

## POVERTY REDUCTION, EQUITY AND CLIMATE CHANGE: CHALLENGES FOR GLOBAL GOVERNANCE

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*Poverty and equity are inextricably linked in the analysis of climate change and the global governance response. A more equitable approach to 'mitigating' climate change is essential for global governance cooperation, but 'North' and 'South' views of equity are rather polarised. A more pro-active negotiating strategy by poorer countries is needed to move closer to a solution based on per capita emission rights. The poorest countries are most vulnerable to the direct and indirect adverse impacts of climate change, and these threaten to undermine donor poverty reduction efforts. Given the apparent commonalities between the climate change 'adaptation' agenda and poverty reduction objectives, there is an urgent need to mainstream climate change adaptation in sustainable development policies. There may also be win-win environmental and poverty reduction opportunities in the Kyoto Protocol, but these could be costly in terms of development assistance support.*

### Policy conclusions

- 'Equity' is key to future North-South cooperation in climate change 'mitigation'. For some North countries, equity means acceptance of emission targets, whereas the South mainly favours an approach based on per capita emission rights.
- There is an important role for donors in helping the South develop a clear strategy to demand and negotiate more equitable and environmentally effective climate change outcomes.
- Without urgent action, climate change is likely to undermine the Millennium Development Goal poverty reduction targets, through direct poverty impacts and by slowing economic growth.
- Mainstreaming climate change into sustainable development policies should improve the quality of growth.
- The poorest (people and countries) are most at risk from climate change due to higher dependence on agriculture, vulnerability to diseases and coastal/water resource changes, and lack of capacity to 'adapt' or respond to climate change.
- 'Adaptation' is regarded as the key poverty issue surrounding climate change. Three new funds have been approved in the UN Framework Convention on Climate Change process, mainly for adaptation in high-risk and poor countries. Many of these countries are preparing National Adaptation Plans of Action.
- Successful 'adaptation' depends on supportive institutions, finance, information and technological support. Disciplinary and institutional barriers mean that the synergies between the climate change adaptation and poverty reduction agendas remain underdeveloped.
- Donors are keen to support win-win (pro-poor climate change) 'offset' projects in the Clean Development Mechanism (CDM) of the Kyoto Protocol (KP), but green market pressures and high transaction costs pose limitations.
- One of the hopes for pro-poor CDM projects is the development of ethically based CDM investment by northern social and environmental portfolio funds.

### Introduction

While equity has always been significant in the negotiations of the United Nations Framework Convention on Climate Change (UNFCCC), poverty and sustainable development (SD) have risen to prominence only recently. This is largely attributable to the 2001 report of the Inter Governmental Panel on Climate Change (IPCC) which identified the vulnerability of the poor to climate change impacts, and to the growing donor attention to poverty reduction through, e.g. the Millennium Development Goals (MDG).

Policy makers and donors increasingly realise that tackling equity and poverty is key to the necessary global cooperation to 'mitigate' adverse climate change impacts (see Box 1 for key terms). A recent donor report on climate change and poverty (AfDB et al, 2002) emphasises the synergies between the climate change and poverty reduction agendas (for example, in improved energy efficiency, a cleaner transport system, clean air, sustainable forestry, appropriate agricultural technology, and clean technology transfer), and observes that, without urgent action, adverse climate change is likely to undermine the MDG poverty targets.

This paper first looks at broader equity issues in climate change negotiations, and then focuses on the poverty and SD issues, considering the potential and limitations of win-win poverty and environmental options. It concludes by assessing strategies for linking poverty, equity and environmental outcomes.

### Box 1 Key terms

Climate change '*mitigation*' makes the link between the growth of greenhouse gas (GHG) concentrations in the atmosphere and adverse climate change impacts. This relationship has been reinforced over time by a growing body of scientific evidence. Mitigation refers to efforts to reduce or stabilise GHG levels, mainly by cutting emissions at source or offsetting them via the 'flexible mechanisms' open to industrialised countries referred to in Annex 1 of the Kyoto Protocol (KP), viz. emissions trading, joint implementation (both of these between Annex 1 countries) and the Clean Development Mechanism (CDM). Through the CDM, Annex 1 countries can obtain Certified Emission Reduction (CER) credits from carbon investments or projects in non-Annex 1 countries. The CERs count towards the Annex 1 country KP emission reduction targets.

'*Meaningful participation*' refers to the participation of developing countries in climate change mitigation by accepting emission targets in the KP.

'*Adaptive capacity*' refers to the ability or capacity of countries, communities or households to adjust in order to reduce vulnerability to climate variation, to moderate potential damage, cope with, and recover from the consequences. 'Adaptation' refers to the process of adjustment, and can be anticipatory (disaster preparedness), or reactive (disaster recovery).

'*Vulnerability*' is the susceptibility of people to the harmful consequences of extreme climate change events; this largely depends on their adaptive capacity and the sensitivity of their livelihood systems to climate change (see IPCC, 2001) for fuller definitions).

## Equity and climate change

The UNFCCC Principles state that climate change protection must have an equitable basis 'in accordance with their [the Parties'] common but differentiated responsibilities and respective capacities', and that developed country Parties should take the lead in combating climate change. In practice, there are major differences in the interpretation of 'equity', which may broadly be grouped into 'North' and 'South' perspectives.

The dominant North perspective sees equity in terms of developing country 'participation' in mitigation, and as an environmental and economic issue (Müller, 2002). Thus some industrialised countries (most vocally the US) argue that the KP is 'unfair' because developing countries with significant and growing emission levels do not have emission targets, and will not therefore share the costs of mitigation (at least in the first KP commitment period to 2012). The 'meaningful participation' of developing countries was treated by the US as a *sine qua non* for their participation in the KP. This 'North view' of equity justifies the predominant developed country interest in managing the global carbon trade to minimise the costs of compliance with their emission targets.

By contrast, the dominant South perspective is that equity is a 'redistributive social justice' issue; the human impacts and adaptation costs are disproportionate to causal responsibilities. As one developing country representative has put it, 'those least responsible for creating the crisis are most at risk from its ravages'. This perspective raises issues like over-consumption, historical patterns of development and the 'right to emit' to reach a level of economic development which satisfies basic human rights. Therefore the South favours rights-based per capita emission levels stemming from the assumption that the atmosphere is a 'global commons' to which all are equally entitled. This re-frames mitigation as a resource-sharing problem rather than one of cost or how to divide up the emission reduction burden.

But by focusing on climate change as a justice issue and trenchantly opposing 'meaningful participation' (Box 2) developing countries have weakened their negotiating position in the UNFCCC. This has resulted in outcomes contrary to the interests of the poorest and most vulnerable countries, but favourable to larger developing country emitters. A reactive rather than proactive negotiating strategy has also prevented the formation of strong coalitions, allowing industrialised countries to use 'divide and rule' bargaining tactics (Gupta, 2000). A more pro-active negotiation strategy would be to accept targets and put pressure on industrialised countries for meaningful emission reductions. But this would require a major strengthening of developing country negotiating capacity (Richards, 2001).

### Box 2 The irony of opposing 'meaningful participation'

'Meaningful participation' in emission reduction targets by developing countries has always been resisted by the G-77 and China Group in the UNFCCC negotiations owing to:

- the concern that emission targets will constrain economic development, which would be historically unjust; and
- insistence that industrialised countries 'take the lead' on mitigation as stated in the UNFCCC principles. This should include cutting emissions at source, clean technology development and new sources of finance.

While this position has a strong equity basis, the irony of opposing 'participation' is that it would not be difficult for the vast majority of G-77 countries to meet their emission targets. Studies by UNDP even show that bigger developing country emitters like India, China, Mexico and Brazil have successfully delinked economic growth from emissions. Opposition to 'participation' has provided an excuse for Annex 1 countries to negotiate weaker targets, which could have dire consequences for vulnerable countries. (based on Gupta, 2000; Richards, 2001)

## Poverty and climate change

### The poverty impacts of climate change: the Third IPCC Assessment Report

A milestone in defining the poverty impacts of climate change was the Third Assessment Report of the IPCC in 2001. This confirmed that the poorest (countries and people) are most at risk.<sup>1</sup> The IPCC report identified a range of poverty-related climate change impacts, including:

- Reductions in crop yields in most tropical and sub-tropical regions due to flooding, temperature changes, decreased water availability and new/changed insect pest incidence. Falls in agricultural productivity of up to 30% over the 21<sup>st</sup> century are projected; marine life and the fishing industry will be severely affected in some places;
- Such changes would have a major impact on food security, employment, incomes and economic growth; e.g. one study has predicted a 9%–25% fall in net farm revenue in India from a temperature rise of 2°–3.5°C;
- Huge displacement of people from coastal and densely populated low-lying areas like the Bangla, Mekong and Yangtze Deltas; while islands like Tuvalu, Kiribati, Anguilla and the Maldives could disappear;
- Exposure of millions of people to new health risks, especially from vector-based diseases like malaria and schistosomiasis, as well as water-borne diseases like cholera and dysentery. Malnutrition from the reduction in crop yields would increase the severity of these diseases. Also health impacts are likely to have an effect on growth, e.g. there is a reported correlation between higher malaria incidence and per capita growth;
- Climate change will increase the frequency and severity of extreme climatic events like the El Niño related hurricanes and droughts; Pacific cyclones are predicted to increase by 10%–20%.

Poorer developing countries are most at risk since they are more reliant on agriculture, more vulnerable to coastal and water resource changes, and have less financial, technical and institutional capacity for 'adaptation'. Africa is particularly susceptible due to desertification, declining runoff from water catchment areas, declining soil fertility, low farm productivity, the prevalence of AIDS and vector-borne diseases, weak governance, and rapid population growth. South Asia shares many of these problems.

Poverty will also be impacted indirectly through the effects on economic growth. Climate change is predicted to alter the sectoral origins of growth, including the ability of the poor to engage in the non-farm sector, as well as to increase inequality and thereby reduce the poverty elasticity of growth. This could nullify the pro-poor potential of macroeconomic policies, trade and private sector investment (ERM, 2002).

### Adaptation and vulnerability

Most mitigation scenarios show that even with deep emission cuts the lead time to GHG stabilisation is at least half a century, so that, given this irreversibility, adaptation is arguably almost as important as mitigation. Social groups are 'vulnerable' when their livelihood systems are sensitive to modest climate changes, and they lack supportive institutions or social networks, i.e. they cannot adapt. Successful adaptation depends on local institutional arrangements, the availability of finance, information exchange and technological change.

Within the adaptation and vulnerability debate, there are some important North-South differences in priorities. The North places more emphasis on disaster prevention and preparedness (DPP), e.g. early warning systems and contingency planning for droughts and floods. The South

argues that DPP is inadequate for irreversible short-term threats, and places more emphasis on disaster relief. The latter view is reinforced by emerging evidence of imminent threats, e.g. 44 glacial lakes in Bhutan and Nepal could burst their banks within five to ten years (Müller, 2002).

### **The Bonn-Marrakech agreements on adaptation funding**

Following the IPCC report, three new funds were agreed at CoP6 (Bonn), and legislated at CoP7 (Marrakech). Two of them come under the UNFCCC – the Special Climate Change Fund and the Least Developed Countries (LDC) Fund – so Parties like the US can support them, while the third is under the KP. But it isn't yet clear how much new money is available as distinct from 're-labeled' old money. The KP Adaptation Fund is to be financed from a 2% levy on the proceeds of CDM projects. This is criticised by the South as it puts the CDM at a competitive disadvantage against other KP 'flexible mechanisms', and places the financial burden on developing countries. However, if the \$1bn target for the KP Adaptation Fund is not reached by 2005, a levy will also be placed on emissions trading and joint implementation. A few Annex 1 countries have earmarked \$410 million per annum for the two UNFCCC funds from 2005, but much more is needed. There is considerable uncertainty over the details of the UNFCCC Special Climate Change Fund, although specific guidance on use of the LDC Fund was achieved at CoP8.

The CoP7 (Marrakech) decision that developing countries will carry out National Adaptation Plans of Action (NAPAs) implies they can define their own priorities, ideally with strong participation of local stakeholders. Some regions and countries, e.g. the Caribbean, Pacific, Bangladesh, are well-advanced with their NAPAs, and could start pilot adaptation projects in 2003. But the UNFCCC Special Climate Change Fund will only start in 2005, and the KP Adaptation Fund possibly not until 2008.

### **Sustainable development in the Clean Development Mechanism (CDM)**

Although SD is rather superficially treated in the UNFCCC Principles, it is an explicit objective of the CDM of the Kyoto Protocol, which is due to become operational in 2003. There are vigorous attempts to identify win-win (environmental and poverty) project types, in e.g. renewable energy and community forestry (Box 3).

But to locate win-win projects in the CDM will not be easy. Firstly it is not clear how much demand there will be for CDM projects; with the US opting out of the KP and the threat of Russian hot air sales, the price of carbon could prove too low for many pro-poor options. Secondly, if left to market forces, CDM investment would focus on large 'carbon-rich' developing countries and transition economies – most economic models predict China, India and Brazil as the main beneficiaries. A third problem is the higher transaction costs of pro-poor projects. Even if these can be lowered, CER purchasers still face high up-front costs, long payback periods, and high risks.

Competition for scarce CDM funds means there is an obvious temptation to trade-off SD objectives. Developing countries therefore need support to:

- develop a legal and policy framework for the CDM;
- develop institutional capacity for identifying, designing and vetting pro-poor CDM projects;
- lower transaction costs by 'bundling' projects, supporting new or existing institutional arrangements for rural communities, and streamlining project cycle procedures;
- introduce risk mitigation mechanisms;
- secure property rights for land or forest use projects;
- develop supportive learning networks.

### **Box 3 Potential win-win CDM projects**

Small-scale rural renewable energy projects appear to offer the best prospect for poverty benefits in the CDM. According to a recent DFID study (Troni et al, 2002), poverty benefits will be highest where rural households are connected with new energy sources, for example, via grid-connected biomass electricity production. The poverty benefits from this type of project can include increased income from enterprise development, access to clean water, improved health services and sanitation, security, education and gender benefits (as women and children spend less time collecting firewood and water). Improved wood stoves and micro-hydro power generation are other energy options with high poverty benefits. But the study observes the need for 'dedicated purchasing programmes' to ensure such benefits are obtained.

Another high potential area for some observers is community-level forestry, in spite of the fact that forestry 'sink' activities in the CDM are currently limited to afforestation and reforestation. There is scope for community-based restoration of degraded and deforested areas through multiple-species reforestation and agroforestry. But such projects will have higher transaction costs and lower biomass productivity compared to industrial plantations. There are also outstanding uncertainties over forest definitions and sink project modalities.

### **Potential solutions and priorities**

The priorities for equitable and poverty-reducing climate change actions are arguably threefold: mitigation (including the CDM); adaptive capacity building; and disaster relief.

### **Equitable mitigation and the CDM**

From the perspectives of both equity and environmental effectiveness, and therefore global security, the best solution would be one based on per capita emission rights.

One of the best-known proposals is Contraction and Convergence (C & C) (Box 4). However the obvious problem is political acceptability by Annex 1 countries: the US emits at least ten times the likely convergence level.

Another proposal is to share the mitigation burden on the basis of each country's contribution to cumulative global emissions since 1990, but again political acceptability is doubtful. A more politically acceptable, but weaker option environmentally, would be to link the CDM with 'meaningful participation'. It could be mandated that a certain quantity of 'CER Obligations' take place under the CDM, and a system developed whereby these be distributed equitably among developing countries. The equity advantage of this is that developing countries would be 'participating', but the North would effectively pay for this 'participation'.

An immediate challenge on the mitigation agenda is how to maximise pro-poor benefits in the CDM. From the global perspective this will require a broad geographic spread of CDM projects, as well as substantial donor support, since green market forces do not favour pro-poor projects. One hope is to create a niche market for ethically motivated CDM investment which could be promoted among Northern social

### **Box 4 Contraction and Convergence: the equitable mitigation option**

The central idea of C & C is that all countries arrive at the same per capita emission level by a given date, say 2100, which gives high emitters time to bring their rates down, and lower emitters time to reach an emission level corresponding to an acceptable level of economic development. During the 'convergence period', an emissions trading system would allow countries exceeding the target per capita level to buy credits from lower emitting countries so that they have time to bring their emissions down. The net financial flow to developing countries would help finance adaptation and clean technology development. But there are objections to developing countries 'profiting' from the convergence process.



and environmental portfolio funds, and in which carbon benefits are secondary to SD benefits. This is the objective behind the \$100 million Community Development Carbon Fund launched by the World Bank at the 2002 WSSD. Finally, there is huge potential for North-South clean technology transfer, both within and outside the CDM.

### Adaptive capacity building

There is much common ground between the 'adaptation' and poverty reduction agendas. Most adaptive capacity building actions (e.g. strengthening local institutional networks) are poverty-reducing activities. Similarly, SD policies to improve governance and natural resource management are key for adaptation. There is an urgent need to understand the additional vulnerability caused by climate change over other poverty-inducing factors, and to re-orient current development policies and practice accordingly (AfDB et al, 2002).

But these synergies have not been built on, partly since climate change policies tend to come under environmental or natural resource protection ministries, whereas more development oriented departments lack climate change experience. Institutional divisions are reinforced by the fear that climate change policies will prejudice economic development (e.g. for countries highly dependent on coal). AfDB et al (2002) therefore argue for:

- Mainstreaming climate change issues in land use planning, natural resource management, energy, transport, and coastal management agendas;
- Integrating climate change management in the economic planning and budget process, by engaging Ministries of Finance or Planning;
- Promoting SD capacity in climate change institutions;
- Strengthening the links and coordination between government departments and other stakeholders working on SD and climate change policies;
- Improving dissemination of good practice tools and methodologies;
- Education and training for DPP, and encouraging local participation;
- Incorporating adaptation in Poverty Reduction Strategies.

Adaptive capacity building should focus on enhancing the resilience of the poor by building on existing human and social capital (institutional coping mechanisms), supporting the financial resilience of the poor, possibly through asset-based insurance, and encouraging sustainable natural resource management. A high potential area is environmental service payments to small farmers for watershed protection. The main immediate task is to support the development of NAPAs.

### Disaster recovery and relief

As discussed, disaster recovery, relief and rehabilitation (the three Rs) are viewed more as a priority by the South. One area of urgent reform is disaster relief funding, which is characterised by piece-meal voluntary funding mechanisms and poor coordination between agencies. Climate change disaster insurance is another idea gaining prominence.

### Conclusions

This paper discusses the numerous synergies between poverty reduction and climate change agendas, especially in the area of 'adaptation'. AfDB et al (2002) argue that mainstreaming climate change policies, as distinct from treating them as an 'add-on' to development policies, will improve the quality of economic growth. At the UNFCCC level, there is a parallel need to promote a policy and institutional architecture in which climate change actions make sense from the SD perspective.

Secondly, while a mitigation strategy based on emission rights is urgently needed from the environmental and equity perspectives, the problem is political acceptability. Also for any far-reaching mitigation reform (and even a substantial increase in Annex 1 emission targets), the South must, with donor support, be more pro-active and constructive in its negotiating strategy in the UNFCCC.

While the CDM does provide a potential funding source for pro-poor projects, the contradictions between a market-based instrument (with the objective of providing credits on the global carbon trade market), and small-scale local development and sustainable livelihoods at the heart of poverty reduction, could prove too great, or at least substantially reduce the poverty benefits of scarce donor funds. The effectiveness of development assistance for CDM projects will need to be carefully monitored.

<sup>1</sup> Between 1990 and 1998, 97% of all disaster-related deaths took place in developing countries (ERM, 2002).

A longer version of this paper is available at: [www.odi.org.uk/iedg/publications/index.html](http://www.odi.org.uk/iedg/publications/index.html)

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