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STRATEGIC ENVIRONMENTAL ASSESSMENT AND DISASTER RISK REDUCTION

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Preface

This is one in a series of Advisory Notes that supplement the *OECD DAC Strategic Environmental Assessment (SEA) in Development Practice: A Review of Recent Experience (2010).* The 2010 review provides a comprehensive overview of major SEA activities in developing countries and serves as a monitoring report of 2006 OECD DAC Guidance on Applying Strategic Environmental Assessment.

The Advisory Notes are not intended to provide exhaustive, in-depth guidance but rather supplementary advice and links to resources where more specialised information can be found. They fall into one or more of the following categories.

1. applying SEA in particular situations or circumstances that will require unique sensitivity and awareness (*e.g.* post-conflict environments);
2. providing further perspective, information and guidance on emerging issues that may need to be more adequately integrated into an SEA (*e.g.* climate risk or ecosystem services);
3. undertaking an SEA that focuses specifically on a key emerging issue or policy area that was not sufficiently addressed when the DAC SEA Guidance was prepared (*e.g.* biofuel development strategies, post-conflict reconstruction plans).

The target audience of the Advisory Notes are SEA practitioners (to help strengthen the quality of SEA) and specialists in the specific issues or circumstances under consideration (to introduce them to the added value of SEA to their work).

This particular Advisory Note is intended to (i) illustrate how SEA may provide a framework for integrating considerations of Disaster Risk Reduction (DRR) into strategic planning, and to (ii) guide planners, policy makers and sector specialists working in the preparation of policies, plans and programmes (PPPs) and those already familiar with SEA in the inclusion of DRR considerations into PPPs.

This document is closely related to the advisory note on SEA and Climate Change Adaptation. There are strong inter-linkages between DRR and Climate Change as many disasters are climate related. There are however, geological events and human induced disasters that are unrelated to climate change. Furthermore, despite increasing co-operation between DRR and climate change communities of practice there remain different practitioners, different approaches and even different languages between the two communities. For example terms such as vulnerability, mitigation, risk and land use are understood very differently within each community and terms such as no regrets measures, and adaptation frequently used by climate change experts are unheard of in DRR parlance. Therefore this advisory note is a compliment to the advisory note on SEA and Climate Change. It is aimed at DRR experts wishing to use SEA and / or SEA practitioners working with DRR. It is also recommended as a useful instrument for planners and practitioners working on climate change adaptation.

Other SEA Advisory Notes available in this series are focusing on the following topics:

- SEA and Adaptation to Climate Change;
- SEA and Ecosystem Service;
- SEA and Post-Conflict Development.

Strategic Environmental Assessment (SEA) and Disaster Risk Reduction (DRS)

1. Introduction

Disasters are created when a physical hazard strikes a vulnerable community. They pose significant risks to the economic, physical and social wellbeing of ordinary people, their communities and the nations in which they live. Weather-related hazards (such as storms, floods and drought) as well as geologic hazards (such as earthquakes, landslides and tsunamis) jeopardize lives, livelihoods, assets and development gains and can undermine development objectives. Developing countries are particularly vulnerable.

Losses from natural hazards are likely to increase as a result of climate change. The International Panel on Climate Change (IPCC) Fourth Assessment Report highlighted the potential increased frequency and intensity of extreme events associated with global climate change. In the period from 1992 to 2001 nine out of ten disasters are attributable to climate related hazards. Comparing the periods 1987-1997 and 2000-2006, disaster incidents increased by almost a factor of two. In 2006 alone there were 427 disasters.[1.] While this is not directly attributable to climate change, the trend and the expectation of increasing risk is a further impetus to develop effective means to prevent hazards from becoming social and economic disasters.

One response to disasters is humanitarian aid to help ensure basic human needs such as food and shelter are met and to help restore infrastructure. Humanitarian aid reached an unprecedented USD 17 billion in 2005. This humanitarian assistance is essential but it cannot reverse the human tragedy or the devastating setbacks to environment, development and poverty alleviation measures worldwide caused by these disasters.

Another approach to disasters is to help reduce the vulnerability of individuals, communities and regions to natural disasters through effective planning and preparation. The scale of impacts from a disaster is largely determined by the social, economic, and environmental conditions in the area where the hazard strikes. Development choices can therefore affect the vulnerability of communities to disasters.

Preparedness and Early Warning Systems (EWS) play an important role in Disaster Risk Reduction (DRR). In addition, integrating disaster considerations in all planning decisions can mitigate disaster. For instance, integrated consideration of disasters in development planning can lead to steps to protect critical public facilities, the enforcement of building codes, restoration of ecosystems, the development of social safety-nets, financial risk-sharing mechanisms, diversification of income options, better land-use, and more effective urban and rural development planning.

1 CRED Annual Disaster Statistical Review (2006).

Yet many developing countries and development agencies fail to consider disaster risks in development planning and lack sufficient strategies to plan, assess, prevent or mitigate the effects produced by these events.

The international community has increasingly focused attention on reducing risk and promoting resilient communities before hazards strike. The Hyogo Framework for Action 2005-2015 (HFA), prepared through extensive national consultations and adopted at the World Conference on Disaster Reduction in January 2005, establishes a common global agenda for risk reduction.

Disaster risk reduction is defined by the United Nations International Strategy for Disaster Reduction (UNISDR), as '*action taken to reduce the risk of disasters and the adverse impacts of natural hazards, through systematic efforts to analyze and manage the causes of disasters, including through avoidance of hazards, reduced social and economic vulnerability to hazards, and improved preparedness for adverse events*'.

There have been several initiatives to identify tools to aid in the implementation of the HFA and to support the mainstreaming of DRR in development co-operation. Strategic Environmental Assessment (SEA) is one important tool for mainstreaming DRR in policies, plans and programs (PPP) at national and sectoral levels. It is a tool for strategic participatory analysis of the ways that communities and their development are vulnerable to disasters and for developing an understanding of how different development choices can enhance or diminish community resilience and increase or diminish broader environmental sustainability.

DRR requires increased attention to the environment. Healthy ecosystems and urban environments can reduce human vulnerability to natural hazards, whereas degraded environments and inadequate environmental infrastructure commonly amplify the negative impacts.

Wetlands and other coastal ecosystems, for instance, have long been relied on for protection against storm surge, extreme weather events and other coastal hazards. In 2007 during cyclone Sidr in Bangladesh, the extensive mangrove forests significantly mitigated the storm surge. In 1999, Hurricane Jeanne made landfall on the island of Hispaniola and tragically illustrated the dangers of deforestation: 2 700 lives were lost in Haiti, a country with only 3.2% remaining forest cover. In the Dominican Republic, with 28% forest cover intact, only 20 lives were lost. Forests provide critical flood regulation services. Protecting mountain ecosystems will become even more urgent as glacial melt promises to bring years of devastating flood followed by extended periods of drought. These ecosystem services need to be properly valued and recognised in PPPs.

Box 1. **Disaster mitigation: planting mangroves in Vietnam**

International Federation of Red Cross and Red Crescent Societies (2006)

Vietnam is one of the most typhoon-struck countries in Asia, and the Vietnamese Red Cross is working on disaster mitigation strategies that reduce the vulnerability to the impacts of typhoons of people living and working in the Red River delta – an extensive rice-growing area in northern Vietnam and one of the most densely populated regions in the world.

The mudflats of the delta were claimed for agriculture over several centuries by building dykes. Local communities traditionally left a band of natural saltwater-tolerant mangrove forest between the dykes and the sea in order to help protect the rice fields from waves, wind and typhoon damage. However, the cutting of the mangrove forests for fuel and the spraying of chemical defoliants during the war in the 1970s destroyed most of this natural protection belt. As a result, some of the dykes started to erode, posing an increasing risk to people and their rice fields.

The government and several NGOs campaigned to reforest the coastline and with the support of the International Federation, the Japanese Red Cross Society and the Danish Red Cross, the Vietnamese Red Cross planted more than 175 km² of mangrove forest along almost 200 km of coastline, representing nearly the entire coastline (where natural conditions allowed). Local communities carried out the planting and were granted the right to harvest marine products such as crabs and mussels in the areas they had planted for a number of years.

Now that most of the planting has been completed, the Red Cross is focusing its efforts on dyke maintenance, applying other techniques to inland river dykes and developing new activities to support vulnerable people in the area.

The benefits of the project are significant. In financial terms alone, this mangrove project proves that preparedness and mitigation pay. Indeed, the planting and protection of 12 000 ha of mangroves cost around USD 1.1 million, but helped reduce the cost of dyke maintenance by USD 7.3 million a year. The Red Cross also estimates that 7 750 families improved their livelihoods, and hence their resilience to further hazards, through the selling of crabs, shrimps and molluscs.

While efforts to mainstream disaster reduction into development policies and plans have progressed steadily, these efforts would be greatly enhanced through the integration of DRR concerns into the design and implementation of SEA to policies, plans and programs. Likewise, wider application of SEA to policies, plans and programs by disaster risk managers improves integrated approaches to development planning.

2. Focus of this Advisory Note

SEA can be used to incorporate consideration both of i) how development objectives can be affected by disaster risk[2] and ii) how PPPs can influence the vulnerability of communities to disaster risk. This Advisory Note is intended as a point of reference for both SEA practitioners wishing to incorporate DRR considerations in SEAs and for DRR practitioners wishing to use SEA as a tool for strategic considerations of vulnerability to disaster and the potential impact of various activities on disaster vulnerability. It is not a prescriptive blueprint. It provides a checklist of activities and pointers on key considerations relevant to disaster risk reduction. The number of these questions incorporated in an SEA will depend on whether the SEA is being tailored by DRR practitioners to explicitly focus on disaster risk and vulnerability or whether SEA practitioners are simply adding an element of disaster risk consideration in a broader SEA. Regardless, these questions and pointers are generic and to be effective should be adapted to partner country circumstances, development agencies' mandates and the specificities of the targeted PPPs.

3. The role of SEA in disaster risk reduction

No part of the world is immune from some forms of natural disasters, and it is a well known fact that some regions are more exposed to hazards like earthquakes, typhoons or crop failures (through drought, flooding and insect attack) than others. If they survive the immediate impacts of a disaster, people living under conditions of hardship and poverty are more likely to succumb to illness than well-off communities. The poor also have few, if any resources, with which to rebuild their lives.

The international community has been increasingly seeking ways to reduce risk and strengthen vulnerable communities in disaster-prone areas. In January 2005, agreement was reached at the World Conference on Disaster Reduction, named the Hyogo Framework for Action 2005-2015. This framework defines 'reducing the underlying risk factors' as its Priority for Acton.

'*Human societies cannot be dissociated from the environment that they shape and which in turn influence their development and livelihoods. Together they form a comprehensive system with intrinsic levels of vulnerability and inherent coping mechanisms. The less degraded the environmental component of this system, the lower its overall vulnerability and the higher its coping capacity.'*

Principles set out in the Hyogo Framework are acknowledged by the UNISDR, which defines ten Opportunities for Environment[3] in the context of disaster prevention or reduction:

1. engage environmental managers fully in national disaster risk management mechanisms;
2. include risk reduction criteria in environmental regulatory frameworks;
3. assess environmental change as a parameter of risk;
4. utilise local knowledge in community-based disaster risk management;
5. engage the scientific community to promote environmental research and innovation;
6. protect and value ecosystem services;
7. consider environmental technologies and designs for structural defences;
8. integrate environmental and disaster risk considerations in spatial planning;
9. prepare for environmental emergencies; and,
10. strengthen capacities for environmental recovery.

2 DFID Disaster Risk and Development

3 UNEP, ISDR, (2008), Environment and Disaster Risk – Emerging Perspectives.

All of these principles are directly relevant to the role of SEA in DRR, in particular Principles 2 and 8. SEA is one of the most comprehensive tool for integrating risk assessments into regulatory frameworks and spatial plans.

The main functions of SEA in relation to DRR may include:

- assessing the vulnerability of different ecosystems, habitats, land uses and livelihoods to given types of natural disasters, and preparing spatial plans and maps to show vulnerability zones ;
- helping to quantify the rates and magnitude of environmental changes that are taking place from various causes (*i.e.* human induced or natural processes) and interpreting the effects of these changes on disaster risk;
- assessing how development goals may be threatened or optimised by particular types of disaster risk;
- mainstreaming specific disaster reduction measures in PPPs prepared at international, national and regional levels;
- identifying ways of strengthening mitigation measures and improving disaster preparedness plans and early warning systems.

World Wildlife Fund (WWF)-Indonesia, based on their experience from working with the Aceh tsunami, published guidelines[4] advocating the use of SEA in three key areas of mainstreaming environment in reconstruction activities:

- building strong legitimate local institutions;
- following a spatial plan;
- building good governance.

4 Green Reconstruction Policy Guidelines for Aceh, WWF-Indonesia, 2005

Key references from the guidelines which have general application for disaster risk management and reconstruction are reproduced in Box 2.

Box 2. **WWF Guidelines on use of SEA in disaster risk management**

Mainstreaming Environment		
Goal Ensure that environmental considerations, including the need to minimise environmental impacts, are fully incorporated in all aspects of the reconstruction strategy and within general development practice.	***Reconstruction strategy*** Undertake SEAs and environmental impact assessments or at least a rapid response in all sectors and ensure these are implemented as part of all rehabilitation and reconstruction efforts.	***Indicators of success*** • Policies are in place to prevent demand exceeding the carrying capacity of the environment; • infrastructure and transportation reconstruction is considered in a full and transparent framework that includes EIA and SEA considerations; • natural resource economics, EIAs and SEAs are carefully reviewed and reconstruction options are selected that minimize impact on the environment.
Spatial Plan		
Goal The overall spatial plan ensures that reconstruction efforts have minimum negative environmental impact and promote positive choices during the reconstruction process.	***Reconstruction strategy*** Identify the full range of needs and uses to be incorporated in the spatial plan, and identify the full range of environmental considerations, including disaster risk, and environmental goods and services.	***Indicators of success*** • Policies are in place to prevent demand exceeding the carrying capacity of the environment; • infrastructure and transportation reconstruction is considered in a full and transparent framework that includes EIA and SEA considerations; • natural resource economics, EIAs and SEAs are carefully reviewed and reconstruction options are selected that minimize impact on the environment.
Natural disaster mitigation and response strategies		
Goal Future human and economic impacts of natural disasters (including tsunamis, floods and storm waves) are minimised through measures such as spatial planning that locates industry and settlements away from high risk areas, enhancement of natural mitigation factors as part of coastal zone planning, and education, awareness, and early warning systems that ensure individuals are able to react in an appropriate manner.	***Reconstruction strategy:*** • incorporate disaster mitigation and tsunami response strategies into spatial plans and integrated coastal management plans, using modified SEA and EIA tools to help assess risk; • prefer "soft" environmental solutions that strengthen and utilize natural defence using modified SEA and EIA tools to support the decision making process.	***Indicators of success:*** • Infrastructure and transportation reconstruction is considered in a full and transparent framework that includes EIA and SEA considerations; • natural resource economics approaches and EIAs are carefully reviewed and appropriate options selected.

Working in the immediate aftermath of a major physical disaster greatly increases the magnitude of constraints to be dealt within an SEA including:

- physical limitations for on site access;
- securing specialists with appropriate expertise;
- preoccupations of local people on immediate priorities for survival;
- obtaining clearance and support for the SEA from authorities, which are often distant from the disaster and where political sensitivities exist;
- absence of effective chains of command in the disaster region;
- duplication of effort among agencies;
- absence of data, maps or other records for the affected areas;
- conflicting views on how to resolve both short and long-term needs.

In these circumstances it may be difficult, if not impossible, to secure the preconditions for a 'conventional SEA'. However, the OECD-DAC Guidance recognises the need to adapt all SEA methodologies to the specific needs of the time and place, and this is clearly essential for post disaster applications.

4. Checklist of activities related to DRR to be undertaken during an SEA

The questions below follow the four main stages of an SEA process:[5] 1) Establishing the context for the SEA; 2) Implementing the SEA; 3) Informing and influencing decision-making; and 4) Evaluation of monitoring results and feed back in PPP renewal.

Stage/Step 1. Establishing the context:

- Identify, collect and assess available information on the natural and human hazards that affect the region concerned by the PPPs as well as information on the vulnerability of regions, populations and sectors to those hazards. Bear in mind that the frequency, intensity and geographic distribution of climate-related hazards may be affected by climate change (See Annex 1: Gathering Disaster Risk Information and the Advisory Note of SEA and Climate Change).
- Identify measures and policies or policy reforms that currently address disaster risks in relevant sectors and government agencies (*e.g.* health, water, energy, urban and land use planning, environment, climate change adaptation, education, agriculture, transport, forestry, mining, fisheries, or tourism). Determine whether other related development policies, plans and programs affect (increase or decrease) these risks and whether these linkages have been established and/or whether policy co-ordination and integration can contribute to reducing disaster risk.
- Identify stakeholders knowledgeable in disaster risk. In many countries, national platforms for disaster reduction have been established. Recognising that disaster risk affects almost all sectors in some way it is clear that disaster risk reduction efforts will have to be cross-sectoral and engage stakeholders from a variety of sectors. Disaster risk reduction requires co-operation from diverse parties including representatives from sectoral agencies, scientific and technical institutions, NGO's promoting sustainable development, private sector partners, local community representatives, disaster reduction practitioners and others. National HFA focal points have been identified in over 130 countries and could provide a valuable entry point for identifying appropriate national

5 . Described in more details in pages 54-61 of the *OECD DAC SEA Guidanc*e (2006).

mechanisms[6]. Regional offices of the UNISDR and UNDP Bureau of Crisis of Prevention and Recovery (BCPR) may also be able to assist in identifying existing mechanisms in the country under consideration.

- Plan and organise consultations with stakeholders and groups particularly vulnerable to disaster risk, as well as with decision-makers, throughout the planning process of the strategic environmental assessment.
- Identify the need for institutional strengthening and capacity-building related to disaster risk assessment and risk reduction measures. Institutional strengthening and capacity-building should be addressed to high-level decision-makers (*e.g.* Ministers, Cabinets staff) and to technical and administrative staff from Government Agencies/Ministries concerned directly or indirectly by disaster risks (*e.g.* Ministries of Planning, Education, Health, Agriculture, Public Works).

Stage /Step 2. Implementing the SEA:

- Determine whether the relevant stakeholders have all the information they need on disaster risks and risk reduction options to participate in a meaningful way and whether their views can be considered fully in the decision-making process.
- In collaboration with key stakeholders *(e.g.* relevant government agencies, NGOs, private sector and civil society representatives) identify the key risks and vulnerability implications of the PPP under consideration and for alternative PPP options. Note that development policies and practices can affect exposure, hazard risk and underlying vulnerabilities. In defining these key risks and vulnerabilities ensure that the concerns and needs of the most vulnerable (*i.e.* women, poor, elderly and handicapped) have been considered.
- Determine whether there are adequate political, institutional and managerial mechanisms (including monitoring arrangements) for including disaster risk assessment and disaster risk reduction in the policy, plan or programme and decision-making process.
- Assess whether the financial and human resources are sufficient to implement the activities identified as needed to ensure that risk reduction measures are considered and addressed.
- Identify measures for mitigating the impacts of natural hazards of the PPP and if necessary, related measures for climate change adaptation.
- Ensure that the SEA identifies the investments needed for dealing with disaster risks facing or resulting from the PPP in question.

6 *http://www.preventionweb.net/english/countries.*

Box 3. **Who to consult?**

Adapted from Integrating Disaster Risk Reduction into the Common Country Assessment and United Nations Development Assistance Framework. UN Development Group/UNISDR Task Team on Disaster Risk Reduction. (January 2009).

Disaster risk reduction is a multi-sectoral process requiring inputs from a wider range of actors from both humanitarian and development sectors. Ownership of the process is an essential ingredient for success and the SEA team will need to consult with partners across the risk reduction spectrum. The list below is indicative of broad groups of stakeholders. The list includes those responsible for or engaged in:

- *Co-ordination* – engaging with governmental and non-governmental bodies responsible for (a) co-ordination of DRR – including, where they exist, HFA focal points[7] and multi-stakeholder and multi-sectoral National Platforms for DRR[8]; (b) other related areas including climate change adaptation, food insecurity and social protection; and (c) national development processes (planning and finance).
- *Risk Management* – engaging with the identified government agency/department with lead responsibility for disaster management (including emergency response, early warning and preparedness). In many countries these responsibilities sit with the National Disaster Management Authority. Other critical non-governmental stakeholders responsible for essential DRM functions should also be consulted including major NGOs and the Red Cross.
- *Critical sectors impacting on or most highly exposed to disaster risk/highly vulnerable populations* – including line ministries responsible for critical service delivery (e.g. health, education and roads), ministries whose actions can have a major role in increasing/reducing disaster risk (including urban planning, forestry and environment), and agencies responsible for representing the rights and needs of highly vulnerable or marginalized groups.
- *Risk Mapping and Monitoring* – national scientific and technical services (Meteorological, Hydrological, Geological, Marine, Aeronautical, etc.) should be involved in this process, as hazard mapping is usually under their mandate

The degree to which these audiences can be consulted will vary from case to case.

7 Over 120 countries have declared Focal Points for the Hyogo Framework for Action, which are responsible to oversee its implementation of DRR measures at national and local level. They are mostly representing their National Disaster Management Authorities. These authorities are thus the natural counterpart for UN Country Teams to support integration of disaster risk reduction in national development programmes and for support to implement the Hyogo Framework for Action. In presently 45 countries, Hyogo Focal Point institutions are also leading National Platforms for DRR.

8 A National platform for DRR can be defined as a nationally-owned and led mechanism – adopting the form of a forum or committee – that serves as advocate for disaster risk reduction at different levels and contributes with both analysis and advice on action through a co-ordinated and participatory process. It should be integrated in the existing disaster risk management as well as planning system and be developed as a forum to facilitate the interaction of key development players from line ministries, disaster management authorities, academia, civil society and other sectors around the disaster reduction agenda. The national platform should be the custodian of the nationally adapted and agreed Hyogo Framework and should aim at contributing to a comprehensive national disaster reduction system, as appropriate to each context).

Stage/Step 3. Informing and influencing decision-making:

- inform senior decision-makers (*e.g.* Prime Minister and Cabinet, National Disaster Reduction platforms and climate change adaptation authorities) on the main risk and vulnerability implications of the strategy, policy, plan or programme under consideration and on the potential means to address these risks and vulnerabilities.
- prompt lower-level decision-makers to examine risk reduction issues and to work cross-sectorally to identify risks and responses.

Stage/Step 4. Monitoring and evaluation:

- assess whether on-going disaster risk and vulnerability monitoring or data collection activities have been identified and reviewed. Determine who is responsible for data collection and monitoring;
- develop the strategy for reviewing, monitoring and evaluating disaster risk;
- develop indicators and institutional capacity for carrying out monitoring and evaluation and determine how they will be used and tracked.

Box 4. **Integrating DRR into the SEA of Key National Sectoral PPPs**

Below are some key generic disaster risk related questions that can be considered along with the checklist provided above when developing sectoral PPPs:

- Is a specific sector likely to be particularly vulnerable to disasters? Directly or indirectly? If indirectly, what are the main transmission channels or factors of vulnerability? How are they being addressed?
- To what extent could the sectoral PPP lead to increased vulnerability? What amendments and what specific steps might be warranted (how and by whom) in order to reduce risk through the PPP in a cost-effective manner?
- Are there major long-lived or large-scale infrastructure or network development plans under preparation? Have they taken into account the possibility of changes in disaster risk associated with climate change (*e.g.* the combined effect of sea level rise and glacial melting) and seasonal climate variability?
- Are the costs of risk reduction considered by the body responsible for allocating the sectoral budget to different regions/districts?

The disaster risk concerns to be taken into account in the planning process will depend heavily on the specific sector under consideration. They will therefore vary between those sectors that are by nature likely to be vulnerable to disasters and those that have a direct relationship to underlying vulnerabilities of local populations (*e.g.* agriculture, transport, energy, water supply).

Box 5. **Example using SEA to address disaster risk in water sector**

The following checklist illustrates how SEA could address disaster risk in water resources. The checklist provides an example of the type of disaster reduction issues to consider in the SEA process for a specific sector; it will need to be adjusted for other sectors

- How do various hazards affect water supply (consider for instance the effects of flood and drought and diversions resulting from earthquakes)?
- How do water use and management practices affect the vulnerability of users and how do water management policies affect the ability of communities to recover quickly from a disaster? Will livelihoods be affected?
- Does the water management policy affect rates of runoff, flow regime of rivers, or storage capacity of reservoirs and dams?
- Will contamination from floods, volcanic eruptions, and industrial accidents (caused by human factors or natural hazards) be an issue?
- Are monitoring systems adequate to assess risk and vulnerability and are they linked to national and sub-national early warning systems?
- Are water management strategies linked to national disaster reduction mechanisms?
- Have water-related polices been considered at the basin level? Are transboundary flood risks addressed?
- Have the interactions between flood and drought cycles on water supply and quality been considered?
- Are water management policies and practices in harmony with existing and evolving flood and drought management plans?

5. Review/evaluation of SEA

The review and evaluation[9] functions aim to ensure quality and to improve the effectiveness of a given process. The questions asked are the following: Did the process reach the expected results? What could be done to improve these results?). This checklist will help the user to evaluate whether the SEA undertaken has effectively integrated disaster reduction considerations and whether the planning process has achieved its intended outcomes in terms of addressing disaster reduction issues. It applies not only to national overarching and sectoral PPPs but also to the other entry points of the *OECD DAC SEA Guidance.*

- Did the SEA lead to measures and outcomes that better reflect DRR issues in the planning process?
- Were the main strengths and weaknesses of the SEA process identified (in terms of available data on risk and vulnerability, stakeholder involvement, etc.)?

9 See OECD DAC (2002), *Evaluation and Aid Effectiveness: Glossary of Key Terms in Evaluation and Results Based Management. http://www.oecd.org/dataoecd/29/21/2754804.pdf* for a definition of "review" and "evaluation".

- Did the SEA provide useful information on disaster risks and opportunities of the PPP, and on mitigation and adaptation measures that could be adopted?
- Did the SEA improve the capacities of senior decision-makers, civil servants and other stakeholders to understand DRR issues and management?
- Did the SEA enhance the transparency and accountability of decision-making processes on DRR issues in general and those specifically related to the PPP?
- Did the SEA succeed in integrating into the national budget the financial needs for assessing and dealing with disaster risks?
- Are there any indications that the PPP increased disaster risk? Were these anticipated?
- Did the PPP contribute to verifiable progress on disaster reduction?

6. Case example

To date no SEA has explicitly addressed disaster risk; however, examples from the DRR and climate change adaptation communities offer useful parallels.

In Bangladesh, for example, the National Adaptation Plan Action (NAPA) and subsequent design of flagship adaption measures were prepared through a forward looking multistakeholder, multi-sectoral process. Available data indicated high levels of vulnerability to coastal hazards. A review of existing afforestation programmes demonstrated that they had limited success because local communities converted the sites to settlements or other uses. Combining these elements through the NAPA process, coastal afforestation was identified as a leading priority. And in designing coastal afforestation measures, planners recognised that success relied on identifying co-benefits in related areas, including livelihoods and disaster reduction. A new programme that integrates these elements is now under consideration.

The United Nations Development Group/UNISDR Task Team on Disaster Risk Reduction has prepared guidelines for integrating disaster risk reduction into the Common Country Assessment and United Nations Development Assistance Framework. The guidelines include examples of countries that have considered the disaster risk and vulnerability implications of UN development assistance. Other examples of good practices in multi-sectoral risk and vulnerability assessment linked to policy and programme design or can be found at *http://www.Preventionweb.net*, a website maintained by the ISDR Secretariat to provide ready access to a variety of technical resources for policy makers and practitioners working in the field of disaster risk reduction. While risk reduction work offers useful parallels to SEA, environmental considerations are generally underrepresented in risk and vulnerability assessments.

7. Capacity development considerations

Building and strengthening capacity is essential if DRR considerations are to be effectively and efficiently integrated into PPPs. In addition to the overarching DRR capacities identified in this note and in Annex 1, two main challenges specific to SEA must be addressed: 1) how to improve knowledge of decision-makers and planners regarding the use of SEA to reduce disaster risk; 2) how to reinforce institutional use of SEA to mainstream DRR components into strategic policy-making processes.

A first step to answer these challenges is to undertake a capacity assessment in the organisation(s) that plan(s) to develop or implement a PPP in order to identify existing capacities as well as capacity needs, in terms of SEA and DRR.[10]

Various options are available to reinforce the capacities:

- carry out activities such as technical training, awareness-raising workshops on SEA approach and principles, how SEA can help to reduce disaster risk, which tools can be used to assess disaster risks, etc.;
- support SEA pilot applications for mainstreaming DRR into strategic development frameworks, to increase understanding and capacity-building, and to collect and disseminate good practice experience;
- reinforce existing SEA Guidance in countries and organisations by integrating DRR considerations more systematically.

8. Lessons learnt

There are several lessons learnt from previous SEA applications to DRR should be considered:

- **Screening**: At the outset it will be necessary to assess whether sufficient co-operation is likely to be available from key participants (the Government/donors/NGOs/Aid Agencies and local people). Similar questions need to be asked about the level of environmental baseline and other information and, critically, the availability of an SEA team with the necessary experience to operate in challenging field conditions. Snap decisions may need to be made with incomplete information.
- **Scoping**: From a theoretical base it is sometimes assumed that the full scope of an SEA can be determined before the process begins. However, in disaster response situation, the levels of uncertainty about priorities and options may be too high to allow the process and project team to define the detailed scope of the work in response to stakeholder needs.
- **Stakeholders**: Stakeholder analysis is critically important for SEA in disaster response, but it may not be possible to undertake this in a systematic or rigorous way. Affected community members will be focussed on immediate survival needs. The SEA team will need to encourage as wide a level of stakeholder participation as possible while recognising that time for involvement may be very limited, and that conflict interests may be particularly prevalent.
- **Implementation of the SEA**: There is unlikely to be comprehensive baseline information. Relevant maps and plans may be hard to find or non-existent. Much of the assessment may have to be based on first principles rather than detailed modelling. Choices and alternatives will often be dictated by short term needs and objectives. It will be important that the SEA looks closely at

[10] Resources are available to help carrying out capacity assessments. See for example: UNDP's *Capacity Assessment Practice Note* and. *FAO's Disaster Risk Management Systems Analysis Guidebook.*

the opportunities for reviewing early findings and monitoring outcomes so that corrective action can be taken as soon as conditions stabilise. A primary objective in both types of SEAs will be to seek to avoid environmental degradation and social disadvantage arising from poorly planned relief and reconstruction efforts.

It is a common characteristic of humanitarian aid and post conflict development that once the immediate pressure and public interest have started to wane, it can be difficult to sustain long-term support. Yet this is one of the key roles that SEA can perform in showing the linkages between changing development priorities and their environmental, social and local economic consequences.

9. Appropriate tools and sources of further information

For integrating disaster risk considerations into environmental assessments:

1. Tools for Mainstreaming DRR: Environmental Assessment
http://www.proventionconsortium.org/themes/default/pdfs/tools_for_mainstreaming_GN7.pdf

2. CDB/CARICOM - Sourcebook on the Integration of Natural Hazards into the Environmental Impact Assessment Process
http://www.caribank.org/Publications.nsf/EIASourceBook/$File/SourceBook5.pdf

For a general overview of the role of environment in disaster risk

3. Environment and Disaster Risk Reduction, United Nations Environment Programme and UNISDR Environment and Disaster Reduction Working Group
http://www.preventionweb.net/files/624_10306.pdf

4. IUCN Ecosystem Approaches to DRR
http://www.iucn.org/themes/CEM/documents/publications/iucn_ecosystems_livelihoods_disasters_2006_withsurvey.pdf

5. WWF: Natural Security: Protected Areas and Hazard Mitigation
http://assets.panda.org/downloads/natural_security_final.pdf

For a general overview of how to reduce disaster risk

6. Words into Action: Guide for Implementing the Hyogo Framework for Action 2005-2015
http://www.unisdr.org/eng/hfa/docs/Words-into-action/Words-Into-Action.pdf

7. A Primer of Disaster Risk Management in Asia, Asian Disaster Preparedness Center
http://www.adpc.net/udrm/primer/pdf/primer_volume1.pdf

8. FAO's Disaster Risk Management Systems Analysis Guidebook

http://www.fao.org/nr/clim/abst/clim_080302_en.htm

For guidance materials including risk assessment tools:

9. *http://www.preventionweb.net*

10. *http://www.unisdr.org*

11. *http://www.proventionconsortium.org/*

Datasets relevant for disasters

12. Centre for Research on the Epidemiology of Disasters: *http://www.emdat.be/*

13. PREVIEW: *http://preview-risk.web.cern.ch/preview%2Drisk/*

Annex 1
Gathering disaster risk information

Adapted from from Integrating Disaster Risk Reduction into the Common Country Assessment and United Nations Development Assistance Framework. UN Development Group/UNISDR Task Team on Disaster Risk Reduction, January 2009.

This Annex provides further information on how to access and assess information on the different aspects of disaster risk: hazard; exposure; vulnerability and capacity.

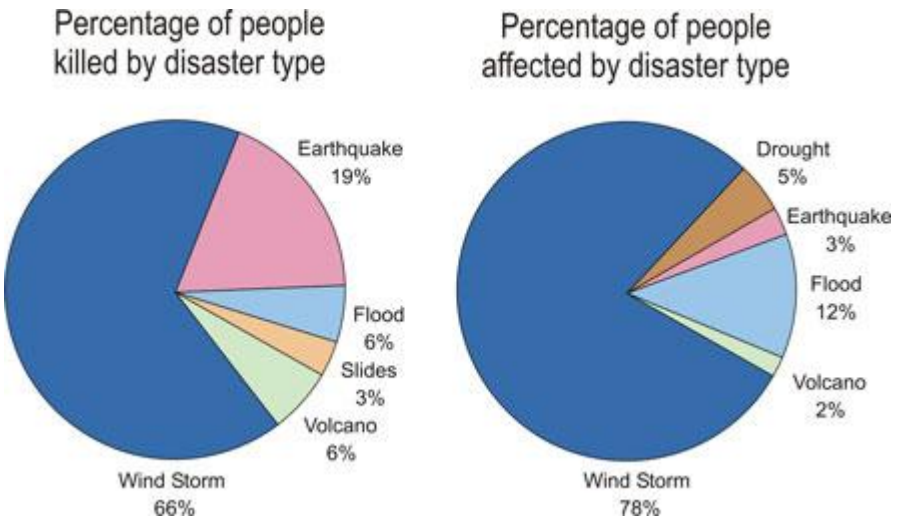
Hazard information

Hazard events are characterized by magnitude, duration, location and timing. The aim is to calculate a probability of occurrence for each of these hazard characteristics. While there are standards for hazard monitoring, detecting and forecasting, there is no standard methodology for hazard characterisation. Initiatives are underway, led by international agencies, to address this gap.

As a preliminary step, the UNCT can prepare a profile of the hazards typically affecting the country. A simple web-based tool is available at: *http://www.unisdr.org/eng/country-inform/introduction.htm*

The Box below illustrates a simple profile based on percentage of people killed and affected by various disaster types. Information about hazards and related analysis is usually available from various national scientific and technical services (meteorological, hydrological, geological, marine, aeronautical, etc.).

Figure 1.Illustration of a risk profile indicating the distribution of risk by hazard type based on historic data



a) Geological hazards

Earthquakes. Mapping of the expected distribution of seismic ground vibration with an associated probability of occurrence for a given time period (typically expected peak ground acceleration 10% probability exceedance in 50 years, which corresponds to return periods of 475 years).

Landslides. Mapping of slope failure susceptibility (landslide prone areas).

b) Hydro-meteorological hazards

Severe rainfall and floods. Rainfall hazard can be expressed in terms of minimal and maximal precipitations over a period of time. Flood prone areas can be mapped in relation with associated return period for the precipitations (typically 10, 25, 50 100, 200, 500, 1000 years). Important elements are the coverage of the flooded area and the depth of the flood.

Cyclones. Mapping of cyclone expected frequency of occurrence for different categories of the Saffir- Simpson scale.

Droughts. Several drought indices can be used to characterise risks related to different drought types (hydrological, agricultural).

Severe winds. Mapping usually provides maximum peak and sustained winds.

Heatwave. Sustained high temperature over long periods of time (usually 72h).
Climate change projections, based upon downscaling of global IPCC climate model outputs, can provide useful information about hazard patterns to be expected over the years and decades.

Information on elements exposed to disaster risk

Data is needed that identifies who or what are likely to suffer impacts and the location of these elements. While some historical loss data is available within global/regional disaster databases[11], these global data sets do not generally include all the valued elements of concern to national government or local communities. The identification of elements at risk is often achieved through consultation with stakeholders. Information about these elements and historic disaster impacts may be available through the statistical services of various ministries, academic networks and other agencies. Common elements include:

a) ***Population statistics.*** Census information, income information, disaggregated as much as possible by sex, age, geographic area, and ethnicity, among others.

b) ***Buildings inventories.*** Numbers of buildings, location, height, materials, structural types and age.

c) ***Infrastructure data*** Lifelines (e.g.water, power, gas, telecommunications, roads, railways), critical structures (e.g. dams, irrigation systems, power plants, etc.) and critical sectors (e.g.health).

[11] For example, International Emergency Disasters Database/ Preview or global risk analysis such as World Bank's Hotspots, Inter-American Development Bank- Instituto de Estudios Ambientales Americans Program, UNDP's Disaster Risk Index and European Commission's Humanitarian Aid Office.

d) ***Production sector information.*** Critical industrial facilities, toxic materials, agriculture, livestock, financial sector facilities, commercial facilities and networks.

e) ***Cultural assets.*** Historical buildings and cultural monuments.

Vulnerability information

Vulnerability is a multifaceted concept that characterizes who or what are likely to suffer impacts and the capacity of these elements to reduce the risk or cope with the impacts. While there is no single vulnerability assessment methodology that fits all situations and needs, many assessments require information on the elements exposed and capacities to reduce disaster risk.

a) Physical vulnerability

Vulnerability functions (expected damage-hazard intensity relations) for each type of exposed element. For example, expected damage of an adobe house for a ground shaking of Intensity V is different from the expected damage of a reinforced concrete house subjected to the same ground shaking.

Functionality disruption functions for critical facilities. A hospital, for example, may not collapse but could be left non-functional due to damage to access roads or damage to critical equipment.

Recovery functions for critical facilities. These are relations that estimate the required time for a critical facility or system to recover 100% of its functionality. The time to recover full water supply, for example, will determine the level of financial losses due to the interruption of productive activities that need water and/or the time emergency provision of water needs to be arranged for the population.

b) Social vulnerability

- economic inequality;
- gender;
- ethnical composition, minorities;
- age distribution;
- education levels;
- food Security Analysis (including production, access and stability elements);
- environment degradation.

Capacity information

Capacity assessment information identifies existing capacities and gaps of governmental and non-governmental organisations (including civil society, private sector and community groups) to manage and reduce disaster risk. There is no single approach to building the capacities of people, organisations and communities to deliver the services required for reducing risk; capacity analysis for DRR should be framed in alignment with the HFA, which identifies critical capacities required to undertake each element of risk reduction.

It is important to consider vulnerabilities and capacities for DRR at all levels. Sub-national and community levels are particularly important because they provide the first line of response to disaster events when they occur, providing critical life and livelihood saving functions.

a) Institutional capacities

Legal capacity. Compile legislation relevant to regulating activities for disaster prevention, response and recovery, as well as information on existence of any related enforcement/ compliance mechanisms.

Financial capacity. Identify to what extent resources are allocated to support disaster prevention, response and recovery. Both governmental and non-governmental expenditure and budgeting at all levels should be considered.

Co-ordination capacity. Ascertain the existence, role and effectiveness of existing mechanisms for co-ordination for DRR and other critical related areas e.g. climate change adaptation. Is this capacity available, including through identified/agreed roles and responsibilities, for co-ordination of all key aspects of DRR? How effectively do co-ordination mechanisms co-ordinate with each other? *(e.g.* are co-ordination mechanisms for climate change adaptation, DRR and social protection well linked/aware of each others work?).

Organisational capacity. Identify whether appropriate organisational structures to implement DRR are in place throughout the country (*e.g*. does a disaster management agency exist in an appropriate institutional location?) to support the implementation of disaster prevention, response and recovery activities.

Political capacity. Ascertain if sufficient political stability, will and commitment to lead and support DRR programmes exists (e.g. are policies in place that clearly articulate how DRR is prioritised?).

Monitoring capacity. Identify if the government has sufficient capacity to monitor and evaluate the impact of risk reduction interventions. Has the government set baselines and indicators against which to monitor progress and does the capacity (*e.g*. monitoring systems) exist to do this across a meaningful area of the country/population?

b) Capacities for risk assessment, monitoring and early warning

Early warning capacity. Identify to what degree there are sufficient capacities to detect, monitor, forecast risks and disseminate appropriate, clear messages to at risk populations and stakeholders mandated to respond. Early warning capacities involve (i) hazard detecting, monitoring and forecasting; (ii) assessment of the risk posed by the specific hazard; (iii) dissemination and communicating the warning information to decision makers and population at risk; and, (iv) activating emergency preparedness, protection and evacuation measures so as to reduce the impacts of an event. For this to happen, specific governance and frameworks need to be in place to support inter-agency collaboration, especially when dealing with emergency situations, as well as capacity development, information sharing and ongoing improvements to the systems. Early warning systems have a high potential to save lives, and to a lesser extent livelihoods.

Risk assessment capacity. Ascertain whether appropriate capacities exist to research, observe, analyse, map and where possible forecast hazards, elements exposed, and their vulnerabilities.

In many countries, disaster impacts are projected (modelled) on the basis of hazard scenarios, through 'probabilistic risk assessment' methods.

Information management capacity. Identify whether there is capacity to record, analyze, summarize, disseminate, and exchange statistical information and data on hazards mapping, disaster risks, impacts, and losses; and develop common methodologies for risk assessment and monitoring.

Capacity to predict future risk patterns. Examine whether capacity exists to research, analyze and report on long-term changes and emerging issues that might affect hazards, vulnerabilities, or capacities of authorities and communities to respond to disasters.

Capacity to bridge the gap between science, policy and practice. Examine to what degree technical institutions are able to effectively communicate risk information to planners and policy makers and to what extent policy makers and practitioners are able to access and understand critical technical information about the risks that affect them.

c) Knowledge, innovation and education

Human resource development capacity. Explore to what extent training and education in disaster risk reduction exists/is being developed to enhance knowledge and skills among national, sub-national and local government, civil society, volunteers and other key actors in communities.

Public awareness and training. Examine whether public information capacity development is in place to enable communities to actively participate in and support DRR activities. Is the media effectively engaged?

Educational capacity. Look at whether formal and informal education structures have the capacity to train and build a comprehensive understanding of critical aspects of hazard, risk and vulnerability.

Capacity for innovation. Examine whether capacity for research and technological innovations exists, that these are able and do build on indigenous knowledge (*e.g.* coping capacities) and that ability exists to bring relevant technical knowledge and tools to policy makers and practitioners at all levels in a accessible format.

d) Reducing underlying risk factors

Planning capacity. Compile evidence of capacity for integrated planning that effectively links DRR to development planning, and identify and implement critical steps to be taken by the relevant sectors of government.

Resilience capacity. Collect documented evidence of capacity to adapt to risk, by resisting or changing, in order to reach and maintain an acceptable level of performance and delivery.

Capacity for natural resource management and environmental protection. Ascertain the degree to which there is ability, commitment and action to support systems that ensure the maintenance and/or restoration of vital ecosystem services, including flood regulation through effective wetland management.

Capacity to reduce risk in production and service sectors. Examine to what degree key production and service sectors (*e.g*. agriculture and fisheries) are able to assess and mitigate risk.

Capacity to design and maintain safe buildings and critical infrastructure. Look at whether there is documented evidence that new construction is safe, that existing critical infrastructure is retrofitted to resist against disaster hazards and that contractors are aware, well trained and have incentives to implement building codes.

Capacity to transfer risk. Look at whether there are social and financial instruments to transfer risk e.g. private and public insurance and social welfare systems, aimed at providing social protection to vulnerable populations at times of disasters/shocks. Examine what percentage of the population has access to these mechanisms.

e) Preparedness for response

Emergency-response and recovery capacity. Examine the capacity to respond to emergency situations, at all levels. Check availability of up to date and timely contingency plans for all sectors and elements of the population, exercises to test plans and existence of well trained emergency responders (*e.g*. search and rescue teams, mass casualty management and other health emergency systems).

Community capacity. Look at the empowerment of communities to protect themselves and their properties from disaster risk and impact.

Co-ordination capacity. Ascertain if mechanisms are in place within government to deal with regional and international co-operation on emergency response.

Annex 2
The OECD DAC Review and Guidance on SEA

Strategic Environmental Assessment (SEA) supports the principles of the Paris Declaration on Aid Effectiveness in terms of ownership, alignment, harmonisation, managing for development results and mutual accountability. In this Declaration, both donors and development country partners made a commitment to "develop and apply common approaches for 'strategic environmental assessment' at the sector and national levels".

In response to this commitment, the OECD DAC Network on Environment and Development Co-operation (ENVIRONET) has developed SEA Guidance*: Applying Strategic Environment Assessment – Good Practice Guidance for Development Co-operation (OECD* DAC 2006), hereafter called the *OECD DAC SEA Guidance*. The Guidance provides a commonly agreed and shared framework for developing appropriate, fit-for-purpose applications of SEA in diverse areas. To enhance the SEA Guidance, ENVIRONET is developing a series of Advisory Notes to link SEA to key topical challenges. This Advisory Note bridges Strategic Environmental Assessment and disaster risk reduction. Others address climate change adaptation, ecosystems services and post-conflict development.

The *OECD DAC SEA Guidanc*e defines SEA as "*analytical and participatory approaches that aim to integrate environmental considerations into policies, plans and programmes and evaluate the inter linkages with economic and social considerations*". Hence, SEA is not a single, fixed and prescriptive approach, but rather an umbrella approach using a basket of analytical and participatory tools. It is largely principles-based and adaptive, focused on strengthening institutions and governance, and tailored to a specific context. The core of the OECD DAC SEA Guidance is organised around 12 broad entry points for the application of SEA to different areas of strategic decision making (Box A2.1).

In 2010, *a Review of SEA Experiences in Development Co-operation* is produced (OECD DAC 2010). It provides a comprehensive review of major SEA activities in developing countries. The Review covers nine developing countries – Benin, Bhutan, Ghana, Honduras, Mauritius, Montenegro, Namibia, Sierra Leone and Vietnam. It serves as a monitoring report of the 2006 Guidance.

Box A2.1 **Key entry points for SEA in development co-operation**

(A) For SEA led by partner country governments

1. National overarching strategies, programmes and plans
2. National policy reforms and budget support programmes
3. National sectoral policies, plans or programmes
4. Infrastructure investments plans and programmes
5. National and sub-national spatial development plans and programmes
6. Trans-national plans and programmes

(B) For SEA undertaken in relation to donor agencies' own processes

7. Donors' country assistance strategies and plans
8. Donors' partnership agreements with other agencies
9. Donors' sector-specific policies
10. Donor-backed public private infrastructure support facilities and programmes
11. For SEA in other, related circumstances

(C) For SEA in other, related circumstances

12. Independent review commissions
13. Major private sector-led projects and plans

Source: OECD DAC (2006).

The approach to SEA applied policies and plans/programmes is likely to differ, the former focusing much more on the institutional dimension (key steps are shown in Box A.2).

Box A2.2. Key steps in SEA

SEA can be undertaken across the hierarchy of strategic decision-making levels from the policy-level to the plan and programme level, and the approach required at these different levels will vary.

(A) SEA at the policy level

Typical steps are difficult to codify or prescribe as the processes of policy-making vary considerably and, ultimately, are political. Compared to project-level EIA, SEA undertaken at the policy level demands a thorough understanding of political economy factors and institutional settings (see C below). Proponents of SEA can take advantage of windows of opportunity as leverage points for mainstreaming environment in policy processes and persuade decision makers to use the SEA process to integrate environmental issues. In practice, there are still relatively few examples of SEAs being undertaken at this level.

(B) SEA at the plan / programme level

1. Establish context
   - Screen the need for the SEA, set objectives, identify stakeholders and develop a communication plan
2. Implement the SEA
   - Collect baseline data, scope in dialogue with stakeholders, identify alternatives and their impacts, identify options for mitigation and compensation, arrange quality assurance of the assessment
3. Inform/influence decision making
   - Make recommendations in dialogue with stakeholders
4. Monitoring
   - Monitor implementation and evaluate

(C) Addressing the institutional dimension of SEA

1. Institutional and governance assessment
   - Review the country's environmental management and governance systems, covering:
     i. Systems in place to address the environmental linkages with key policy goals and issues, particularly capacity to manage uncertain/unexpected environmental impacts or take advantage of environmental opportunities.
     ii. Institutions, incentives and processes that support improved governance and public and private sector engagement
     iii. Environmental governance mechanisms for ensuring/reinforcing social accountability
   - Review analytical capacity (in government, research and academic institutions, civil society organisations and private sector).
   - Gain access to decision-making – exploit opportunities to mainstream environment issues in policy formulation.

2. Institutional and governance strengthening
   - Support mechanisms that increase social accountability and improve governance
   - Assist countries in adaptive learning – ensuring continuity in SEA processes

About the OECD, DAC and ENVIRONET

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The OECD was founded in 1961 and its members now comprise 33 democratic nations with advanced market economies. It has active relationships with some 70 other countries, NGOs and civil society. The OECD's work covers economic and social issues from ***macroeconomics***, to ***trade, education, development*** and ***science and innovation***, and it is best known for its ***publications*** and its ***statistics***. Its basic aim is to promote policies to: (a) achieve the highest sustainable economic growth and employment and a rising standard of living in member countries, while maintaining financial stability; (b) contribute to sound economic expansion in all countries; and (c) contribute to the expansion of world trade on a multilateral, non-discriminatory basis in accordance with international obligations.

The OECD Development Assistance Committee (DAC) (*www.oecd.org/dac*) is one of the key forums in which the major bilateral donors work together to increase the effectiveness of their common efforts to support sustainable development. The Committee holds an annual *High Level Meeting* in which participants are ministers or heads of aid agencies. Much of the detailed work is undertaken through subject-specific working parties and networks such as ENVIRONET (the DAC Network on environment and development co-operation). The work of the DAC is supported by the *Development Co-operation Directorate*, (DCD), one of some dozen directorates in the OECD. The DCD is often referred to as the DAC Secretariat because of this key function.

DAC members are: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Japan, Korea, Luxembourg, Netherlands, New Zealand, Portugal, Norway, Spain, Sweden, Switzerland, United Kingdom, United States, and the Commission of the European Communities. The International Monetary Fund (IMF), the United Nations Development Programme (UNDP), and the World Bank participate in the work of the DAC as observers.

The ENVIRONET

The DAC Network on Environment and Development Co-operation (ENVIRONET) focuses on environmental issues at the interface of development co-operation and environment. Its mandate is to:

- contribute to the formulation of coherent approaches to sustainable development in the context of the OECD cross-sectoral approach to sustainable development;

- formulate specific guidance for development co-operation efforts in support of environment and sustainable development; and provide its members with a policy forum for sharing experience and disseminating good practice with regard to the integration of environmental concerns in development co-operation.