



Climate change threatens unprecedented human development reversals

Brasilia, 27 November 2007 – With governments preparing to gather in Bali, Indonesia to discuss the future of the Kyoto Protocol, the United Nations Development Programme Human Development Report has warned that the world should focus on the development impact of climate change that could bring unprecedented reversals in poverty reduction, nutrition, health and education.

The report, *Fighting climate change: Human solidarity in a divided world*, provides a stark account of the threat posed by global warming. It argues that the world is drifting towards a 'tipping point' that could lock the world's poorest countries and their poorest citizens in a downward spiral, leaving hundreds of millions facing malnutrition, water scarcity, ecological threats, and a loss of livelihoods.

"Ultimately, climate change is a threat to humanity as a whole. But it is the poor, a constituency with no responsibility for the ecological debt we are running up, who face the immediate and most severe human costs," commented UNDP Administrator, Kemal Dervis.

The report comes at a key moment in negotiations to forge a multilateral agreement for the period after 2012 – the expiry date for the current commitment period of the Kyoto Protocol. It calls for a 'twin track' approach that combines stringent mitigation to limit 21st Century warming to less than 2 degree centigrade, with strengthened international cooperation on adaptation.

On mitigation, the authors call on developed countries to demonstrate leadership by cutting greenhouse gas emissions by at least 80% of 1990 levels by 2050. The report advocates a mix of carbon taxation, more stringent cap-and-trade programmes, energy regulation, and international cooperation on financing for low-carbon technology transfer.

Turning to adaptation, the report warns that inequalities in ability to cope with climate change are emerging as an increasingly powerful driver of wider inequalities between and within countries. It calls on rich countries to put climate change adaptation at the centre of international partnerships on poverty reduction.

“We are issuing a call to action, not providing a counsel of despair,” commented lead author Kevin Watkins, adding: “Working together with resolve, we can win the battle against climate change. Allowing the window of opportunity to close would represent a moral and political failure without precedent in human history.” He described the Bali talks as a unique opportunity to put the interests of the world’s poor at the heart of climate change negotiations.

The report provides evidence of the mechanisms through which the ecological impacts of climate change will be transmitted to the poor. Focussing on the 2.6 billion people surviving on less than \$2 a day, the authors warn forces unleashed by global warming could stall and then reverse progress built up over generations. Among the threats to human development identified by *Fighting climate change*:

- The breakdown of agricultural systems as a result of increased exposure to drought, rising temperatures, and more erratic rainfall, leaving up to 600 million more people facing malnutrition. Semi-arid areas of sub-Saharan Africa with some of the highest concentrations of poverty in the world face the danger of potential productivity losses of 26% by 2060.
- An additional 1.8 billion people facing water stress, with large areas of South Asia and northern China facing a grave ecological crisis as a result of glacial retreat and changed rainfall patterns.
- Displacement through flooding and tropical storm activity of up to 332 million people in coastal and low-lying areas. Over 70 million Bangladeshis, 22 million Vietnamese, and six million Egyptians could be affected by global warming-related flooding.
- Emerging health risks, with an additional population of up to 400 million people facing the risk of malaria.

Setting out the evidence from a new research exercise, the authors of the Human development Report argue that the potential human costs of climate change have been understated. They point out that climate shocks such as droughts, floods and storms, which will become more frequent and intense with climate change, are already among the most powerful drivers of poverty and inequality – and global warming will strengthen the impacts.

“For millions of people, these are events that offer a one-way ticket to poverty and long-run cycles of disadvantage,” says the report. Apart from threatening lives and inflicting suffering, they wipe out assets, lead to malnutrition, and result in children being withdrawn from school. In Ethiopia, the report finds that children exposed to a drought in early childhood are 36% more likely to be malnourished five years later – a figure that translates into 2 million additional cases of child malnutrition.

While the report focuses on the immediate threats to the world's poor, it warns that failure to tackle climate change could leave future generations facing ecological catastrophe. It highlights the possible collapse of the West Antarctic ice sheets, the retreat of glaciers, and the stress on marine ecosystems as systemic threats to humanity.

"Of course there are uncertainties, but faced with risks of this order of magnitude uncertainty is not a case for inaction. Ambitious mitigation is in fact the insurance we have to buy against potentially very large risks. *Fighting climate change* is about our commitment to human development today and about creating a world that will provide ecological security for our children and their grandchildren," Mr Dervis said.

Avoiding dangerous climate change

The authors of the Human Development Report call on governments to set a collective target for avoiding dangerous climate change. They advocate a threshold of 2 degrees centigrade (3.6 degrees Fahrenheit) above pre-industrial levels (the current level is 0.7 degrees centigrade).

Drawing on a new climate model, the report suggests a '21st Century carbon budget' for staying within this threshold. The budget quantifies the total level of greenhouse gas emissions consistent with this goal. In an exercise that captures the scale of the challenge ahead, the report estimates that business-as-usual could result on current trends in the entire carbon budget for the 21st Century being exhausted by 2032. The authors warn that on current trends the world is more likely to breach a 4 degrees centigrade threshold than stay within 2 degrees centigrade.

The Human Development Report addresses some of the critical issues facing negotiators in Bali. While acknowledging the threat posed by rising emissions from major developing countries, the authors argue that northern governments have to initiate the deepest and earliest cuts. They point out that rich countries carry overwhelming historic responsibility for the problem, have far deeper per capita carbon footprints, and have the financial and technological capabilities to act.

"If people in the developing world had generated per capita CO₂ emissions at the same level as people in North America, we would need the atmosphere of nine planets to deal with the consequences," commented Mr Watkins.

Using an illustrative framework for an emissions pathway consistent with avoiding dangerous climate change, the Human Development Report suggests that

- Developed countries should cut greenhouse gas emissions by at least 80% to 2050 and 30% by 2020 from 1990 levels
- Developing countries should cut emissions by 20% to 2050 from 1990 levels

Measured against this benchmark, the authors find that many of the targets set by developed country governments fall short of what is required. It notes also that most

developed countries have failed to achieve even the modest reductions – averaging around 5% from 1990 levels – agreed under the Kyoto Protocol. Even where ambitious targets have been set, the report argues, few developed countries have aligned stated climate security goals with concrete energy policies.

Scenarios for future emissions reinforce the scale of the challenge ahead. On current trends, CO₂ emissions are projected to increase by 50% to 2030 – an outcome that would make dangerous climate change inevitable. “The bottom line is that the global energy system is out of alignment with the ecological systems that sustain our planet,” commented Mr Watkins, adding: “realignment will take a fundamental shift in regulation, market incentives, and international cooperation.”

Fighting climate change identifies a range of policies needed to close the gap between climate security statements and energy policies for avoiding dangerous climate change. Among the most important:

- **Pricing carbon.** The report argues that both carbon taxation and cap-and-trade schemes have a role to play. Gradually rising carbon taxes would be a powerful tool to change incentive structures facing investors. The combination of carbon taxes and emission controls should aim at reducing emissions by about 30% to 2020. It also stresses that carbon taxes need not imply an overall greater tax burden because they could be compensated by tax reductions on labour income.
- **Stronger regulatory standards.** The report calls on governments to adopt and enforce tougher standards on vehicle emissions, buildings and electrical appliances.
- **Supporting the development of low carbon energy provision.** The report highlights the unexploited potential for an increase in the share of renewable energy used, and for breakthrough technologies such as carbon capture and storage (CCS).
- **International cooperation on finance and technology transfer.** The authors note that developing countries will not participate in an agreement that provides no incentives for entry, and which threatens to raise the costs of energy. The report argues for the creation of a Climate Change Mitigation Facility (CCMF) to provide \$15-20bn annually in financing the incremental low-carbon energy investments in developing countries consistent with achieving shared climate change goals.

Drawing on economic modelling work, the Human Development Report endorses the central finding of the Stern Review. It argues that the cost of stabilising greenhouse gases at 450 parts per million (ppm) could be limited to an average of 1.6% of world GDP to 2030. “While these are real costs, the costs of inaction will be far greater, whether measured in economic, social or human terms,” warned Mr Dervis. The report points out that the cost of avoiding dangerous climate change represents less than two-thirds of current world military spending.

Adaptation efforts overlooked

While stressing the central medium-term role of mitigation, *Fighting climate change* warns against neglecting the adaptation challenge. It points out that, even with stringent mitigation, the world is now committed to continued warming for the first half of the 21st Century. The report warns that adaptation is needed to prevent climate change leading to major setbacks in human development – and to guard against the very real danger of insufficient mitigation.

The report draws attention to extreme inequalities in adaptation capacity. Rich countries are investing heavily in climate-change defence systems, with governments playing a leading role. By contrast, in developing countries “people are being left to sink or swim with their own resources,” writes Desmond Tutu, Archbishop Emeritus of Cape Town, in the report, creating a “world of ‘adaptation apartheid’”.

“Nobody wants to understate the very real long-term ecological challenges that climate change will bring to rich countries,” Mr Watkins commented. “But the near term vulnerabilities are not concentrated in lower Manhattan and London, but in flood prone areas of Bangladesh and drought prone parts of sub-Saharan Africa.”

The Human development Report shows that international cooperation on adaptation has been slow to materialize. According to the report, total current spending through multilateral mechanisms on adaptation has amounted to \$26 million to date – roughly one week’s worth of spending on UK flood defences. Current mechanisms are delivering small amounts of finance with high transaction costs, the authors say.

The report argues for reforms including:

- Additional financing for climate proofing infrastructure and building resilience, with northern governments allocating \$86 billion by 2015 (around 0.2% of projected GDP)
- Increased international support for the development of sub-Saharan Africa’s capacity to monitor climate and improve public access to meteorological information.
- The integration of adaptation planning into wider strategies for reducing poverty and extreme inequalities, including poverty reduction strategy papers (PRSPs).

Fighting climate change concludes that “one of the hardest lessons taught by climate change is that the historically carbon intensive growth, and the profligate consumption in rich nations that has accompanied it, is ecologically unsustainable”. But the authors argue, “with the right reforms, it is not too late to cut greenhouse gas emissions to sustainable levels without sacrificing economic growth: rising prosperity and climate security are not conflicting objectives”.