

Mapping the global partnership for development



Environmental issues template

NB: This template has a slightly different structure to the other templates, to allow for the fact that environmental issues are more “global” than other issues, and because it is more difficult to identify key flows and differentiate them from impacts in relation to environmental issues.

The global context

Our focus in this template is on four sets of environmental issues which are of increasing importance to developing countries and poor people within them: climate change; the pollution and depletion of shared water resources; the loss of bio-diversity, including through desertification and deforestation; and, the unsustainable exploitation of tradable environmental resources such as fish and forests.

Climate change is being driven by concentrations of carbon dioxide in the atmosphere that are at their highest for 600,000 years. Changes in the patterns of rainfall resulting from climate change, along with increasing levels of agricultural and industrial pollution, are putting pressure on shared water resources. Bio-diversity is being lost at an alarming rate from marine, terrestrial and freshwater ecosystems. In the fisheries sector, fifty-two percent of fish stocks are fully exploited (being fished at their maximum biological capacity), while 24% are over exploited, depleted or recovering from depletion. And as regards forests, from 2000 to 2005 there was a net forest loss of 7.3 million hectares per year.

In many developing countries, environmental resources provide the basis for much economic activity, employment and income generation. A recent World Bank study estimated that whereas natural resources represent only 2% of total wealth in OECD countries, in low income countries they account for 26% of total wealth. Poor people, and poor countries, rely most heavily on environmental resources, and suffer most when they are managed poorly and exploited unsustainably.

Sustainable poverty reduction and development require the sound management of environmental resources. Many environmental resources risk being poorly managed because individual actors – people, companies, countries – have an incentive to exploit them as much as possible, to the detriment of others, and of themselves in the longer-term. Sustainable management of environmental resources is a public good, and, in many cases, a global public good.

Environmental change is driven in large part by policies and actions taken by and in developed countries, typically outside the realm of environmental policy. Relevant policies and actions include in particular, those relating to energy use, technological development and consumption practices. Since the Rio Earth Summit of 1992, and the 2005 Johannesburg follow up, a number of international agreements have been put in place to promote the sustainable management of environmental resources. The Kyoto Protocol on greenhouse gas emissions, the UN Convention on Biological Diversity, and the UN Convention to Combat Desertification are perhaps the most

prominent, but other agreements are in place relating to trans-boundary pollution and the use of shared water resources, and to the sustainable exploitation of forests and fisheries. Many of these agreements are concerned with mitigation, although some also include commitments to help developing countries to adapt to environmental change.

Pathways to development

The impacts of climate change will be felt most strongly by those who lack the resources to adapt - poor people in developing countries. The web of causality which runs from climate change to impact on poverty reduction includes temperature change, sea-level rise, changes in precipitation patterns and water scarcity, a rise in the frequency of extreme weather events and drought, an increase in the prevalence of disease, falls in crop production (especially where agriculture is rain-fed), food insecurity, diminished livelihoods, possible conflict over natural resources and population displacement. One estimate of the threat of climate change is the World Bank's estimate that a one metre rise in sea-levels will lead to 60 million people in developing countries becoming environmental refugees. Climate change has the potential to destroy any progress made on poverty reduction in recent years.

By impacting on rainfall patterns, climate change will exacerbate too the problems of polluted and depleted shared water resources, making the governance of shared waters in particular more challenging. Over 40% of the world's population live within trans-boundary basins or above trans-boundary aquifers. The poor management of shared water resources can leave poor people without the water they need for drinking, washing, irrigation and manufacturing, leading to disease, loss of agricultural productivity and livelihoods, and possibly to conflict. The loss of biodiversity, including through desertification and de-forestation, and the over-exploitation of the fisheries and forest resources on which many poor people depend, also has a major impact on the poor, leaving them with fewer assets with which to make a living.

External policies and actions play a key role in shaping the nature and magnitude of (global) environmental issues and associated developmental challenges. But country context matters too, in terms of countries' vulnerability, their ability to regulate and influence what takes place within and beyond their borders, and their ability to adapt to changes already underway. As regards climate change for example, coastal countries with large populations at or below current sea levels, and countries where agriculture is rain-fed, will be most vulnerable to the likely results of continued global warming. A country's ability to regulate and influence what takes place within and beyond its borders, and to adapt to change, will depend on the quality of the information that they have, as well as their policies, institutional capacities and infrastructure.

Components of the model	Proxy indicators and data sources
<p><u>External Policies and Actions</u></p> <ul style="list-style-type: none"> • Reducing greenhouse gas emissions (climate change) ▲ (Global data) • Managing shared water resources and preventing/contributing to pollution ▲ and ▼ (Local data) 	<ul style="list-style-type: none"> • Signatories to Kyoto protocol <i>Data source: UNFCC web-site</i> • Number of countries that have slowed their rate of increase of emissions <i>Data sources: WRI's Climate Analysis and Indicators Tool (CAIT) and UN Human Development Report 2007</i> • Number of countries that share water resources that have entered into relevant agreements

<ul style="list-style-type: none"> • Maintaining bio-diversity and regulating trade in endangered species ▲ • Preventing desertification and deforestation ▲ • Conservation of forests through regulation of trade ▲ 	<p><i>Data source: International Freshwater Treaties Database</i></p> <ul style="list-style-type: none"> • Consumption of shared water resources <p><i>Data source: UN Water Information Resources</i></p> <ul style="list-style-type: none"> • Recorded violations of shared water agreements with country X <p><i>Data source: UN Water Information Resources</i></p> <ul style="list-style-type: none"> • Pollution caused by natural resource extraction – mercury pollution in gold mining, flaring in oil extraction, oil pollution of land and waterways <p><i>Data source: UNESCO Water data and local data sources</i></p> <ul style="list-style-type: none"> • Support provided by external actors under UN Convention on Biological Diversity (UNCBD) – specific indicator to be determined (possibly something relating to benefit-sharing) <p><i>Data source: UNCBD Country Profiles</i></p> <ul style="list-style-type: none"> • Convention on International Trade in Endangered Species (CITES) regulation of trade in endangered species – specific indicator to be determined <p><i>Data source: CITES trade database</i></p> <ul style="list-style-type: none"> • Support provided by external actors under the UN Convention to Combat Desertification (UNCCD) – specific indicators to be determined. <p><i>Data sources: UNCCD Regional and country profiles</i></p> <ul style="list-style-type: none"> • Support provided by external actors, under the CBD, to efforts to reduce the loss of forest biodiversity – specific indicators to be determined. <p><i>Data source: UNCBD Forestry</i></p> <ul style="list-style-type: none"> • Proportion of key timber export markets that have recognised certification schemes in place relating to the import of tropical wood imports <p><i>Data-sources: Forestry Stewardship Council, FSC database and Metafor.</i></p>
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<ul style="list-style-type: none"> • Provision of subsidies to fishing fleets ▲ • Conservation of fisheries through regulation of trade ▲ • Aid for sustainable development ▼ 	<p><i>TRADECOM to identify key export markets.</i></p> <ul style="list-style-type: none"> • Subsidies provided to fishing fleets of top 5 destinations for fisheries exports <p><i>Data source: OECD work on fisheries and policy coherence for development and OECD review of fisheries in OECD countries</i></p> <ul style="list-style-type: none"> • Proportion of key fish export markets that are signatory to relevant international treaties on aquaculture and fisheries conservation including UN Fisheries Agreement <p><i>Data source: Available through Commitment to Development Index</i></p> <ul style="list-style-type: none"> • Extent to which and ways in which, aid is provided and used to enable country X to engage with environment-related challenges and opportunities – for instance, in relation to adaptation to climate change <p><i>Data source: Local data sources</i></p>
<p><u>Country Context (of relevance to environmental issues)</u></p> <ul style="list-style-type: none"> • Physical geography ▲ • Economic structure ▲ ▼ 	<p>NB: See also World Bank Country Environmental Analysis</p> <ul style="list-style-type: none"> • % of land and population below sea-level • Vulnerability to extreme weather events • % of people reliant on shared water resources • Degree of bio-diversity resources • Forest cover • Fisheries production <p><i>Data sources: National Communications to the UNFCCC, Impacts of Climate Change Country Studies, National Sustainable Development Reports and UNESCO World Water Assessment Programme. Also, see data sources in other sections re water resources, and bio-diversity. And UN FAO Fisheries data.</i></p> <ul style="list-style-type: none"> • Proportion of jobs dependent on (rain-fed) agriculture, and on fisheries and forests

<ul style="list-style-type: none"> • Policies, institutions and regulatory framework ▲ ▼ 	<p><i>Data source: To be determined, including local data sources</i></p> <ul style="list-style-type: none"> • Employment vulnerability to climate change <p><i>Data source: World Bank paper</i></p> <ul style="list-style-type: none"> • Importance of forestry produce: Volume/value of exports, as proportion of total exports <p><i>Data sources: UN COMTRADE, WTO Trade Profiles, WTO International Trade Statistics</i></p> <ul style="list-style-type: none"> • Importance of fisheries products: Value/volume of exports, as proportion of total exports <p><i>Data sources: UN COMTRADE, WTO Trade Profiles, WTO International Trade Statistics</i></p> <ul style="list-style-type: none"> • Extent to which policies on poverty reduction and economic growth include (perhaps through a “Strategic Environmental Assessment”) environmental objectives – including regulation of “dirty industries” and investment • Extent to which poverty reduction strategies are climate-change-proofed <p><i>Data sources: Local data sources and Environmental Performance Index</i></p> <ul style="list-style-type: none"> • Extent to which environmental regulations consistent with international standards are in place and there is the capacity to implement them effectively <p><i>Data sources: Local data sources</i></p> <ul style="list-style-type: none"> • Extent to which property rights regime produces incentives for sustainable development <p><i>Data sources: Local data sources and data-bases on legal empowerment of the poor</i></p> <ul style="list-style-type: none"> • Quality of information available about environmental issues <p><i>Data sources: Local data sources and the Access Initiative</i></p>
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<p><u>Intermediate impacts</u></p> <ul style="list-style-type: none"> • Sea-level rise ▲ • Water resources and pollution ▲ • Bio-diversity loss ▲ • Forest-cover loss ▲ • Desertification and land degradation ▲ 	<ul style="list-style-type: none"> • % of land affected by sea-level rise <i>Data source: National Communications to the UNFCCC and World Bank paper</i> • Extent of trans-boundary water pollution <i>Data source: Global International Waters Assessment</i> • Annual loss of bio-diversity <i>Data source: UNCBD Country Profiles</i> • Annual loss of forest cover <i>Data source: UNCBD Forestry and FAO Forest Resources Assessment</i> • Annual increase in desertification <i>Data sources: UNCCD Regional and country profiles. See also FAO re land degradation.</i>
<p><u>People-centred impacts</u></p> <p>Trends in</p> <ul style="list-style-type: none"> • Flooding • Drought prevalence (high attribution, short time-lag) ▲ • Agricultural productivity and food insecurity (high attribution, short time-lag) ▲ • Availability of clean water (medium attribution, medium time-lag) ▲ 	<p>NB: These are indicators re population affected by X. If we can find indicators re welfare impacts of X that would be better still.</p> <ul style="list-style-type: none"> • Percentage of the population affected by flooding <i>Data sources: Impacts of Climate Change Country Studies and National Sustainable Development Reports and IPCC.</i> • Percentage of the population affected by drought <i>Data sources: Impacts of Climate Change Country Studies and National Sustainable Development Reports and IPCC.</i> • Agricultural productivity and food insecurity <i>Data source: World Bank Economic Review, 20/3, FAO, Impacts of Climate Change Country Studies and National Sustainable Development Reports</i> • Indicator re people's access to clean water (but one that measures physical access rather than access which is politically-determined)

<ul style="list-style-type: none">• Poverty (medium attribution, medium time-lag) ▲	<p><i>Data source: To be determined.</i></p> <ul style="list-style-type: none">• % living in poverty <p><i>Data source: World Development Indicators</i></p>
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