

Building Resilience for an Interdependent World: Why the environment matters and what DFID should do about it

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Recommendations for DFID:

- Bring a strong pro-poor perspective into UK and European responses to global environmental and economic problems.
- Engage much more on environment and natural resource management. In-house expertise and high-level commitment have steadily diminished over the last decade and need to be re-established.
- Broaden the focus from 'human security' and 'climate proofing' to encompass the resilience of ecosystems and natural resources on which people depend.
- Support poor countries' capacity to plan for and respond to environmental and economic shocks and minimise their impacts on livelihoods and ecosystems.
- Strengthen effective funding channels to support local level initiatives that build resilience.
- Engage actively in efforts to move towards a 'green economy' model, which reduces carbon dependency and environmental degradation while creating employment opportunities and more equitable distribution of resources.

1. Context

We are at an extraordinary moment in history, at which our global interconnectedness has never been more painfully apparent, whether it's the food and commodity price boom of 2007-08, the sub-prime market contagion that swept through financial institutions, the increasing global and local impacts of climate change and ecosystem stress, or the big rise in unemployment amongst Chinese workers following the collapse in global consumption. The threats we face on economic, environmental and security fronts are real and imminent: we don't know yet how far down we'll go, or the wider ramifications on geo-politics in the years ahead. But **this moment of crisis and recession also provides a much-needed breathing space to rethink patterns of growth, ways of measuring progress, and the means to build more resilient systems.**

To do this will require attention to the factors that underpin all people's security and stability. Environmental goods and services – land, water, soils, forests, biodiversity, air – are the fundamental assets on which our ability to survive and prosper depends. **These assets are the basis for life, for rich and poor alike, and their resilience is critical for maintaining healthy people and economies.** Poor people are less able to buffer their exposure to environmental risks and shocks, such as through insurance, technology and mobility. Environmental sustainability underpins economic growth and development. Conversely, climate change risks undermining achievement of the MDGs. If development is to be sustainable, then the economy, society, and environment need to be interconnected in ways which mutually reinforce the resilience of the other parts.

The key to security is resilience, for ecosystems, people and economies. Low income countries and poor people are disproportionately dependent on environmental assets for their development. An undervalued, degraded environment severely reduces the economic options for

developing countries and the livelihood options for poor families. It increases the risk of food insecurity and conflict. It exacerbates the impacts of climate change and risks pushing our system over an irreversible tipping point. **We may not be able to protect people from stresses, shocks and catastrophic events, but we can help them withstand disasters, recover and adapt.**

Resilient ecosystems are essential to building human and economic security, and are particularly crucial in helping the poor through difficult economic times, and in keeping others from falling into poverty. Ecosystems are resilient when they can adapt to new conditions and rebound after shocks, such as drought or flood. Social and economic systems can be made more resilient through investment which strengthens diversity, whether of institutions, businesses or perspectives, to buffer against crisis and risk.

Resilience is derived from a combination of sustainability, equity and opportunity. Institutions are key to building greater resilience, since they set the rules and act as gatekeepers for access to resources. **The development agenda has shown some progress in improving access to economic opportunity, but now needs urgently to refocus on sustainability and equity.** The slow rate of progress in meeting the MDGs in many parts of the world shows us that there is still much to be done to increase equity and opportunity.

Why haven't we been successful in moving towards sustainable development?

Because in large measure the underlying causes of unsustainable development remain:

- Economic growth is considered the inviolable principle, rather than people's rights and welfare, or environmental processes and thresholds
- Environmental benefits are taken by individuals and the costs imposed on the public sphere
- Poor people are marginalised, while elites capture valuable assets
- Governance regimes fail to internalise environmental factors, resolve social inequities, or develop better economic models
- Commercial advertising has understood only too well how human psychology can be trained to pursue wants not needs
- Therefore unsustainable behaviour has not been substantially challenged.

We have an opportunity now to tackle these causes, as part of the current reappraisal of models of growth and systems of governance that have contributed to our economic and environmental crises.

2. The world is changing rapidly – what are priorities for attention?

A storm of interconnected elements is bringing rapid and abrupt changes to our global system and generating fear and insecurity. Our future is ever-more dependent on the choices and actions of those living on the other side of the world. Yet we have failed to establish the institutions needed to address both the up and downsides of globalisation. Fear and insecurity are driving individual nations to invest larger sums in arms, with the defence industry one of the few sectors doing well in this time of recession. But **our collective wellbeing demands that we re-think where real security lies – not in the hardware of weaponry and muscle, but in the soft power of institutions and incentives.**

Moving beyond the nation state, we must work together to buffer people, their livelihoods and the environment on which they depend from the unpredictable patterns of change now underway.

We urgently need to reassess the assumptions of risk which underpin government spending and priorities throughout the world – and put emphasis on preventing major social or environmental harm rather than on fixing problems once they have occurred.

The economic boom of the last decade is leading to an irreversible reduction in biodiversity, and loss of environmental assets, with major implications for the health and welfare of the poor. **We have been 'stealing' from the future to satisfy the wants and needs of today.** Such losses will multiply and bankrupt the planet unless we reinvest in the fundamental capital and infrastructure which nature has provided and on which our prosperity depends.

We are starting to see some signs of greenery in the economic stimulus packages being designed by many of the major economies. If we are to rebuild our economies along more sustainable lines, this commitment to low carbon investment in G20 nations needs a broader frame to incorporate the needs of the poorest countries. **Green growth should build resilience amongst rich and poor alike, generating jobs, taxing 'bads' and subsidising 'goods', getting governments to invest in green infrastructure, and screening their actions to choose those that maximise the environmental and social benefit.** We must shift the metrics used to measure GDP, and re-think discount rates so that they reflect our actual concern for future generations. We urgently need concerted action to bring collective weight behind a global green new deal which includes the interests of the poor.

Environmental Tipping Points

In 2008 leading climate experts identified 15 major tipping points on the horizon, which include:

- **Indian monsoon:** Less intense rainfall making drought more likely, bringing harvest failure.
- **Arctic summer ice; icesheets in Greenland and West Antarctic:** Warming of 3°C could trigger uncontrollable melting, adding up to 7 metres to sea levels with devastating effects on 10% of the world's population living in low-lying areas.
- **Amazon:** large areas becoming too dry for rainforest to survive or re-establish, leading to a decline in biodiversity and less rainfall. At present the Amazon is a major carbon sink: if this role declines it will have major repercussions in increased carbon concentration in the atmosphere.
- **El Niño:** More intense, leading to greater droughts in SE Asia with significant impacts on densely populated countries.
- **Snow melt on the Tibetan plateau:** beyond the short-term local risks of glacial lake outburst floods, the long-term threat is of water scarcity for more than a billion people who depend on water from the Yangtze, Mekong, Ganges and Indus rivers for drinking, washing and agriculture.

3. Why is this important to DFID?

Poor people are disproportionately dependent on environmental assets for their development. At national level, assets such as forests, farmland and water bodies account for 26% of the wealth of low-income countries – a much higher proportion than the 2% they provide in OECD countries. At household level, environmental assets provide roughly two-thirds of household income for the rural poor.

Poor countries will experience the impacts of climate change through growing stress on natural resource systems, with direct impacts on their development potential. A study of the economic impacts of climate change in Namibia showed that even in the best-case scenario, subsistence farming would be sharply reduced and a quarter of the population would need to find new livelihoods.

Urbanisation is rapidly changing many countries. Half of the world population now lives in urban centres and this proportion is growing, particularly in the South. How cities grow will make an enormous difference to national economic growth, their resilience to climate change and other environmental challenges, and the health and security of their people. Poorly governed cities will be economic, social and environmental disaster areas. Without major changes many such cities will fail to adapt to climate change. Some 650 million people worldwide live in urban areas no

more than 10 metres above sea level. For them the risk of rising sea levels and storms is high and growing. The answer is not to keep people out of cities, but to seize the opportunities urbanisation provides, and structure city government to meet their needs.

Dengue and diarrhoea: improving urban health to reduce climate vulnerability

Climate change and urbanisation increase the burden from diseases such as dengue fever and diarrhoea, threatening the lives of the poorest slum dwellers through epidemics and posing risks across urban areas. Dengue is a viral disease transmitted by mosquitoes. It affects 50-150 million people a year, killing about 20,000. Bolivia is currently in the grip of an outbreak affecting more than 30,000 people. The IPCC says that climate change will increase the area where dengue is a problem and the WHO predicts that by 2085, 50-60% of the world's population will be exposed to dengue because of climate change. But dengue is not just affected by climate. It is principally an urban disease, linked to poor water and sanitation. There is great potential for addressing this threat with local improvements to sanitation in informal settlements. This would also reduce the impact of diarrhoea – the second biggest killer of infants worldwide – which is set to increase in urban areas that are flooded due to extreme rainfall or coastal storms and sea surges.

Environmental risks are increasing, and they interact negatively with climate change:

- **Water:** Global freshwater use expanded at an average rate of 20% per decade between 1960 and 2000. Competition for scarce water favours those with power and money, rather than those with greatest need. Climate change will exacerbate this. Poor groups will most often experience the effects of climate change through increasing water problems – water scarcity, floods and droughts. The number of flood events per decade tripled in Africa between 1950 and 2000 – and went up six times in Asia.
- **Biodiversity:** The expected loss of biodiversity by 2050 is 10-15%. In coming decades, climate change may result in up to 48% of the Earth's surface becoming unviable. Essential life-support services will collapse, such as pollination of crops, leading to food security and health problems. Recent estimates of the losses run into several US\$ trillions, in line with recent financial losses – but recovery is much more difficult than bailing out the economy.
- **Oceans:** Climate change has begun the rise in sea levels that is expected to exceed five metres by the end of the century. For example, this would affect 16 percent of Vietnam's land area, 35 percent of its population and 35 percent of its gross domestic product. Even a one metre sea level rise would inundate most of Vietnam's land southwest of the largest urban centre and commercial hub of Ho Chi Minh City, affecting over 10 percent of the country's population.
- **Fisheries:** Over 75% of all marine fish species are below replacement levels and fisheries almost everywhere are operating far below earlier levels of productivity, with significant livelihood impacts for the 200m whose jobs are in fisheries, and nutrition impacts for the 1 billion for whom fish are the main animal protein.
- **Soil:** Climate change and overuse of soils are reducing their food production and carbon storage capacity. In much of Africa, harvesting without good nutrient management is resulting in depleted soils. In other regions, notably Asia, the problem is excessive fertiliser application causing nitrogen and phosphorus pollution of waterways. Soil recapitalisation through investment in better cultivation techniques and erosion control offers a significant carbon sink, as well as building more resilient local systems for production of food and environmental services.

Market mechanisms and policy tools designed to safeguard global public goods can generate multiple unintended consequences for livelihoods and ecosystems. For example, the push for increased biofuel production – intended to reduce greenhouse gas emissions by using renewable sources – in some areas has shifted an energy problem into a fight for scarce water, biodiversity, food and livelihoods. Our interconnectedness means that renewable energy policy choices made in Brussels, Washington and Beijing have immediate and major implications for livelihoods in Bamako, Phnomh Penh and Bogota.

REDD: global emission reductions and local development benefits?

It is estimated that 17-18% of green house gases are produced in tropical regions by land that is being cleared for agriculture, logging and activities that degrade the integrity of forests. Paying countries and landholders within those countries to maintain forested land is an appealing and simple idea. It is much more difficult to ensure that these payments result in GHG reductions and local development benefits. Most attention is focused on the international architecture for reduced emissions from deforestation and degradation (REDD) and the decisions that will be made at the climate change meeting in Copenhagen later this year. While there is tremendous potential in REDD payments, there are also many pitfalls. These include distortions in land prices, markets and access, elite capture, rent seeking behaviour and how best to monitor, report and verify performance.

All of the above examples indicate a compelling need for environmental factors to be integral to the UK's long-term international development policy, given the highly significant and increasing impacts of environmental factors on wellbeing in poor countries. Particular activities should help low income countries to avoid, mitigate against and adapt to environmental stresses and shocks; and to realise environmental potentials. A complementary focus is needed on 'mainstreaming' environment in institutional reform from local to international levels, and in key decisions.

4. What should DFID do differently? Some practical proposals

At headquarters level:

- **Engage more with the UK public and policy debates** – to make the case for significant changes in the North that will increase global equity and sustainability (consumption patterns, market functions, global systems)
- **Rebuild DFID's capacity to understand and respond to environmental factors**, and understand the routes by which to achieve change
- **Use climate change as an opportunity to act on broader environmental issues** and develop a more integrated response. Given high-level attention already in FCO, MOD and elsewhere, DFID needs to bring a strong development perspective to this cross-Whitehall process

At country level, for LIC governance, support is needed for:

- **National wealth accounting** – to determine how environmental assets are being developed and used
- **Public expenditure reviews on environment** – to gauge the right investment in environment to achieve key economic and social outcomes
- **Joint spatial monitoring of poverty, wellbeing and environmental status and trends** – to correlate human and ecosystem wellbeing
- **Environmental fiscal reform** – to ensure better use and higher revenues from environmental assets
- **Strategic environmental assessment (SEA) of development policy** – to realise environmental potentials and safeguard critical capital
- **Civil society watchdogs** – to improve transparency and justice in using the environment
- **Multi-stakeholder debate and interdisciplinary research** – to 'mainstream' environment in development policy and practice
- **Local institutions, local governance and self-determination** – to achieve security and resilience that best suits local contexts and needs

...and to target LIC investment better, support is needed for:

- **Protecting and recapitalising water bodies, forests, fisheries and soils** that are critical for poor people's livelihoods and growth sectors
- **Supporting organic and low-external input methods of farming and natural resource management** that build soil fertility
- **Pro-poor renewable energy development** to spur livelihood improvements
- Policies, guidelines and political will to ensure that **private investment streams and sovereign wealth funds benefit local people**

Many of these recommendations can be acted on now. The UK has made real progress in supporting LIC governance and developing approaches for environmental fiscal reform and SEA. The next step is to be systematic in ensuring mainstream governance and investment interventions will deliver on environmental needs.

References available on request from IIED.

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