water circulation patterns	Avoid major construction activities in natural landscapes and coastal areas unless there are no adverse impacts on landscape values or sea circulation Incorporate design measures to reduce and minimise disturbance to natural processes
Reduce biological diversity or change species composition in estuaries, reefs, seamounts or other sensitive marine environments	Avoid modifications that will reduce productivity of ecosystems Provide effective mechanisms to enable fish migration
Substantially damage or modify large areas of the seafloor or ocean habitat such as sea grass	Avoid major construction activities in ocean habitat areas unless there are no adverse impacts Deepwater disposal of dredged material
Release oil, fuel or other toxic substances into the marine environment in sufficient quantity to kill larger marine animals or alter ecosystem processes	Prepare guidelines and procedures for immediate clean-up actions following any spillage of oil, fuel, or chemicals; Keep the number of chemical, fuel, and oil containers to a minimum and returning them to storage areas when not in use Establish locations for storing waste materials, fuels, oils, chemicals, and equipment that are as far from the water as possible and not prone to flooding, lockable and sited on sealed areas within a bund.
Release, leakage, spillage or explosion of hazardous materials such as pesticides or un-exploded ordinance	Provide design measures that ensure hazardous materials are used, stored, transported and disposed of in accordance with Australian or equivalent standards
Substantially disturb contaminated or acid-sulphate soils	Identify alternative sites to avoid draining, clearing and construction of areas with acid sulphate soils

	Rehabilitate disturbed areas including re-establishing previous flooding patterns
Large-scale controlled burning or any controlled burning in sensitive areas including areas which contain listed threatened species	Avoid or minimise controlled burning Ensure design allows for extensive planning, training, personnel, and equipment before any controlled burn. Allow vegetation to dry before burning; progressively burn vegetation in small heaps to avoid massive conflagration and smoke development; and make cleared waste wood available to local people for use as fuelwood
Health	
Impact	Examples of mitigation options
Release, leakage, spillage or explosion of hazardous materials such as medical waste and asbestos	Provide design measures that ensure hazardous materials are used, stored, transported and disposed of in accordance with Australian or equivalent standards
Substantially alter demand for community services including water supply, energy, roads, waste disposal and housing	Provide design measures that cater for increased demand for community services
Infrastructure	
Impact	Examples of mitigation options
Damage or change the nature of a legally or locally protected heritage area	Identify heritage values and avoid activities in heritage sites unless there are no adverse impacts on values Relocate heritage items that could be impacted with community agreement
Substantially alter natural landscape features	Avoid major construction activities in natural landscapes unless there are no adverse impacts on landscape values Incorporate design measures to reduce and minimise disturbance to natural processes
Cause subsidence, instability or substantial erosion	Incorporate erosion control and slope stabilisation technology

Extraction of materials can disrupt natural land contours and vegetation resulting in accelerated erosion, disturbance in natural drainage patterns, ponding and water logging, and water pollution.	Quarry site/s located away from population centres, drinking water intakes and streams, cultivable lands, and natural drainage systems; and in structurally stable areas even if some distance from construction activities.
Erect buildings or other structures near a legally or locally protected heritage area	Locate and design activities to reduce and minimise impacts on heritage values
Cause physical dislocation of individuals or communities	See DFAT's Displacement and Resettlement Policy
Substantially alter demand for community services including water supply, energy, roads, waste disposal and housing	Provide design measures that cater for increased demand for community services Prepare a waste management plan as part of the EMP
Reduce the quantity, quality or availability of surface or ground water from construction run off	Prevent excessive generation of runoff (such as settling pond) to minimize the potential of such effluents to reach the marine environment, and applying regular monitoring and an immediate feedback mechanism.
Natural resources	
Impact	Examples of mitigation options
Erosion, loss of habitat and biodiversity from land clearing	Avoid modifications that will reduce productivity of ecosystems Reduce clearing footprint/identify alternative site Retain native vegetation in buffer zones to protect these assets Incorporate erosion control and slope stabilisation technology Progressive rehabilitation of disturbed areas to protect environmental functions and values of ecosystems

Release, leakage, spillage or explosion of hazardous chemicals such as mine tailings, fuels or unexploded ordinance	Avoid the use of hazardous materials where possible Provide design measures that ensure hazardous materials are used, stored, transported and disposed of in accordance with Australian or equivalent standards
Reduce the quantity, quality or availability of surface or ground water	Ensure testing and assessments are undertaken on an ongoing basis to ensure water quality is not impacted
Large-scale controlled burning or any controlled burning in sensitive areas including areas which contain listed threatened species	Avoid or minimise controlled burning Ensure design allows for extensive planning, training, personnel, and equipment before any controlled burn. Allow vegetation to dry before burning; progressively burn vegetation in small heaps to avoid massive conflagration and smoke development; and make cleared waste wood available to local people for use as fuelwood
Erosion, loss of habitat and biodiversity from land clearing	Avoid modifications that will reduce productivity of ecosystems Reduce clearing footprint/identify alternative site Retain native vegetation in buffer zones to protect these assets Incorporate erosion control and slope stabilisation technology Progressive rehabilitation of disturbed areas to protect environmental functions and values of ecosystems
Loss of soil productivity from intensification of land use over time	Avoid excessive tillage and compaction Enhance organic matter, diversify cropping and maintain ground cover Manage pests and nutrients efficiently
Introduce a potentially invasive species	Identify alien or non-endemic species, and establish biosecurity measures to avoid introduction of non-endemic species Follow national frameworks for management of invasive species
Release, leakage, spillage or explosion of hazardous chemicals such as pesticides, fertilizer, fuels or unexploded ordinance	Avoid the use of hazardous materials where possible Provide design measures that ensure hazardous materials are used, stored, transported and disposed of in accordance

	with Australian or equivalent standards
Substantially disturb contaminated or acid-sulphate soils	Identify alternative sites to avoid draining, clearing and construction of areas with acid sulphate soils Rehabilitate disturbed areas including re-establishing previous flooding patterns
Large-scale controlled burning or any controlled burning in sensitive areas including areas which contain listed threatened species	Avoid or minimise controlled burning Ensure design allows for extensive planning, training, personnel, and equipment before any controlled burn. Allow vegetation to dry before burning; progressively burn vegetation in small heaps to avoid massive conflagration and smoke development; and make cleared waste wood available to local people for use as fuelwood
Divert, impound or substantially alter the drainage pattern of a river	Incorporate design/ engineering measures to control river bank erosion, sediment pollution, and downstream impacts on water temperature and water quality Provide operating mechanisms for securing environmental flows and protection of downstream habitat Provide effective mechanisms to enable fish migration Rehabilitate disturbed areas to restore previous environmental functions and values
Measurably alter water tables or over-allocate water supplies	Avoid tapping natural springs/ community water supplies unless there are no adverse impacts Match water allocations to calculated sustainable yield Incorporate water efficiency measures in design
Potential health impacts on communities from changes in water supply, storage or use	Ensure water storage for irrigation does not encourage domestic use, mosquito breeding or pose threat of drowning
Water, Sanitation and Hygiene	
Impact	Examples of mitigation options
Reduce the quantity, quality or availability of surface or ground water	Ensure testing and assessments are undertaken on an ongoing basis to ensure water quality is not impacted
Potential health impacts on communities from changes in water	Ensure testing for water quality from new supply is undertaken on an ongoing basis

supply, storage or use	Ensure water storage facilities do not encourage mosquito breeding or pose threat of drowning
Channelize, divert or impound rivers or creeks or substantially alter drainage patterns	<p>Incorporate design/ engineering measures to control river bank erosion, sediment pollution, and downstream impacts on water temperature and water quality</p> <p>Provide operating mechanisms for securing environmental flows and protection of downstream habitat</p> <p>Provide effective mechanisms to enable fish migration</p> <p>Rehabilitate disturbed areas to restore previous environmental functions and values</p>
Release large quantities of sewage or other waste into the environment	<p>Discharge wastewater from toilets and kitchens into an appropriate sewer or sewage system.</p> <p>Avoid discharging sewage or wastewater into the sea, and make adequate provisions for disposal.</p>

Annex 3: Useful standards and guides

International and multi-lateral standards and guidelines that may be relevant to the implementation of Australia's aid program include those listed below.

ISO-14000 Standards for Environmental Management

Asian Development Bank Environment Safeguards: A Good Practice Sourcebook (Draft Working Document), 2012

World Bank Safeguards Policies

IFC Environmental and Social Performance Standards and Guidance Notes

Food and Agriculture Organisation (FAO) Good Agricultural Practices, 2008

World Health Organization Air Quality Guidelines

FAO Strategic Plan for Biodiversity 2011-2020)

World Commission on Dams, 2000

Program for the Endorsement of Forest Certification

Forest Stewardship Council

FAO Code of conduct for Responsible Fisheries, 1995

Marine Stewardship Council

International Council of Mining and Metals Good Practice Guidance for Mining and Biodiversity, 2006

FAO International Code of Conduct on the Distribution and Use of Pesticides, 2013

Charters adopted by the International Council on Monuments and sites