MITIGATION OF WHAT AND BY WHAT? ADAPTATION BY WHOM AND FOR WHOM?

DILEMMAS IN DELIVERING FOR THE POOR AND THE VULNERABLE IN INTERNATIONAL CLIMATE POLICY

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MITIGATION OF WHAT AND BY WHAT? ADAPTATION BY WHOM AND FOR WHOM? DILEMMAS IN DELIVERING FOR THE POOR AND THE VULNERABLE IN INTERNATIONAL CLIMATE POLICY

Leisa Perch*

Whether we are collectively able to bring about a transition to a low carbon energy future and how we might do so is first and foremost a question of politics. Institutions, policy-making processes and the nature of politics are central to societies' ability to set priorities, manage trade-offs and address conflicts in a prevailing context of inequality and uneven development (University of East Anglia, 2010:1).

1 INTRODUCTION

Despite notable advances in the "climate change-development" discourse and the rapid evolution of the climate-finance architecture, many of the fundamentally politicised issues that shape the existing dilemma on how to confront global climate change have been avoided or delayed. A largely market-driven response has not advanced an accountability-driven, long-term agenda, and competing interests continue to shape the discourse on adaptation and mitigation—thus influencing whose risk becomes predominant and whose impacts and losses are prioritised within and between states.

This is not defined only by actions in themselves, but also by the structural reality within which policy is being shaped. In the current structure, those with the capacity to develop new technologies will have a customer base formed by those who are likely to be most vulnerable to climate change. Moreover, the extent to which we change (or can change) current patterns of consumption and production will be a reflection of the technologies available to make that change, the willingness to do so, and the level to which both adaptation and mitigation finance and projects prioritise and advance social-equity approaches, including norms for ensuring access to technology. The "energy poor" and the disenfranchised do not automatically benefit from large-scale technology-transfer projects, and some interventions help country efforts while having little impact at the community level. This raises a number of fundamental policy concerns, including the achievement of a reasonable balance within both the intent and implementation of policy, and between the imperatives of managing the climate crisis and securing development progress. Fundamentally, in the context of climate

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change, can we avoid what the International Union for Conservation of Nature (IUCN, 2006: 4) has referred to as often being "development as usual, with a brief embarrassed genuflection towards [in other words, paying lip-service to][1] the desirability of sustainability"?

Using an analytical framework that combines theories of politics, "public goods", collective action, political economy and international relations, this paper assesses current efforts and the evolving discourse on equity, with a view to reaching a better understanding of what it would take to achieve some balance between *averting the worst of climate change and manage its impacts while safeguarding and enabling further progress on development*. By focusing on a reasonable equity of outcomes[2] (quality) rather than the sum of actions (quantity), the paper finds that the language used in the discourse reinforces its innately political framing, as well as prevailing governance arrangements. They in turn have led to an application of "development" that has limited the inclusion of some dimensions, namely the social, relative to others, in some cases resulting in limited direct benefits for the poor and vulnerable, missed opportunities, and a number of social risks that could undermine other development efforts. The "reinforcing role" of global policy frameworks in creating the necessary enabling environment for collective, multinational action is also given specific attention.

2 HOW HISTORICAL AND STRUCTURAL INEQUALITIES SHAPE "BURDEN SHARING" IN THE GLOBAL CLIMATE-CHANGE AGENDA

The International Policy Centre for Inclusive Growth (IPC-IG) defines inclusive growth as "both an outcome and a process. On the one hand, it ensures that everyone can participate in the growth process, both in terms of decision-making for organising the growth progression as well as in participating in the growth itself. On the other hand, it makes sure that everyone shares equitably the benefits of growth. Inclusive growth implies participation and benefit-sharing. Participation without benefit-sharing makes growth unjust, and sharing benefits without participation makes it a welfare outcome" (IPC-IG, 2010).

Securing a sustainable and equitable solution to climate change involves similar principles, issues, concerns and dynamics. Inherently, the politics of climate change denote competing interests between countries, between those better able to manage risk and those likely to fall victim to it, those who have contributed to the problem and those whose participation is key to resolving it, between genders, sectors, groups within society and even between generations (Maxwell, 2009b and 2010; Giddens, 2009). Varying capacities to respond underlie growing divisions within the South, and the inequalities of the burden are undeniable (Adger, 2003). As a result, issues of participation and benefits-sharing also figure largely, or should do so, in the global public-policy response. Stern (2008) highlights three basic principles for global policy: effectiveness, efficiency and equity.

A large part of the discourse has been about "participation" and "responsibility" in a different context—namely in terms of which and whose actions have contributed more significantly to causing the crisis, how the solutions should be defined and who should finance them, and how the burdens on those who contributed much less or negligibly should be alleviated or mitigated. Traditionally, the focus on the latter issue has been more at the country level than on "poverty" as a state that conditions development within and across state boundaries. In a larger debate on justice and equity the issues of "benefits" in a broader sense are discussed, mainly in the context of ensuring that the needs of the powerless and voiceless

are met and that their wellbeing is positively influenced and improved through changes in development (ActionAid, 2009 and 2010; Cole, 2007; Page, 2006 cited in Sowers, 2007). Thus, issues of social justice have started to extend beyond the moral (as an abstract) to include considerations of how the climate-change response is socially and politically defined, and how those most affected are involved in decision making, as well as how they participate in the response itself.

More broadly, these considerations underscore the sociological nature of climate change, not only in the context of societies within countries but also in defining the interplay between society and nature at the global level. Roberts and Parks (2006, cited in Sowers, 2007) suggest that "historical and contemporary structural inequalities in the international economic system have contributed to climate vulnerability and constrain national development pathways". A press release by the United Nations Environment Programme (UNEP) in early October 2010,[3] referring to a recent study by the UN-backed Principles for Responsible Investment (PRI) and the UNEP Finance Initiative (UNEP FI) seems to confirm this. Released findings, then, estimated global environmental damage caused by human activity in 2008 at a monetary value of US$6.6 trillion, equivalent to 11 per cent of global GDP and likely to rise to $28 trillion by 2050 if business continues as usual (UNEP, 2010). The study points out that that about a third (US$2.15 trillion) of annual environmental costs from the global economy were caused by the world's 3,000 largest publicly-listed companies in 2008, many of them involved in utilities, oil and gas production, industrial metals and mining. This suggests that a greater share of the global environmental commons has been secured for these companies and actors.

Detailed analysis by Trustcost PLC (as part of the UNEP FI process) indicates that greenhouse gas (GHG) emissions are responsible for 68 per cent of these costs (UNEP, 2010b). This confirms longstanding thinking that some actors, in both the public and private arenas, have greater capacity than others to influence and frame development orthodoxy, as well as to access the commons. This is evident in the greater contribution of some sectors to GHG emissions, and in relatively few countries' greater share of historical emissions. An assessment of CO_2 emissions in 2004 by Bacon and Bhattacharya (2007) ranked Australia as No. 14, above Saudi Arabia, Mexico and Brazil. Then, the ratio of emissions by the United States (No. 1) to those of the Russian Federation (No. 4) was 1:4, and the difference between Australia and the United States was significant (386 million metric tons as against 5,912 million metric tons); the gap was much wider with Trinidad and Tobago (33 million metric tons). One of the study's main findings was that the degree of inequality between countries with respect to total CO_2 emissions was extremely high, with a Gini Coefficient of 0.72 (Bacon and Bhattacharya, 2007: 31). According to an analysis by the International Energy Agency (2010) of emissions from fuel combustion, the top 10 emitting countries in 2008 (China, the United States, the Russian Federation, India, Japan, Germany, Canada, the United Kingdom, Iran and South Korea) accounted for about two-thirds of world CO_2 emissions.

While this is significantly influenced by the industrial complex, we can conclude from the preceding discussion that the intensity of emissions has also been influenced by individual human choice, market forces and their cumulative impact in the context of consumption and the political economy that shapes those opportunities and choices. Thus, it is not just the US private sector that contributes to its significant emissions tally but also the collective weight of production driven by consumption, and consumption driven by production. According to Bacon and Bhattacharya (2007), in 2004, Australia ranked sixth of 70 countries in terms of emissions per capita, behind the United States (No. 5) and before Canada (No. 7). By its very

nature, human-induced climate change is the result of a complex set of relationships and interactions within and between states, and the interaction between human behaviour and the natural ecosystem.

Beyond the historical nature of this duality, the structural underpinnings of climate change are also critical for identifying appropriate processes for a move from "business as usual". A move towards reasonable equity requires both an understanding of which factors led to the current crisis and which are likely to enable or disable progress and success. A number of other factors are important in framing the discourse:

1. Any "free good" will inevitability be depleted (Mehta and Roy, 2004). Any free and accessible good that is owned by no one and shared by everyone is subject to overexploitation and depletion in the face of intensive and unlimited use. Though no good can be totally non-rivalrous or totally non-excludable,[4] the concept of "public goods" has been applied analogously to the oceans, the natural environment and the earth as a whole to reflect "goods" which are in the public domain and in the public interest, which are needed, and whose inherent value is always positive. The management challenges of "free goods" are most famously expressed in the concept of the "tragedy of the commons", a term coined by Hardin (1968) and a notion alluded to by Malthus (1798) in their works on the potential of over-population to exceed the earth's capacity. The climate crisis is another such case. The climate and many of the ecological systems that influence it fall clearly into the category of international or global public goods. A study by the United Nations Industrial Development Organisation (UNIDO, 2008) adds the interesting element that, theoretically, "supply" is non-excludable and "benefits" are non-rivalrous.

2. Historically, some actors (public and private) have had greater opportunity than others to access natural resources and to influence the climate, and thus they bear a greater responsibility for the resulting negative impacts (UNEP 2010a and 2010b). This is defined by history and the capacity of the United States and countries in the European Union (EU)—which have been advanced economies for some time—to dictate the development normative (and its constituent parts) in terms of the movement of labour and capital. Colonialism, for example, gave many powers—Britain, France, Germany and others—unparalleled access to land, minerals and labour in order to grow and expand their economies (Bandiera et al., 2005). Examined in this way, participation and, by extension, access, have been determined more by opportunity, capacity and, to some extent, power, than by a rule-based system, transparency and collective responsibility (Cammack, 2007; Adger et al., 2006; Bromley et al., 2004a and 2004b). Thus, efforts to respond in the context of the latter, as defined by a multinational system response, face inevitable challenges.

3. Given significant uncertainties, there is an unavoidable temptation by some parties to "wait and see" and continue to "free-ride"—that is, to avoid paying costs or sharing the burden of response for as long as possible. The costs and benefits of proactive or reactive responses are significantly defined by national and global interests (Aldy, 2003), which may be driven largely by economic and geopolitical concerns. This has been evident in negotiations in which the US government has

refused to sign the Kyoto Protocol, the sharp contrasts between the EU and the US response to climate change at the global level, and in the growing tensions between the US and Chinese governments recently.

4. The long-term nature of climate change makes urgent action and consensus politically difficult in a short time horizon (Sprinz, 2009). Both the short-term perspective (usually five years or less), which tends to drive politics, and the frame of politics make it difficult to translate "future" catastrophe into urgent development challenges for "today", particularly those requiring sacrifice. Soley (2010: 2) suggests that "the adoption of negative policies which impinge on individual choice and quality of life are counter-productive and electorally damaging".

5. At the same time, given the disparities in impacts, climate change may bring benefits to some (warmer temperatures, the capacity to grow different kinds of food) while for others it could bring extremes in temperature and either an overabundance or scarcity of water. These differences and the scale at which change is taking place in different parts of the world make for "differing social realities" in the context of climate change (Adger, 2005). Take, for example, Brazil in 2010 and 2011, where heavy rains and resulting floodwaters devastated Rio and the town of Jacuipe (see picture)—a very different circumstance from that experienced in other parts of the country. The 2011 flash floods, which resulted in significant mudslides, had one of the highest death tolls from a single natural disaster in Brazil.[5] For some, therefore, climate variability and potential change is forcing a need to act, while for others decisions are still distant and remain only a possibility. Automatically, in a system of collective governance, such "forcing" is often counteracted by social and political resistance in the form of what is called the Giddens paradox: that "people will not act on climate change until they can see the immediate effects, by which time it will be too late" (Maxwell, 2010; Giddens, 2009).

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6. The resulting manifestation of poverty and vulnerability in different ways across and within countries makes it hard to define, achieve and measure a common understanding, as well as urgent and specific action, particularly on adaptation. Defining and agreeing on "appropriate action" also becomes challenging.

Harrison and Sundstrom (2007) point to some other structural issues that inform our understanding of global politics and its influence on global public policy.

- States as unitary actors behave according to their interests, within the consideration of domestic politics (in other words, states, or at least democracies,

are accountable to domestic constituents). Hence there is no accountability to the global constituency outside that to which countries agree.

- Because the Kyoto Protocol only included emission targets for developed countries, the so-called "Annex 1 countries" felt this would directly affect their competitiveness relative to developing countries.
- The nature of the central compromise reached in Kyoto, between US material interests and EU norms, had the effect of increasing the disparity in costs between these two jurisdictions.

As global policy challenges continue to multiply and expand, and as poverty and inequality persist in the face of growth, development and technological advancement, a broader approach to global public policy will depend on highly sensitive actions and policy interactions at the individual, state and global levels. Of critical importance, therefore, is the concept of "climate-compatible development" (CCD) or making development actions "climate-neutral" by tackling both vulnerability and green growth in the same policy framework, as well as the relationships between them (CDKN, 2010). As defined by the Climate and Development Knowledge Network (CDKN), CCD focuses on finding ways of minimising harm from the impacts of climate change and harnessing opportunities presented by a low-carbon future while promoting poverty reduction and human development (CDKN, 2010).

By extension, it can also be suggested that "compatibility" is not only defined by the climate-development nexus in national policy but also that development actions need to be compatible across sectors and state lines, thereby giving weight to the notion that individual state actions are unlikely to have an impact unless they are part of a collective, simultaneous and mutually-reinforcing package of actions. Perch et al. (2010) note that there are necessary interdependencies between mainstreaming climate change in development and mainstreaming development into climate change, particularly in the way climate change impacts states and people within and between states, as well as the economy, society and the environment. After all, food security depends on water and energy; water supply and distribution depend on energy and labour; and energy can be supplied by water.

Such considerations of compatibility require confronting a number of factors that are also influenced by structural inequalities at the micro level (between groups): (i) climate change lies firmly outside the sphere of influence of poor communities (which have limited power to affect how it will be addressed); (ii) special burdens and/or vulnerabilities fall on the indigent, women, ethnic minorities, indigenous peoples, and people living with HIV/AIDS in the context of food security, water availability, and forest management. The Fourth Assessment Report (FAR) of the Intergovernmental Panel on Climate Change (IPCC, 2007) estimates that, by 2020, between 75 million and 250 million people will be exposed to increased water stress as a result of climate change; and (iii) climate change adds another source of pressure on the indigent, poor and vulnerable.

Thus, securing *compatibility* as an outcome calls for a process wherein considerations of equity will be paramount, and that potentially offers an opportunity to bring the social dimensions, issues of social justice and equity, as well as development (more broadly), to the centre of the debate. Maxwell (2009a) makes a strong argument for a focus on a "reasonable equity in outcomes" in devising a fair and socially just response to climate change.

On principles of inclusion alone, considerations of who participates, on what basis, their role in decision making and as direct actors in the response become critical. In Zaman (2008), "inefficient equilibrium" is defined as a process in which some of the players form a coalition and constrain the other players in such a way that whatever strategies they (the outsiders) take, each player in the coalition will always receive a better payoff than that of any player outside the coalition. The parallels with international climate change are obvious and are pertinent to the power dynamics of development more generally.

Access to solutions, influence on decision making and the opportunity to benefit directly from the implementation of solutions are also important. In that regard the traditionally truncated discourse on "mitigation and/or adaptation" is implicitly expanded, and "inclusion" becomes more central as a conditional (inherent) and a situational (evolving) factor in defining the response.

3 NAVIGATING RIVALRY IN BENEFITS FROM GLOBAL PUBLIC GOODS: WHAT, WHO AND HOW?

So far, the global discourse has been framed on two levels, one (adaptation) focused on people and systems (micro) and the other (mitigation) focused on the economy and structures (macro). There was little clarity on the balance between the two or how they relate and influence each other (or should do so). Finding this balance implicitly requires adjustment not just at the level of the normative but also with respect to objectives and their application—that is, policy statements and actions prioritised. Adger et al. (2005) confirm that purpose and outcome are intertwined. It is now clear that we must move beyond the orthodoxy that the "market will solve all".

"Framing", which speaks to how a problem is presented and described, and how its solutions are defined and implemented, reveals much about (i) how "adaptation and "mitigation" will be implemented in policy terms; (ii) how "adequate and appropriate" are defined in the context of approving the release of climate funds; (iii) the governance arrangements in an operational context; and (iv) how they are applied on the ground at the country level as a contribution to the collective response. The institutional frameworks in which policy is embedded, therefore, give legitimacy to the scale, scope and shape of the response. They also determine whether the response serves to avert the worse consequences of climate change and variability, or whether it does more to maintain existing development progress and mitigate the impacts on those most vulnerable within and between countries. Since the 1960s, Herman Daly has been suggesting that human systems and dynamics need to be understood and integrated in efforts to address environmental challenges.

3.1 BETWEEN THE ECONOMY AND SOCIETY FOR THE ENVIRONMENT

Traditionally defined in environmental/ecological terms, the discourse and the debate on climate change have progressed to one significantly focused on the economic dynamics of the causes and the menu of possible actions. Lord Stern's 2006 review of those dynamics is among the better known. As the movement towards a more significant linking of climate change and development (in policy) builds momentum, two broad schools of thought dominate the discourse. There are those who suggest that a focus on social issues distracts rather than aids

the policy process, and those who insist that in fact it is fundamental to a tangible, equitable and sustainable response. For the most part, the social dimensions of climate change are on the periphery of global public policy and action.

Lind (2010: 6), for example, seems to reject the linking of climate change and the need for a re-engineering of the social order, when he writes that "pragmatic progressives should insist that climate change caused by greenhouse gas emissions is a technological problem with technological solutions". Soley (2010) joins Lind in advocating economic/financial/market-driven and technological solutions. Hale (2010) suggests that technology will not be enough and that behavioural change is an unavoidable part of the response. Significant work has also been done showing that market responses are insufficient to cope with the full extent of the public goods (see UNIDO, 2008).

Market-based approaches have contributed and will continue to contribute to policy reform and other change-management efforts. Still, there are strengths and weaknesses. As regards the former, economic instruments have helped improve waste-management and recycling efforts, and have reduced energy consumption through the use of low-wattage lighting in homes and commercial buildings, as well as the use of other technologies reliant on renewable sources such as solar water heaters (Perch, 2001). But the availability of renewable energy solutions, if unrefined, in the 1990s and early 2000s did not mean that lobbying by entrenched and powerful interests was not effective in limiting funding for further research and innovation, or in sidelining these solutions as long as possible. Hale (2010), for example, notes the power of vested interests in resisting change in the early years of the climate-change debate. Moreover, while financial inducements contribute to macro shifts in consumption, they tend to place at a disadvantage those who have limited interaction with the formal market, such as the poor or those without disposable income and financial assets. Thus, while economic logic has been critical for the progressive engagement of the private sector, which perceived large-scale shifts as a threat to balance sheets, profits and competitiveness, other logics are needed to engage other stakeholders, including those more active in the social and environmental dimensions of development. By implication, this suggests that climate finance investment needs to move beyond those investments that makes economic sense.

The expanded political discourse and detailed critique of instrumental responses to climate change is not without merit. The critique has largely been founded on key areas of concern: the limited developmental (in its broadest sense of beyond economic growth) context in which such responses have been defined; the limited social analysis that inform such efforts, either ex ante or in defining strategies; the limited understanding of and consideration for the social dimensions of environmental change processes in general; and the overall limited attention paid to the contribution of social and sociological factors in making all solutions work. In advancing this broader argument, research findings from a number of sources are relevant. In particular, O'Brien and Wolf's (2010: 233) assessment is quite pertinent: "a values-based approach to vulnerability and adaptation recognises that economic assessments of impacts and responses, as exemplified in the Stern Review, cannot capture the full significance of climate change". The belief that values are important in defining issues of significance and are also important to policy is not held solely by social researchers like O'Brien and Wolf; "values" are enshrined in the US foreign policy agenda. A recent speech by Rajiv Shah,[6] Administrator of the Unites States Agency for International Development (USAID) stressed that American actions, whether supporting victims of disasters in Haiti or hosting bake-sales to raise funds for anti-malarial nets, are an expression of American values.

Other counter-arguments to the instrumental approach reflect broader concerns about equity in the scale and scope of ''burden sharing", particularly by the poor:

- Subsistence farming that depends largely on a rain-fed production process will be significantly affected. Rural households that depend on subsistence and smallholder farming in developing countries are known to be among the groups most vulnerable to the impacts of climate change on agriculture (IFAD, 2008; Morton, 2007).
- Many small rural farming households lack land title. In the absence of supportive legislation, title-less famers and communities with customary rights will be excluded from opportunities to capture revenues from carbon credits (White and Martin, 2002 in De Pinto et al., 2010: 20) and other interventions that depend on title and documentation as a source of validation and verification.
- Sixty per cent of the world's poorest and most vulnerable people are women who depend on their natural environment to earn a living and feed their families (UN, 2008).

Though recent progress on mainstreaming gender in the global negotiations/policy process is laudable, it is notable that such undertakings lag behind intellectual enterprise, research and other global policy that have long affirmed the fundamental role of gender equality and women's empowerment in human development. This has been the case since the signing of the Rio Convention in 1992 and reaffirmed in the signing of the Millennium Declaration. Undeniably, the climate-change negotiating process has historically been male-dominated (Aguilar, 2007; Life e.V and GenderCC,[7] 2009). Though it is clear that having women decision makers is not sufficient to guarantee that gender issues will be considered and prioritised, their involvement is still a critical step towards the consideration of these issues (UNECA, 2009). Recent criticism of the process of developing South Africa's national climate change policy (Palitza, 2010) is a case in point.

The fact that a debate still rages in the face of sound research on the risks and challenges arising from delinking development and climate change, particularly in the context of mitigation, highlights the politicised nature of the debate and signals potentially significant challenges for the poor in general. Brown (2010), De Pinto et al. (2010), Panfil and Richards (2010), GenderCC (2009), Graff-Zivin and Lipper (2008), Roncoli et al. (2007) and Sowers (2007) have all highlighted a number of development gaps in mitigation practice. Heinrich Boll Stiftung (2010), IFAD (2008) and Morton (2000) have expounded more generally on climate change and development, through the lens of gender and agriculture/rural development respectively. This body of work is also supported by more general research on the causes of poverty and gender inequality, and how these influence access to resources (see Lipper, 2001; Kabeer, 1999).

The role of political economy and the dynamics of the global economy cannot be overlooked. In the area of emissions reduction, a large proportion of the production needed to meet the consumer needs of the North has been exported to developing countries and emerging economies. In some ways, this movement "offshore" has been a contributing factor to the rate and consistency of growth in emerging and newly industrialised economies, including those of China, India and Brazil. Interestingly, Sowers (2007) finds that wealthier

nations that traded more emitted less carbon, while poorer countries that traded more emitted more carbon. One interpretation is that wealthier countries are sending carbon-intensive activities offshore, and importing carbon-intensive products.

These dimensions also play out in the way that the local links to the global. Beyond the integration of gender as a structural component defining vulnerability and adaptive capacity, the participation of women and gender-advocacy groups in devising policy at the national and international levels is also important. At the national level, National Adaptation Plans of Action (NAPAs) have often been written and prepared by ministries of the environment. In their own reporting, very few show any significant involvement by other ministries, including the ministries of social development, welfare, health and/or women, which have access to the data and understand the country's social-development context (see Annex 1). Of the 32 NAPAS we reviewed in assessing the scale and scope of participation, only two mentioned any significant participation by other ministries. This raises other questions about the benefits or public good resulting from climate-change action, which are derived through mitigation, adaptation, resilience, or all of these.

3.2 BETWEEN LOCAL AND GLOBAL (BOTTOM-UP AND TOP-DOWN) FOR THE COLLECTIVE

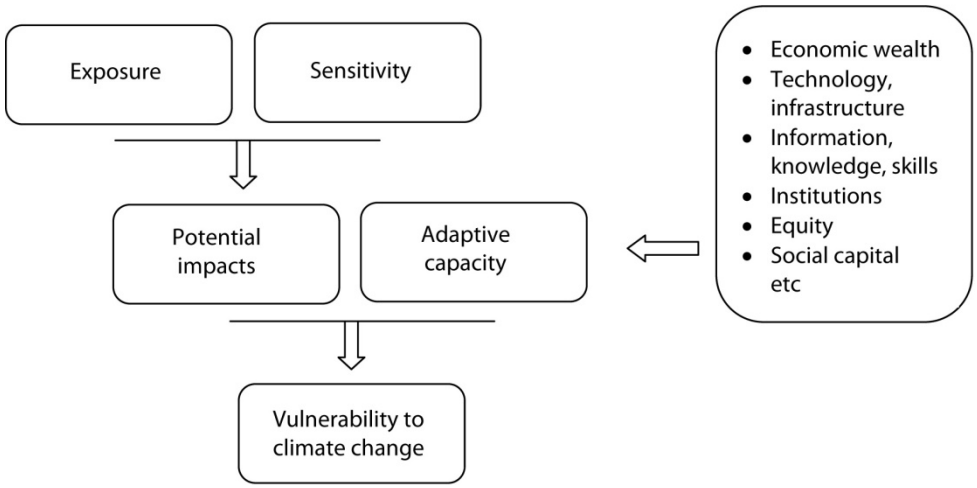
The delineation of the global climate-change agenda in the language of adaptation and mitigation creates some inherent dualities. On the one hand, the language implicitly suggests that change is inevitable and unpreventable, and on the other hand, that the worst can be avoided. Who does what, when they do it and who is engaged become critically important in this context. Ownership of the tools needed to make a response, including technology, also becomes pertinent. If the primary focus is on the material benefits of those who create technology, for example, it is likely that technology will be beyond the reach of those who need it urgently—the poor and vulnerable (Brown, 2010). Both conceptually and practically, however, adaptation still presents challenges for consensus, particularly regarding its application at the national level.

This conceptual challenge emerges in particular with regard to the concept of vulnerability, especially within countries. Currently, the global agenda is largely guided by the concept of vulnerability as defined by the IPCC (see Figure 1), but it remains hotly debated among researchers (Mimura et al., 2007; St. Bernard, 2007; Kelly and Adger, 2003) and is defined in several ways. It has been intertwined with the concepts of susceptibility (Kambon, 2005) and resilience (Cascio, 2009; ESCAP, 2009; SOPAC and UNEP, 2005).

Further, Adger et al. (2006) posit that the colonial legacy of insertion into the international economy negatively influences the quality of governance and the structure of the economy to increase climate risk, and by implication also shapes exposure and vulnerability. As a proxy for this colonial legacy, they use the narrowness of a country's export base. Their analysis suggests that climate risk is only partially explained by the most commonly cited causes of vulnerability to climate-related disasters, poverty (GDP per capita) and geography (the proportion of the population in coastal areas). Instead, other structural features associated with late development—levels of income inequality, weak property rights and significant rural populations—were stronger and more consistent than GDP per capita or coastal populations in predicting death and displacement from such disasters.

FIGURE 1

Conceptualisation of Vulnerability to Climate Change from the IPCC Third Assessment Report 2001



Source: Tincani, Murray and Perch; redrawn from Ionescu et al. (2005).

This is not to say that these spatial/geographical frames of analysis do not bring value to vulnerability assessment, but that there is a tendency to assume that all people within that zone are equally vulnerable. Take, for example, the average coastal area in a small island developing state. Within that zone are hotels, homes, banks and businesses of all shapes and sizes. In a broad discussion of vulnerability, the hotel owner could be easily prioritized along with the small homeowner and the micro-entrepreneur. Schneider and Lane (2005) suggest that such approaches, which accord binary classifications of winners and losers on the basis of location and/or systems, have limited relevance and that vulnerability analysis could be strengthened by including the political, economic, and social determinants of vulnerability, as well as adaptation capacity.

From the more nuanced discussions that take account of issues of equity and justice (see also Mearns and Norton, 2010; CDM Watch, 2010; Adger at al., 2005) it can be inferred that the vulnerability and security of any group is also influenced by the entitlement of individuals and groups to call on available resources. Hence solutions that only cater to needs such as economic wealth, technology, infrastructure, information, knowledge and skills or access and availability, but that do not address "agency" or capability to deploy such resources when needed, miss a significant piece of the puzzle. This broader concept is still peripheral to the policy process but it is to be hoped that it will be addressed in more depth in the new IPCC report due in 2014.

These general weaknesses are also reflected in current global guidance on adaptation. The existing guidelines for climate financing, including NAPAs, the Special Climate Change Fund and the Least Developed Countries Fund (UNFCCC, 2002 and 2003) are broad and open to interpretation (see Box 1). Furthermore, discussions at the twelfth meeting of the Adaptation Fund Board (AFB) confirm that much remains unresolved. There, vulnerability was part of a critical internal debate, as yet unresolved, on the initial funding priorities, including the balance of resources among vulnerable countries (Kaloga and Harmeling, 2010).

The absence of a consistent, subnational frame or micro-level scale of analysis, which takes account of the type, source and shape of vulnerability, complicates verification of the

impacts on and benefits for the poor and vulnerable within a country. It also makes it much more difficult to gauge the cumulative impact of adaptation efforts at the global level, where a significant portion of additional development finance specifically targets poverty reduction. This also challenges the Monitoring, Reporting and Verification (MRV) systems being formulated in the United Framework Convention on Climate Change (UNFCCC) process (see also Annex 3 on reporting on and verifying the Clean Development Mechanism, CDM). These limitations exist not only in global policy on adaptation but also, albeit differently, in mitigation efforts.

BOX 1

NAPA Framework Guidelines for Preparing the NAPAs

Broadly, the guidelines recommend:

(a) A participatory process involving stakeholders, particularly local communities.

(b) A multidisciplinary approach.

(c) A complementary approach, building on existing plans and programmes, including national action plans under the United Nations Convention to Combat Desertification, national biodiversity strategies and action plans under the Convention on Biological Diversity, and national sectoral policies.

(d) Sustainable development.

(e) Gender equality: climate change will have different impacts on men and women, and in most cases the adverse effects of climate change disproportionately affect women. Women are often the main repositories of vital local and traditional knowledge, and they need to be recognised as key stakeholders in the consultations and in decision making.

(f) A country-driven approach.

(g) Sound environmental management.

(h) Cost-effectiveness.

(i) Simplicity.

(j) Flexibility of procedures based on individual country circumstances.

The guidelines note that the NAPA team should be multidisciplinary, particularly the broader team responsible for most of the tasks associated with preparing the NAPA. It should span all relevant disciplines such as agriculture, forestry, health, urban planning and women's issues, and will work under the guidance of the NAPA team. It is recommended that the team include a social scientist familiar with participatory methods.

Source: UNFCCC, 2002.

Generally, mitigation has also been weak on the interactions between economic, social and environmental vulnerability, including the interplay between endogenous and exogenous factors. For example, the extent to which international trade and geopolitical dynamics influence or constrain the capacity of states to transform is largely absent from the political discourse in a policy sense. Although this is changing with the increasing discussions on trade and climate change, there is less recognition of the role of impenetrable wealth and its related power machine—a social and political behemoth—in limiting and constraining change. Further, evidence suggests that the diversification of sectors into less carbon-intensive pathways will be limited in part by domestic factors, particularly the political clout wielded by

what Bandiera et al. (2005) term "export elites" or "polluting elites" and "weak postcolonial state institutions".

Certainly, fossil-fuel demand reduction (requiring the re-allocation of resources across sectors that accompany development)[8] will require that actions be both mitigative and adaptive.

3.3 WHOSE VULNERABILITY AND WHOSE OPPORTUNITY?

The limited focus on social and behavioural research in the science and politics of climate change has, in the view of the present author, led to the limited capacity and efficacy in integrating "development" into the globally agreed agenda. This has implications for the balance between targeted[9] and universal assistance to address climate-change impacts at the national and international levels. The risks that arise are significant in the context of either adaptation or mitigation.

- In the case of energy, the need to move rapidly to a low-carbon model will require significant investment in "renewables", including biofuels, with potentially negative implications for the availability of land, capital and human resources for food production. What would this mean for the poor when the competition for scarce land and other resources intensifies and the nominal value of land increases because of new market opportunities?
- De-linking adaptation from development is likely to limit the sustainability of interventions (Mitchell, Anderson and Huq, 2008).
- The multilateral system tends to take it for granted that countries represent all the interests of their citizens rather than the sum total of them, despite evidence to the contrary. Kates (2000) concludes that "if the global poor are to adapt to global change, it will be critical to focus on poor people, and not on poor countries as does the prevailing North-South dialogue. The interests of the poor are not always the same as the interests of poor countries".
- Moreover, a focus on the circumstances of the country rather than on the poor within the country has sometimes tended to undervalue the needs of the poor as a minority of the population. Ospina's (2010) analysis of the impacts of Hurricane Katrina highlights the contrast between the economic and technological power of the United States as a country at the time and the devastation faced by the state of Louisiana as a part of the whole (see Box 2).

BOX 2

Macro-Micro Realities in the United States

Recent data for the US highlight significant disparities along ethnic and racial lines (Lewis and Burd-Sharps, 2010; Burd-Sharps, Borges Martins and Lewis, 2008), including in access to critical services. The latter study notes that "the top 1 per cent of households possesses a full third of America's wealth" (2008: 6). The debate on healthcare reform in the United States between 2009 and 2010 also disclosed a wide disparity in access to healthcare and the burden that places on disposable income, and revealed diverse and opposing perspectives of the state's responsibility to bridge the gap.

This is suggestive of another type of politics, one that may be defined by the traditional relationship between aid donors and recipients but that also considers how poverty and vulnerability are tackled not just in the South but also in the North.

Thus, greater political and academic attention to governance arrangements (process) and efforts to look beyond the numbers (outputs) have served to reveal innate challenges in the global public policy process, including issues of convergence and coherence.

- There is a need to reconcile the structural nature of the global policy process with the requirements to secure development effectiveness. Strengthened capacity for socio-ecological analysis is needed, including disaggregated data. While much of the development discourse has emphasised that "aggregates" tend to mask inequalities within societies and countries, micro-scale analysis still seems to be the exception, rather than the rule, in understanding poverty and climate change at the global level.
- An opportunity has been missed to learn from broader global efforts, including best practice and failures in addressing gender equality. Few issues can match climate change for its subtleties, interactions, complexity and multidimensionality. The lessons learned since the Beijing Platform for Action (1995) came into being hold a number of cautionary tales for the climate-change agenda, including the following.
    - Equality, equity and parity are interlinked but are not substitutable for each other. The broad development agenda has tended to progress more when geared towards equity and balance rather than parity in all things.
    - It is often easier to tackle practical needs such as income and access to resources. The harder and more critically important task is to deal with the underlying reasons for disparity between men and women and between members of the household, between households and within society. The sustainability of impacts and outcomes, as well as investments, relies on meeting strategic rather than practical needs.

The World Bank (2010a) notes that "climate resilience is strengthened where adaptive capacity is improved, inequalities are addressed, and exposure to climate risk is minimized". Thus far, evidence suggests that adaptive capacity still needs to be better defined, inequalities remain only partially addressed, and exposure to climate change is lower on the scale of priorities than mitigating the worst of the impacts. In many ways, this is inimical to a crisis response wherein the first stage is to limit impact (through triage) and then address recovery. This has serious implications for the effectiveness and impact of the rapidly growing pot of resources being allocated to climate change (climate finance), including "fast-tracked resources". The risk is high that the needed changes identified above may not be addressed, that implementation over the next two to three years succeeds more in "emissions trading" than "emissions reductions", and that it undermines or limits the potential for the climate-change agenda to contribute to, inform and enhance development policy actions in other global agendas, including those related to the management of other forms of global environmental change.

4 CLIMATE FINANCE: AGENDA-MAKING, GAME-CHANGING OR HERALDING A NEW GLOBAL DEAL?

Traditionally, the structural inequalities between developed and developing countries (the pace, scope and size of development) have tended to limit international cooperation as a result of divergent philosophies and worldviews, generalised mistrust, and limited reciprocity. The traditional structure of global aid and even the expanded focus on "development finance" has usually tended to maintain and reinforce this reality. Here, structure is conceptualised in a "non-material" sense in the form of patterns of behaviours, norms and ideologies (borrowing from the contrasting theories of Durkheim and Marx, and largely favouring Giddens's theory of structure as both enabling and disabling of policy and development).

While the emergence and growing role of several newly industrialised economies is causing this to shift, these dichotomies are largely reflected in the global allocation of finance for the climate-change response. The so-called BRICS (Brazil, Russia, India, China and South Africa) account for more than 25 per cent of world output (IEA, 2010: 19).Recently, the UNDP's Ajay Chhibber (Assistant Secretary-General and Director of the Regional Bureau for Asia and the Pacific) reflected on some of these matters as he spoke to the media during the Global Urban Development Forum.[10] He noted that "the New South is much more what I'd call a handshake—not hand out. It's built on a partnership, rather on a donor-receiver relationship". He also defined the traditional North-South aid model as top-down conditionality.

Thus, the recurrent pattern of political arrangements that largely define international policy also shape the nature and scope of solutions to climate change. By the very nature of their state of development and continuing challenges, however, least developed countries (LDCs) and small island developing states (SIDS) remain heavily dependent on the global policy framework for financing and policy direction. The NAPA framework has been specifically designed to facilitate their access to adaptation finance (UNFCCC, 2008). Capacity constraints go beyond issues of application and implementation, and relate to their relative influence (or lack thereof) on the shape of current science and research frameworks. Such a high dependence on the global framework increases the exposure of LDCs and SIDS to the negatives of the politics of climate change, particularly in defining both their options and actions for adaptation and mitigation. Furthermore, their influence on the global agenda is constrained by the plethora of bodies and working groups (as defined by the UNFCCC architecture), which demand significant time and put pressure on limited internal capacity.

Still, though national action in this sense is not fully autonomous, neither is it fully subject to structure or the political economy. Countries do have the space to define their responses and to prioritise actions through a number of national and global policy instruments; and they receive support in this context through norms such as the Paris Declaration and the Rome Declaration,[11] which emphasise country ownership and other forms of "agency" in the context of aid effectiveness.

4.1 AGENDA-FRAMING BY VIRTUE OF FINANCE

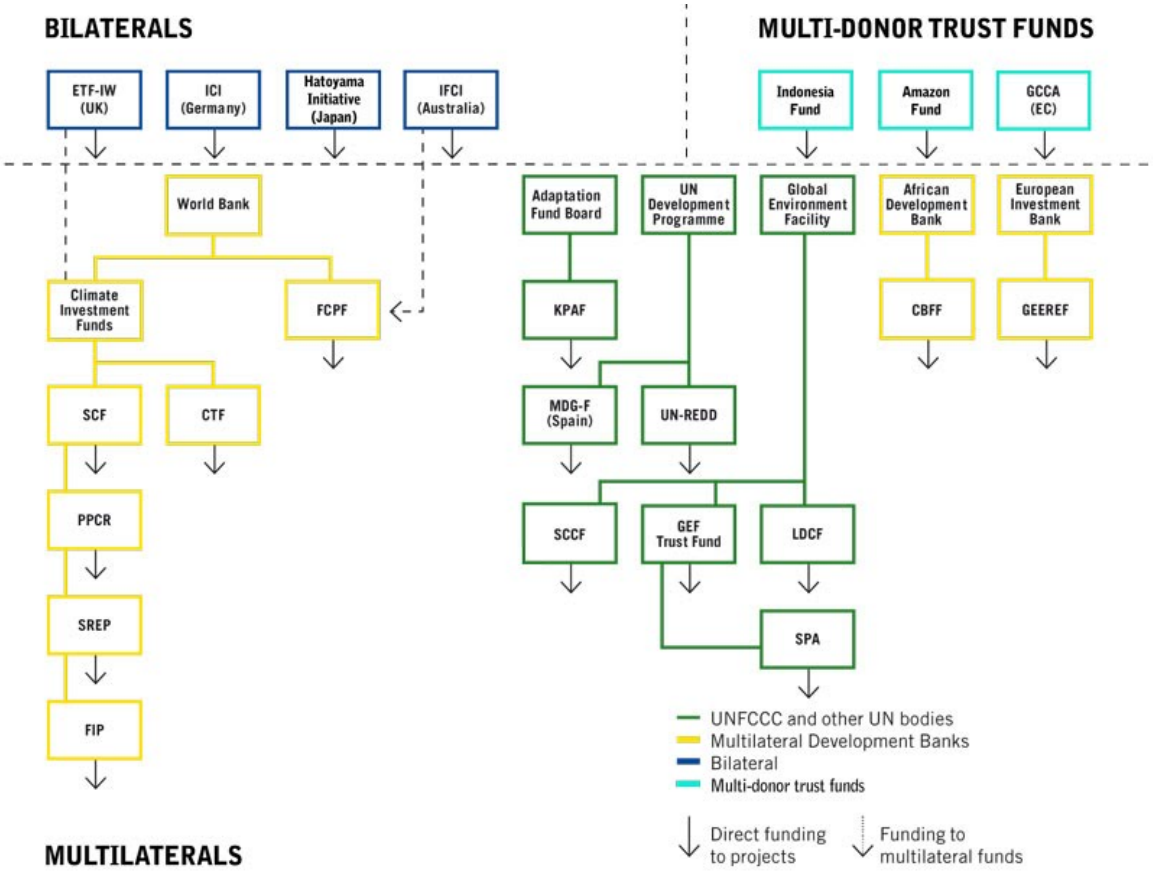
A review of the emerging financial architecture (see Figure 2) suggests significant complexity and an ongoing struggle for clarity in identifying the level of contributions that countries make—particularly those that give funding bilaterally as part of the EU or through the UN, other multilateral bodies and multi-donor trust funds—and indicates a complex web of

objectives in delivering climate finance. As of October 2010, the updated list from Climate Funds Update (www.climatefundsupdate.org) reveals that there are 22 climate change funds emerging and managed through bilateral, multilateral and multi-donor arrangements.

Clearly, the finance structure has developed significantly: there were more than 20 funds and instruments in 2010, compared to the two that existed in 2002. The most substantial acceleration in funds occurred in the 2008–2009 period. Table 1 and Table A2 in Annex 3 outline the instruments, their operations and their scope. Since each fund is defined by specific operational guidelines that determine its governance, priorities and allocations, it will be increasingly complicated to secure policy coherence and bring about convergence towards a collective climate response. A surface analysis of the information in Table 1 indicates a marked inclination towards mitigation, both in terms of numbers of funds and the amount of funding allocated. Of the 22 funds, only five have a singular focus on adaptation.

FIGURE 2

Schematic of Emerging Architecture of Global Climate Finance



Source: Climatefundsupdate.org, accessed on 10 August 2010.

Financial pledges reached US$26.89 billion by late 2010 (according to Climatefundsupdate.org) and it is expected that they could reach US$100 billion a year. Only a third of this had been deposited by the time this research was conducted—that is just over US$9 billion, within reach of the US$10 billion target set in Copenhagen for fast-track resources. While this seems to be a good start, NEF (2009) suggests that even projected levels of future investment are insufficient.

Moreover, a comparison between this level of financing and the annual budget for Brazil's agriculture sector, which in 2009–2010 was about R$107.5 billion (US$61.14 billion),[12] of which R$15 billion (US$8.57 billion) was allocated to family agriculture alone (Government of Brazil, 2009), suggests a significant gap in scale at the global level. China's investment in energy efficiency is another case in point. According to Wirth and Podesta (2010) China has reported plans to invest US$738 billion over the next 10 years in renewable energy, an amount that will exceed the global financing allocation for the next decade at the global level.

Thus, while the significant acceleration in climate-change funds between 2008 and 2009 period and the number of active projects signify critical progress, the current bias towards mitigation should be a cause for concern. For many countries, even mitigative actions will be forms of adaptation as they undertake energy reform and reduce fuel-wood consumption. Adaptation, however is a distant second to mitigation in terms of the share of the available climate finance resources (see Figure 2). Some 87 per cent of the funds currently allocated are being channelled to mitigation actions, compared to only 8 per cent for adaptation. Less than 5 per cent of the resources are being targeted to multi-focused actions. Moreover, mitigation instruments like the CDM have been deemed to have a bias towards larger developing countries such as India, Brazil and China, and towards certain types of gases and technologies (Liverman and Boyd, 2008), potentially directing the focus of many other countries towards adaptation.

TABLE 1

Updated Data on Funds Pledged, Deposited and Disbursed

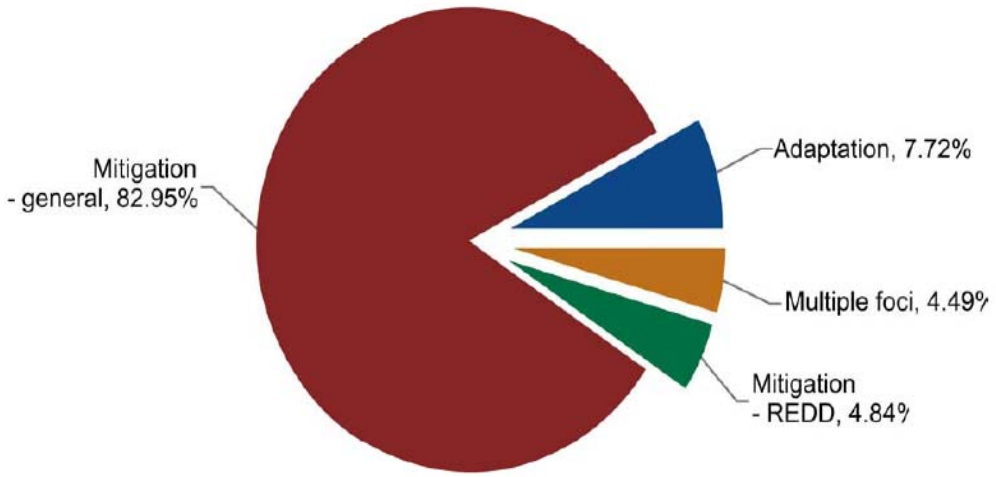
Fund	Abbrev.	Pledged (US$mn)	Deposited (US$mn)	Disbursed, manual total (US$mn)
Adaptation Fund	AF	198.38	171.58	9.54
Amazon Fund (Fundo Amazônia)	FA	1,000.00	110.00	59.90
Clean Technology Fund	CTF	4,387.75	483.50	9.30
Congo Basin Forest Fund	CBFF	165.00	165.00	17.42
Forest Carbon Partnership Facility	FCPF	221.24	174.44	4.42
Forest Investment Program	FIP	562.10	33.90	2.00
GEF Trust Fund - Climate Change focal area (GEF 4)	GEF4	1,032.92	1,032.92	1,023.35
GEF Trust Fund - Climate Change focal area (GEF 5)	GEF5	1,359.38	0.00	0.0
Global Climate Change Alliance	GCCA	204.15	201.75	8.10
Global Energy Efficiency and Renewable Energy Fund	GEEREF	169.50	63.68	0.00
Hatoyama Initiative	HI	15,000.00	5,320.00	5,320.00
International Climate Initiative	ICI	519.60	515.61	258.02
International Forest Carbon Initiative	IFCI	243.57	243.17	66.10
Least Developed Countries Fund	LDCF	221.45	169.19	141.93
MDG Achievement Fund – Environment and Climate Change thematic window	MDG	89.50	89.50	56.20
Pilot Program for Climate Resilience	PPCR	981.84	174.70	9.00
Scaling-Up Renewable Energy Program for Low Income Countries	SREP	300.13	24.00	...
Special Climate Change Fund	SCCF	147.78	110.48	97.15
UN-REDD Programme	UN-REDD	87.10	87.10	38.20
Total		26,891.39	9,170.52	7,120.63

Source: Climatefundsupdate.org. Accessed online, 15 October 2010: http://www.climatefundsupdate.org/graphs-statistics/pledged-deposited-disbursed.

For many LDCs and SIDS, and for some medium-sized middle-income countries, adaptation will be the priority response. Specifically, landlocked countries progress on adaptation will be highly dependent on the commitment and flow of funds for that purpose at the global level. In landlocked Lesotho, for example, limited forest resources—less than 1 per cent of the country is forest and woodland (Government of Lesotho, 2007: 1)—constrains the potential of Reducing Emissions from Deforestation and Forest Degradation (REDD) and other mitigation efforts, except where there are investments for carbon offsets. The size of the pot, which is currently quite small, also constrains the capacity for urgent and catalytic action. Of the €2.39 billion confirmed in a pledge from 19 EU member states and the European Commission, 63 per cent will support mitigation while only 37 per cent will support adaptation (Ballesteros, 2010). As "agenda-setters" on mitigation (Schreurs and Tiberghien, 2007), this is an important step. The Copenhagen Accord mandates a "balanced allocation between mitigation and adaptation" but the question is how this is to be defined and measured.

FIGURE 3

Focus of Funding



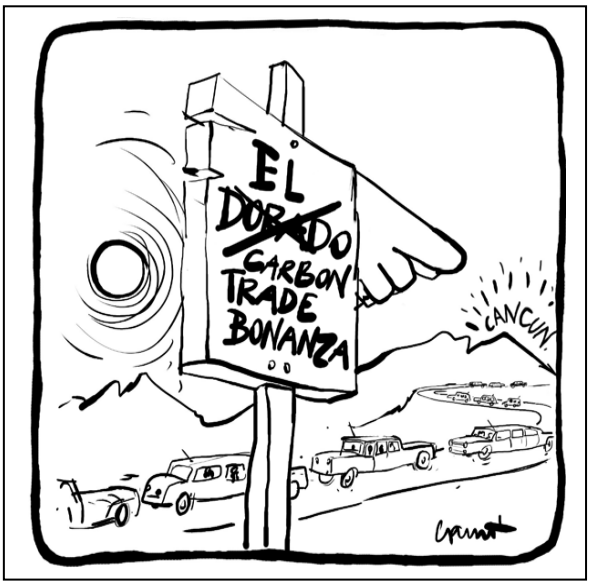
Source: Climatefundsupdate.org.

The cartoon (Illustration 1) from *Tiempo*'s July 2010 issue[13] reflects concerns that the climate response to date has been driven more by financial opportunism than a desire to bring about structural changes in order to move to a new, low-carbon, resilient and climate-compatible development path.

Beyond this is the reality that current financial pledges are not yet sufficient to respond to the scale of the challenge (OECD/IEA, 2008). A deeper review (see below) of how finance is being shaped through a number of the instruments and operational frameworks, highlights several concerns and potential risks arising from gaps in governance, policy guidance and application.

ILLUSTRATION 1

A Gaunt View by Lawrence Moore (*Tiempo*, July 2010)



4.2 CHANGING THE GAME: ISSUES OF GOVERNANCE, POLICY GUIDANCE AND APPLICATION

The influence of governance arrangements, including rules and policy guidance, on adaptation and mitigation at the national level also has implications for who is engaged, how they are engaged, and when. While global guidance is mainly prescriptive it can have a significant impact on national response frameworks that depend largely on external donor resources and technical expertise. The World Bank and the Global Environment Facility (GEF) provide a significant proportion of existing climate finance (Ghosh, 2010). Both are at the core of operationalising delivery of that finance in line with the objectives and desired outcomes embodied in agreements within the UNFCCC. They have a singular influence on the form the finance takes and who it is likely to benefit. They both acknowledge limitations in the current operational frameworks, particularly on development and social issues respectively. The World Bank (2010b) refers to a fragmented integration of climate benefits in its core development portfolio.

In this paper, "governance" and "policy guidance" are used as a lens to gain a better grasp of who is involved and how their understandings and preferences influence the definition and implementation of priorities. Conceptual frameworks become critical for shaping operationalisation (rules) and policy guidance (practice) for applications and reporting on implementation (Ghosh, 2010). Governance can be seen to have a clear influence on the what, the how, and the "who" of outcomes and impacts, and thus these matters are treated here jointly. This notion is reinforced by analysis in University of East Anglia (2010) that identifies governance as important for securing benefits and for emissions reductions.

While the global climate response is divided along the lines of adaptation and mitigation efforts, suggesting that both the severity of impact and resilience have been considered in the conceptual framework, these are not necessarily defined as complementary and mutually supportive. The literature is clear that adaptation and mitigation are both necessary, but less has been done to demonstrate, explore or emphasise the complementarities at the level of

global policy. Kane and Shogren (2000) point out that how people privately and collectively adapt to climate risk can affect the costs and benefits of public mitigation policy (Kyoto, for example).

Universal and targeted approaches in social development have been found to have strengths and weaknesses, as well as complementarities, and the same applies to climate change. While macro-level policy is critical for moving collectively in a new direction, targeting is critical for the efficient use of scarce resources (Perch et al., 2010). This review of the literature and selected operational frameworks such as the CDM, NAPAs and the Adaption Fund suggests that some critical deficiencies exist alongside potential opportunities.[14]

4.3 ADAPTATION: MIND THE GAP

A review of the operational policies and guidelines for parties to access resources from the Adaptation Fund (UNFCCC, 2008) reveals intellectual and technical recognition of a large number of factors in responding to climate change, including development concerns. Ironically, the NAPA, a key instrument for LDCs to access climate finance and communicate vulnerability to climate change, has been limited in terms of social development. The NAPA guidelines[15] have sought to integrate social dimensions and analysis. They note, for example, that women's participation and the inclusion of issues particular to women is necessary. They further identify a number of what are generally regarded as "development" considerations, including participatory and multi-disciplinary approaches, complementarity, sustainability, gender, country-ownership, environmental relevance, cost-effectiveness, and flexibility (see Box 1). While the guiding text recommends consideration of the level and degree of adverse effects from climate change, poverty reduction, synergy with other multilateral environment agreements and cost-effectiveness, these are open to interpretation and not enforceable.

Table 2 suggests that adaptation planning to date has been broadly inconsistent and generally weak on the social dimensions; this is particularly the case in the subnational context. In many cases, the analysis in the NAPAs seems to be inconsistent with available data on human development for the respective countries, and participation in consultation is weak (see Annex 1 for a more detailed analysis). NAPAs are important. These are more than strategic documents; they are the foundations on which applications for adaptation actions are financed, including the Climate Investments Funds managed by the World Bank including the Pilot Programme for Climate Resilience.

TABLE 2

Analysis of Inclusion by Group or by Vulnerability in NAPAs to Date
(see coding process in Annex 2)*

Inclusivity factor	Yes	% of available NAPAS	No	% of available NAPAs
Mentions gender	25	78.0	7	22.0
Prioritises gender	12	37.5	20	62.5
Mentions poverty	31	97.0	1	3.0
Prioritises poverty	26	81.0	6	19.0
Mentions ethnicity	7	22.0	25	78.0
Prioritises ethnicity	31	97.0	1	3.0
Lists vulnerable groups	21	65.5	11	34.5
Identifies participatory actions	18	56.0	2	6.0

* 10 NAPAs did not make it clear if they were participatory.

There are NAPAs (Samoa on gender, Liberia on gender and social dimensions, the Comoros on vulnerability, Lesotho on HIV and climate change, and Sierra Leone on women in development) that have addressed some of the wider development dimensions in the context of climate change. Broadly speaking, however, there are marked divergences between what other data tell us about these LDCs and what is reflected in their NAPAs. Most LDCs/SIDS have neither mentioned gender nor prioritised it. Mozambique has a low female literacy rate (40.1 for 2008) according to the last WDI figures (World Bank, 2010c) and more than 20 per cent of households are female-headed, but *soft adaptation actions such as education* are not necessarily prioritised. Why is this important? The World Bank (2010a: 34) notes that "education will also affect a person's ability to anticipate climate events, make proactive adaptation decisions and reduce losses related to disasters", suggesting a critical rather than secondary role for education in strengthening resilience and, by extension, adaptation as well. Many NAPAs do not feature micro-level analysis, constraining the identification of specific groups (Burundi, Cape Verde, Gambia, Kiribati and Mozambique do not identify any) and contexts where vulnerability is intensified. A few (Laos, Maldives, Cape Verde and Vanuatu) have not prioritised the poor.

Analysis of the eleventh meeting of the Adaptation Fund Board (AFB) in 2010 reveals both progress and continuing challenges in operationalising "adaptation" at the global level. While the AFB has rejected a number of proposals, the reasons for such discussions are not made entirely public; this is less than desirable for a fully transparent process. Such communication is also important for broader learning among the community of actors on climate change, perhaps including improvement of the concepts of how adaptation is applied. Equally important, the extent to which proposed projects reasonably meet the requirements for adaptation—or what Kaloga and Harmeling (2010:10) refer to as "adequate adaptation reasoning in projects and programmes"—remains inconclusive and is being decided on a case-by-case basis. This could lead to incompatibility between types of adaptation actions within countries and across states, and makes it hard to form a comprehensive picture of the shape of adaptation action. Many of these issues persisted into the twelfth meeting at the end of 2010.

Furthermore, ActionAid (2009: 28) has raised important questions about community participation in the AFB process, highlighting the lack of clarity and consistency as one of its more significant weaknesses. Moreover, while governance arrangements relating to Board membership makes specific allocations for LDCs and SIDS, the assumption is again made that "poor and vulnerable countries" speak adequately for poor and vulnerable people.

In perhaps one of the most detailed efforts to catalogue adaptation action, Berrang-Ford et al. (2010: 6) find that "most adaptations are occurring at the individual level with weak involvement of government stakeholders, and adaptation activities are more likely to occur in natural resource sectors such as agriculture, fisheries and forestry, or the securing of food resources. Adaptations are characterised by responsive activities such as avoiding or retreating, coping or accommodating, adjusting, spreading risk, and securing income or resources. Adaptation mechanisms are more likely to include community-level mobilisation rather than institutional, governmental or policy tools". This brings further into question how adaptation is being institutionalised at the macro level and harks back to the old debates on addressing poverty beyond income, and addressing development beyond economic growth. They further note more reported action on adaptation by low-income countries than by middle-income and developed countries.

4.4 MITIGATION: EMISSIONS REDUCTION THROUGH CLEAN DEVELOPMENT. IS CLEANER GREENER?

According to Bromley et al. (2004a), the disciplines of economics and politics recognise that the resolution of collective-action problems goes beyond getting the incentives right, into the fields of political organisation and the strategic and cultural determinants of behaviour. The discourse on mitigation, however, has largely focused on technology, financing, means of transfers, trading and offsets. Specifically, mitigation[16] has focused on several actions largely within the context of the "market", and significantly supported by private and public financial flows:

- Fossil-fuel alternatives, including expanding access to clean energy ("clean" denoting more environmentally-sound).
- Transitioning current industrial processes and infrastructure to low-carbon models.
- Infrastructure—connecting people to new sources of energy.
- New forms of energy and the infrastructure needed to complement it.

The IPCC has estimated that the level of emissions would have to be reduced by 50 per cent from 1990 levels by 2050 (Stern, 2008), and developing countries would have to start moving towards low-carbon development. A new global deal (a term coined by Lord Stern)[17] therefore depends heavily on reducing both the quantity and the quality of emissions, and on acknowledgement that the lifetime of some GHGs make them more problematic than others. The carbon market in particular has grown rapidly, and much of the momentum in the area of mitigation stems largely from the dynamism of the CDM. Through the CDM, environmentally sound technologies developed in industrialised countries are shared with developing countries, helping industrial development and investment in several emerging economies (Van Noordnen, 2007). By 2009, according to the World Bank (2010d), the value of the global carbon market had grown by 6 per cent to US$144 billion between 2008 and 2009. The fact that growth was recorded in the midst of a global economic crisis is particularly noteworthy, given reports of declines in the supply of and demand for carbon assets.

Still, the International Energy Agency (2009) has indicated that a US$20 trillion investment in the energy sector is needed over the next 20 years (beyond the current commitment of US$10 billion annually in the 2009 Copenhagen Accord and the size of the current carbon market). There is also a growing debate about the need for greater consideration of ethical and social-equity issues if mitigation is to be an effective instrument of global policy.

The current literature raises a number of matters about the carbon market and carbon trading, and Brown (2010) summarises several of them in his discussion of: the justice of the cap; allocating global-commons resources as property rights; and environmental effectiveness, distributive justice and procedural justice. The broad consensus is that without a clear policy direction, defined by agreed collective principles, it is possible that little dent (or much less than is needed) could be made in emissions levels. In this regard it is also worth noting the limited contribution to the protection of tropical rainforests made by the US$118 billion global carbon market in 2008 (Viana, 2009).

Theoretically, the CDM is a primary pathway to addressing some of those dynamics, especially the trade-related aspects of climate change. But concerns have been raised about participation, consultation, scale and the overall impact of the CDM in a development context. As in the case of adaptation, the negotiated language tends to be vague (see Annex 3). Brody et al. (2008: 9) indicate that many processes used to define climate-change mitigation, particularly in large projects, are deemed to be "non-inclusive" because of the limited degree of consultation with local stakeholders. Liverman and Boyd (2008: 48) found that sustainable development was often poorly defined in the context of the impact of CDM projects.

Analysis of the CDM has found that:

- While there is some potential to mount a legal challenge to a host country's determination that a CDM project helps it achieve sustainable development, either in the CDM registration process or externally through litigation, there is little evidence of any such action being taken (UNEP, 2004: 50). Hence many of the existing risk reduction mechanisms remain untested.
- There is a real potential for conflict resulting from the lack of clarity and unresolved inconsistencies between "emissions reduction" and development. Brody et al. (2008) raised this issue in the context of the growing scarcity of natural resources such as water and arable land in some parts of the world, combined with heightened competition over the same resources.
- Monitoring and evaluation approaches and criteria remain generalised in mitigation practice. Many of the guidance documents are still unclear about what constitutes a "good project" and what does not. There also appears to be limited rigor in ensuring the maximisation of the consensus for action and the investment of available funds in activities that go beyond abating climate change and that move towards the structural transformation needed for climate-resilient development and low-carbon development. A study by the University of East Anglia (2010) suggests that the performance of the CDM to date is a result of "a process left to its own devices". The study notes that investors have often sought out the lowest-cost abatement opportunities that often bring few sustainable development benefits (University of East Anglia: 1).
- While the operational framework provides for the consideration of social, economic and environmental issues, there is much room for interpretation of the guidelines, which state that "project participants (in a LULUCF activity) will only have to conduct an environmental impact assessment if they themselves, or the host country, consider the impacts 'significant'" (UNEP, 2004). The decision provides no further elaboration of what constitutes "significant", although the preamble does mention risks associated with the use of potentially invasive alien species by afforestation and reforestation (A&R) project activities and potential risks associated with the use of genetically modified organisms (UNEP, 2004: 47).
- Lack of coherence between global policy frameworks is potentially costly. Logically, it is possible that climate-change measures could negatively affect biodiversity, and that biodiversity policy could be inconsistent with climate-change goals, and the same with efforts to combat desertification and degradation. Nonetheless, it must be noted that in the past year or more there has

been greater collaboration between the Convention secretariats, including efforts by the Convention on Biological Diversity to improve coherence between global and national actions on biodiversity and climate change. The lack of coherence between Kyoto and Montreal, however, also potentially needs to be monitored. According to Van Noordnen, (2007), this has led to expensive loopholes and a clash of objectives. Under Kyoto, developed countries are paying developing countries, mainly China and India, to produce ozone-depleting refrigerant gases that the former countries can no longer produce at home, thereby finding a relatively cheap way of meeting their Kyoto targets. FIELD (2010) notes, however, that there are still diverging opinions on the need and process for efforts to enhance coherence between the Rio Conventions.

- Opportunities and access are still not assured for all in the CDM. A recent UNDP discussion paper on climate finance (UNDP, 2010) points out that, although an estimated 575 million people still rely on traditional biomass for cooking in Sub-Saharan Africa, the region accounts for less than 1 per cent of total private investment in clean energy and that five countries—none of them African—account for 80 per cent of global CDM credits (UNDP, 2010: 5). There is much concern that, unchanged, the current structure of the CDM will result in Africa's needs being essentially ignored. The first CDM project in Africa was approved in Uganda in mid-2010 (Climate-L.Org, 2010b), but there is still a long way to go.
- Not all carbon credits are equal. Results from a review of CDM activities in the Philippines suggest that most of the "credits" generated come from projects that further exacerbate climate change and compromise sustainable development, enriching large conglomerates that are expanding extractive and fossil fuel-intensive activities. In assuming that all carbon "reductions" are equal—that it does not matter who carries out the reduction or where—the CDM has sometimes provided an additional revenue stream to powerful conglomerates (because they are the ones who can afford the expenses associated with the project) that ultimately emit relatively more greenhouse gases, while at the same time marginalising communities (Focus on the Global South, 2010).

Agriculture is important for successful mitigation. It is estimated that the sector contributes 10–14 per cent of total GHG emissions and is the largest emitter of non-carbon GHGs: 52 per cent and 84 per cent of total methane and nitrous oxide emissions, respectively (De Pinto et al., 2010: 2). If indirect emissions from fertiliser use and land clearing are taken into consideration, agriculture's share of total emissions rises to 26–35 per cent, and 80 per cent of this contribution comes from developing countries (IFAD, 2008). Agriculture's contribution to GHG emissions has been on the rise because of population and income increases, higher per capita caloric intakes, and dietary changes (more meat and dairy, and fewer vegetables and grains) (USEPA, 2006, in De Pinto et al., 2010). Despite its clear importance for mitigation strategies, the sector has been largely excluded from formal and informal mitigation carbon markets. Some of the reasons for this exclusion are linked to uncertainties about "the amount of carbon that can be sequestered by agricultural soils, the reduction in emissions obtainable from the agricultural sector, and the length of time that carbon can be stored in the soil" (De Pinto et al., 2010: 1).

There are now significant opportunities to stimulate new investment in the agriculture sector and to make small-farm production more efficient and effective. Given the current concerns of the Food and Agriculture Organisation (FAO) and the World Bank about escalating food prices and the entrenchment of rural poverty, a move towards cleaner and greener agricultural production seems like a natural win-win. Still, this will not be solved simply by global agreements and financial and technological investments. Making mitigation accessible to all will require broadening the scope and the arrangements, and looking beyond considerations of the natural environment itself. In so doing, there is much potential to make the mitigation process more inclusive, more sustainable, more effective and pro-poor. Furthermore, the adoption of such approaches could help improve food security, a matter that became urgent during the recent food crisis and potentially looms again.

Even within "low-carbon", there are no guarantees that the benefits will be accessible to all without significant efforts to ensure that the poor can afford new technologies and maintain them (see Perch, 2010 for a broader discussion of energy poverty and some of the dynamics within poverty, the environment and development at the national level). The literature and discourse is clear that "trickle-down" has often not been "effective". Additionally, "low-carbon" will not automatically mean "effective" in a development sense unless clear definitions, governance and means of measurement are put in place to manage such processes better. This is already evident in debates about REDD and REDD+, in which the theoretical benefits for the climate, countries and local populace are being questioned because of concerns about the access of local communities to REDD finance (negotiated between countries), as well as the engagement and participation of all users, including women (Kant, 2010; Gurung and Quesada, 2009; Elisara, 2009). True engagement by indigenous peoples in REDD processes also remains a question of debate (Elisara, 2009).

What seems to be missing from "mitigation" as a development-policy practice are considerations of social risks more broadly, and critically their absence from the operational frameworks of several loosely managed and weakly governed carbon-offsetting mechanisms (ActionAid, 2009). In the case of adaptation, the key issue seems to be participation in the "truest sense", including a robust understanding of vulnerability. A number of risks that emerge from the above potentially worsen conditions for the poor and vulnerable:

- The burdens that women's unpaid work place on their time and use of resources, and accordingly their capacity to adapt and resile will largely remain outside the policy framework. This increases the costs of a missed opportunity to strengthen coherence between the international climate agenda and the existing gender conventions such as the Beijing Platform of Action, the Convention on the Elimination of Discrimination Against Women (CEDAW) and Belém do Pará.
- Full engagement and accountability will remain stymied as long as clear procedures to challenge priority adaptation actions do not exist or are not easily enforceable.
- The limited technical capacity of LDC experts and specialists may benefit the global process more than national processes because of the complex and wide-ranging technical bodies that support the global policy framework.

- Policy will continue to be guided more by good intentions than by firm decisions and clarity, and "sustainability" and "resilience" will be grand ideals rather than defined outcomes.
- Macro-level adaptation is likely to make more significant strides than efforts to reduce vulnerability and sustain progress on poverty reduction. In the absence of strengthened governance arrangements, there are implications for short-term food production and a likelihood that the poor will have ever less access to land because of their inability to compete on a financial basis.
- Limited progress will be made on "mitigating" social risk from climate change.
- Mitigation actions may reduce emissions but not necessarily stimulate a transformation of industrial policy.
- Fossil-fuel demand reduction and new forms of energy could make little or no contribution to the reduction of energy poverty. The University of East Anglia (2010) notes that whether markets in carbon and carbon finance form part of the responses to the multiple challenges of climate change, energy poverty and energy security will depend on how well they are governed. I also add here by whom and for whom.

There is an acknowledged gap between what needs to be done and what is available to address it, and what is actually being done with what is available. Finance is at best a stimulus and facilitator of action. The capacity of the GEF and the World Bank to operationalise adaptation and mitigation in ways that are more development-oriented is critical for the success of both policy and practice. Mitchell, Anderson and Huq's (2008) assessment that the GEF "has not prioritised the adaptation needs of the most vulnerable and has disproportionately funded projects in countries that have relatively low rates of poverty" is and should be worrying.

Notions of "green", both as policy and development labels, need to be defined not just by positive (or short-term) environmental impact but also social impacts and outcomes. Substantive critique, action and advocacy, particularly by social movements, must work in tandem to make the critical shift towards a reasonable balance. Table 3 summarises several of the key concerns arising from the analysis above.

Broadly speaking, it can be agreed that while progress has been made on better defining the scope of adaptation and mitigation conceptually, and while lessons have been taught in the areas of governance and achieving sustainability, the right balance is still elusive. Newell at al. (2009) highlight the potential dangers of poorly managed or mismanaged climate-finance systems which could lead to worsening global inequality, corruption or distrust, and significantly weaken the entire climate-change process. They call attention to a need for future flows to recipients to be related to "current performance and a demonstrated ability to provide cuts in greenhouse gases and to contribute real social benefits'' (Newell at al, 2009: 2). Despite the above, the fact that the two largest operational mechanisms, the World Bank and the GEF, are not explicitly and directly accountable to the UNFCCC makes strengthened governance, social participation and an enhanced orientation towards equitable and sustainable development a complex undertaking. Newell (2010) also highlights other governance issues in the context of energy finance, noting the role of "process" in determining what is addressed, what action is taken and what is not, and thus the distributional impact of such decisions.

TABLE 3

Some Key Issues Arising in Governance and Policy Guidance from the Analysis, Including Several Social Risks

Level of analysis	Mitigation	Adaptation	Ex-ante social equity risks	Potential and realised social-equity issues
Governance	Monitoring and evaluation approaches and criteria remain generalised. University of East Anglia (2010) indicates that the performance of the CDM to date is the result of "a process left to its own devices". The mitigation potential of agriculture is not being fully exploited under CDM.	To date, adaptation plans, national communications and Adaptation Fund project proposals have largely been written and prepared by ministries of the environment. Missed opportunity for coherence between international climate agenda and existing gender conventions such as the Beijing Platform of Action, the Convention on the Elimination of Discrimination Against Women (CEDAW) and Belém do Pará.	The dependence of the poor on climate-sensitive sectors such as agriculture may continue to be ignored in the extent to which it multiplies vulnerabilities in other areas. Poverty and inequality as a source of vulnerability, outside of income levels and outside of the context of climate change, may not be addressed and inequalities could worsen.	The potential for conflict. Brody et al. (2008) noted this, particularly because of the conflux of the growing scarcity of natural resources such as water and arable land, and heightened competition over those resources. University of East Anglia (2010) notes that whether markets in carbon and carbon finance form part of the responses to the multiple challenges of climate change, energy poverty and energy security will depend on how well they are governed.
Policy guidance	Climate-change measures could negatively affect biodiversity, for example, and biodiversity policy could be inconsistent with climate-change goals and the same with efforts to combat desertification and degradation (Hodas, 2005). The CDM guidelines state that "project Participants (in a LULUCF activity) will only have to conduct an environmental impact assessment if they themselves, or the host country, consider the impacts "significant" (UNEP, 2004).	The lack of coherence between global policy frameworks could result in multiplied vulnerabilities for the poor and vulnerable, including the loss of assets to enable access to funding or support. The dependence of the poor on climate-sensitive sectors such as agriculture may continue to be ignored in the extent to which it multiplies vulnerabilities in other areas.	The impact of women's unpaid work put on their time and use of resources, and accordingly their capacity to adapt and resile, will largely remain outside of the policy framework.	Liverman and Boyd (2008: 48) found that "sustainable development" in the context of the impact of CDM projects was poorly defined. Missed opportunity for mitigation finance to help transform the consistently underfunded agricultural sector in Africa in the face of increasing food insecurity globally (ActionAid, 2010). Mitigation actions may reduce emissions but not necessarily stimulate a transformation of industrial policy.
Application	Sub-Saharan Africa accounts for less than 1 per cent of total private investment in clean energy and five countries—none of them African—account for 80 per cent of global CDM credits (UNDP, 2010: 5). Results from a review of CDM activities in the Philippines suggest that most of the "credits" being generated come from projects that further exacerbate climate change and compromise sustainable development, enriching large conglomerates that are expanding extractive and fossil fuel intensive activities.	Policy will continue to be guided more by good intentions than by firm decisions and clarity; with "sustainability" and "resilience" more grand ideals than specifically defined outcomes. Clear procedures to challenge priority adaptation actions do not exist or are not easily enforceable. At the macro level, adaptation is likely to make more significant strides than efforts to reduce vulnerability and sustain progress on poverty reduction.	The increasing value (commoditisation) of forests for their carbon-sequestration capacity may put them beyond the reach of indigenous and poor people, making them rivalrous and excludable. The more significant beneficiaries of climate finance could be large and powerful actors, including large conglomerates. In the absence of strengthened governance arrangements, there are implications for short-term food production.	Africa's needs in the areas of mitigation and structural reform are underfunded and largely stagnated because of a lack of finance. The need to move rapidly to a low-carbon model may have significant negative implications for the availability of land, capital and human resources for food production. The impact of climate change may be dispersed rather that strategic and targeted, and may not amount to the change needed to avert the worst consequences. Countries will benefit from climate change financing and technology, but the poor are less likely to do so.

Whether climate finance serves as a catalyst for urgent actions on climate change and the management of climate risk, or whether it simply boils down to a new business opportunity for some, will clearly depend on the balance between politics and principles, and by extension on the quality of the finance made available.

5 FROM "PEEPING THROUGH THE CURTAINS" TO REAL PARTICIPATION: LESSONS TAUGHT BUT NOT YET LEARNED

Earlier sections of this paper highlighted several challenges facing the global climate-change response. These stem partly from the shape and structure of the multilateral process, wherein consensus often leads to more generalised commitments because of the effort to consider all viewpoints and interests. Undoubtedly, too, varying perceptions of the social, its relevance to climate change, and how it can be integrated and accounted for, have contributed to the slow and patchy progress to date. Moreover, the argument made by Bromley et al. (2004b: 501) that "the degree to which the "international" can be governed in the interests of many, rather than subject to the power of a few, is one of the most contested and difficult questions of international political economy" brings critical realism to global policy efforts. That the same applies in the case of climate change is self-evident.

The old tensions between the economy, society and the environment persist, as do the tensions between the national, the multinational and global. The Synthesis Report on the Millennium Development Goals (MDGs) by the UNDP (2010) suggests that, generally, MDG 7 is lagging behind other targets. While the fact that there are currently 546 active projects addressing climate change (Climatefundsupate.org, 2010) is a cause for some satisfaction, it is also a cause for some concern about the qualitative impact of these investments. There is still some way to go in achieving a balance between lessening the severity of impacts and enhancing resilience and, moreover, in achieving the right kind of policy guidance to ensure that implementation is catalytic and invests in both short- and long-term objectives. ActionAid (2009) makes the case that the "how" of disbursement, management and governance is critical in determining the likelihood of meeting the needs of the poor and excluded.

This finding raises serious questions about how much the poor and vulnerable will benefit directly from the implementation of adaptation actions as they are currently framed. It also points to the fact that the potential bias, in macro terms, for mitigative as opposed to adaptive responses makes the path towards resilience more difficult. Rawls's (1971) discourse on justice, and in particular on the limited capacity of public institutions to cater to the needs of the disadvantaged, suggest that that it cannot be assumed that the needs of the poor and the vulnerable will be addressed in national policy, nor that self-reporting by countries can adequately serve for the verification of impacts and outcomes at the global level. Further, in a system in which coercive and compliance measures are hard to agree upon, implement and enforce, the engagement of active and informed civil society is likely to be critical in keeping the focus on the "micro".

Roberts and Parks (2007) argue that if wealthy countries wish to enhance the possibilities for cooperation on climate change, industrialised countries will have to take seriously the inequalities of the international division of labour and capacity, including the capacity of the poor to engage in a highly technical discourse. Earlier analysis by the International Policy Centre for Inclusive Growth on national policy efforts to achieve co-benefits highlighted the

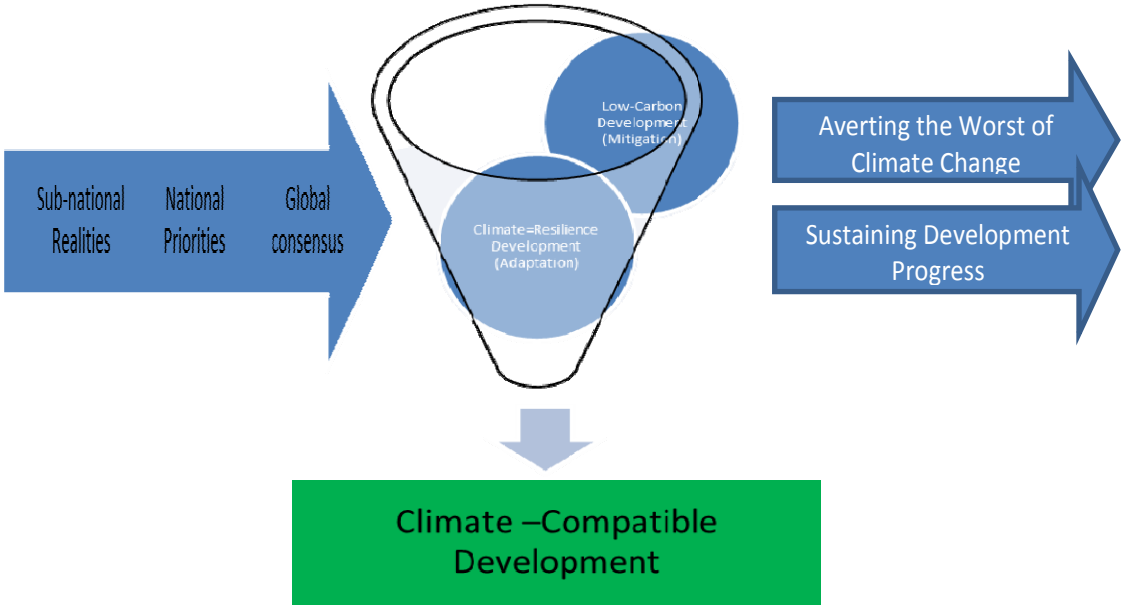
capacity of "language" to serve as a source of exclusion. While economic logic is critical for engaging economic actors, different logics are needed to engage other stakeholders.

Essentially, the balance of global climate-change action often hangs on balancing the scales between action at the micro and action at the macro. Both are necessary. Rather than causing pessimism, these considerations can and should inform the creation of a realistic, balanced and multi-faceted global response framework that seeks to strike a balance between growth and development, between avoiding catastrophic climate change and preserving human development progress, and between economic, environmental and social responses to climate change. Easterling et al. (2004) make a critical contribution in this regard by noting the differentiated contributions of adaptation and mitigation to global climate change, including the fact that neither is substitutable for the other. In order to move forward, it is clear that both systems and processes for collective action must be enhanced (Stewart et al., 2009).

Recommended, therefore, is a broader conceptual framework that considers asymmetrical adaptation and mitigation as building blocks of transformation, and in which people-centred development remains at the core of the overall global policy framework (see Figure 4). Rosenzweig and Wilbanks (2010) underscore the need for interdisciplinary work on impacts, adaptation and vulnerability in order to advance the development of appropriate solutions. Thus, the inter-dependencies between climate-resilient development (adaptation), low-carbon development (mitigation) and climate-compatible development (transformation) can positively shape and take shape within policy.

FIGURE 4

Proposed Conceptual Framework for Linking Adaptation, Mitigation and Climate-Compatible Development



Building on the social risk management (SRM) framework[18] conceptualised by the World Bank, efforts should be made in international climate policy to "mitigate" social risk as well as to mitigate impacts. While the SRM is limited on concepts of underlying relations that influence

vulnerabilities, it adds value to broader considerations of the kind of assistance the poor need—that is, beyond "coping". Often, the current thinking on adaptation to climate change has not differentiated between coping, prevention and mitigation by the poor, and thus often has missed a number of elements critical for building both social and system resilience, including enhanced self-reliance.

The following lessons in the framing and the application of climate-compatible policy are therefore noteworthy in moving forward:

- **Move beyond the poor and vulnerable as a homogenous group and as victims**. The poor and vulnerable have much to offer, particularly in defining capacities for resilience. Seeing them only as victims often denies them the opportunity to play a more active and instrumental role in solving the challenge while enhancing their empowerment. They comprise many facets of poverty, inequality and social exclusion but they have also demonstrated, time and again, their capacity to overcome difficult times and change. It must also be understood that their experiences and capacities differ even within communities and countries. The complementary notion of the "knowledge of the poor as a public good" needs additional attention.
- **Resolve structural distinctions between the policy guidance for adaptation and mitigation mechanisms**. Policies that are formulated without considering the cross-links can potentially (and unintentionally) undermine other efforts to address development as a whole.
- **Existing structures for climate finance may reinforce inequalities of access between countries and between groups within countries**. To date, the CDM has focused mainly on large-scale activities and on countries with the capacity and the scale of need to implement them. This has meant that Africa has largely been left out of the benefit-sharing from the CDM. Furthermore, a focus on scale has led to greater access by large actors such as conglomerates, rather than small firms or other actors. The significant focus on fiscal and financial accountability tends to favour those who can demonstrate capability and capacity to deliver, as opposed to building capacity to upscale innovations.
- **Incentivise action on transnational public goods**. Thus far, the response to human-induced climate change has been tackled largely by mediating competing interests and power. To be effective, a global policy framework must also promote participation and compliance. To date, it has been far too easy for some to opt out of most or some global commitments, and for the collective to postpone difficult decisions.
- **Beyond technology and fossil-fuel substitution, other skills are needed**. The adjustment and transformation that climate change augurs will require not only technology but also leadership, strong communication, coalition-building and change-management skills. Lord Anthony Giddens, a member of the Green Growth Council, has highlighted the need for increased attention to social, political and economic innovation as opposed to technology.[19]
- **Reinforce and upscale existing and emerging models of South-South cooperation** and define more constructive models for North-South dialogue.

In order to address the above and move towards a more socially equitable response framework, the following types of complementary actions should be highlighted:

- actions that help the human and natural system to adjust and adapt to a changing climate;
- actions that link "low-carbon development" efforts to "green employment/jobs/business" opportunities;
- appropriately designed change processes built on a sound understanding of the sociocultural dimensions of climate change (including how gender, race and power condition capability and agency);
- "no-regrets" actions based on equity and right-based frameworks (including gender inequality and other forms of exclusion); and
- actions that bring coherence to the duality of a "precautionary approach",[20] including "no-regrets" and the right to development.

A subnational frame of analysis is needed to enhance global accountability to countries, as well as the poor and vulnerable, as a discrete social and political constituency. Recent analysis by Piero and Desai (2008) shows that "understanding the poor's expectations of benefits … and building their trust through improved transparency … will be crucial for … success". While the context of their analysis was climate insurance, it is not a big leap to suggest that such lessons also apply to all mechanisms that seek to engage with and bring benefits to the poor.

5.1 IMPLICATIONS FOR RECONCILING CLIMATE CHANGE AND DEVELOPMENT AT THE GLOBAL LEVEL

The management of risk and uncertainty in the context of climate change remains perhaps the single most difficult political challenge of modern times. Beyond the difficult challenge of arriving at a consensus on the nature of the risk (nationally and/or globally), as well as the level of urgency it represents, is the marketing of "risk avoidance" as a concrete and necessary policy action—that is, proactive responses as cost-effective and preferable. It is clear that collective action is needed; what remain to be resolved are the right systems and process for such action. Certainly, collective action between individuals, individuals within states and individuals across states, as well as agreements between those who are empowered and those without voice, bring new meaning to the concept of "inclusion" as a process and "inclusive" as a development outcome.

Emerging from this review is a generalised picture of delayed structural transformation and limited coalition-building around critically needed policy, commitment, action and approaches. Certainly, transformation and change will necessitate both mitigative and adaptive action. Favouring one over the other is a false choice, one that over the long term is likely to undermine efforts to avoid catastrophic climatic change, exacerbate existing challenges, and potentially create new manifestations of vulnerability and inequality. It seems fair to conclude that we are still some distance from a clear message in the global climate change agenda, one that appropriately defines what the right balance is.

This review also suggests that while mechanisms and interventions to cope with climate change and to mitigate some of its severity have been identified and financed, much less attention has been paid to preventing the worst of its impacts on the already vulnerable, and mitigating the risk of further trenched vulnerabilities and inequalities. So while the "poor and vulnerable" participate by proxy through government representatives, non-governmental organisations and advocates, their participation in the benefits of action is much less clear (see Table 4). The absence of clear social-risk management measures, as well as limited action to date on the consumption/behavioural aspects of change, have resulted in weak public arrangements for managing social risk for climate change. There is a persisting reliance on the strength and value of informal arrangements among the poor and vulnerable, and between the poor and non-poor, in coping with risk.

Additionally, the lack of stringent and comprehensive governance arrangements makes it likely that, too often, mitigation will not bring direct benefits the poor and vulnerable, either globally or locally, and that adaptation efforts may accommodate (help the poor to cope) rather than confront chronic poverty and inequality. While targeted climate finance has cleared the path for potentially groundbreaking and transformative change, there is little evidence of this to date at a collective level. Outcomes seem questionable and processes even more so. Participation is less than it should be and benefits-sharing remains inconclusive.

TABLE 4

Summary Findings Based on Type of Response

	By what	Of what	The how: social equity dimensions
Mitigation	Substitution efforts through energy reform and new technology Carbon sequestration and REDD Carbon markets and emissions trading	Fossil fuels GHG emissions Deforestation	Fossil-fuel substitution contributes to reduction of energy poverty Gendered dimensions of access and use of forest resources are mainstreamed Expand scope for comments on and critique of national projects. Adaptation of mitigating approaches to varying economies of scale and capacity. The GEF, as the fund manager for most of the global MEAs, should underscore coherence between climate change and other environmental management efforts
	By whom/what	**For whom**	**The how: social equity dimensions**
Adaptation	Countries/states Government entities Sectoral actors in climate-sensitive areas (water, food production, fisheries)	LDCs, LLDCs, SIDS The poor and vulnerable Indigenous peoples Sectoral actors in climate-sensitive areas (water, food production, fisheries)	Socio-ecological analysis based on disaggregated data needs Integration of subnational framework of vulnerability into the global discourse and policy framework Linking jobs and business development to adaptation within sectors, including water efficiency, reducing land degradation, creating floodplains for agriculture etc.

If the situation remains unchanged, the big winners will continue to be countries with large forest assets, those with the scale needed to generate or buy large-scale renewable energy inputs and outputs, those that can innovate and develop new forms of technology, and powerful conglomerates positioned to profit from new business opportunities.

As attention turns to Durban in 2011 and beyond to the post-MDG agenda, a focus on strengthening the agenda, related institutional frameworks and institutions themselves (those that define policy and those that guide its operations and implement it) to address development concerns—as opposed to trade-offs between dimensions of development—is more likely to bring a broader range of dividends for all and result in the more efficient use of available resources, particularly in an era of multiple crises. These are important considerations for the South-South and the North-South dialogues which remain critical for global action, and should reinforce efforts to counter an over-politicisation of the agenda that serves national interests but not the global poor.

ANNEX I

TABLE A1

Analysis of NAPAs by Inclusivity Factors

Country	Primary writer(s)	MG	PG	MP	PP	DVG	MEG	PEG	DPp
Afghanistan	Afghan government, UN, NGOs	Y	N	Y	Y	Y	Y	N	Y
Bangladesh	Ministry of the Environment and Forest	Y	Y	Y	Y	Y	Y	N	Y
Bhutan	National Environment Commission	Y	N	Y	Y	Y	N	N	Y
Burundi	Ministry for Land Management, Tourism and the Environment	Y	Y	Y	Y	N	N	N	Y
Cambodia	Ministry of the Environment	N	N	Y	Y	Y	N	N	NC
Cape Verde	Ministry of the Environment and Agriculture	N	N	Y	Y	Y	N	N	NC
Comoros	Min. of Rural Development, Fisheries, Handicraft and Environment	Y	N	Y	Y	Y	N	N	Y
Eritrea	Ministry of Land, Water and the Environment	Y	Y	Y	Y	Y	N	N	Y
Ethiopia	Ministry of Water Resources and National Meteorological Agency	N	N	Y	Y	Y	N	N	NC
Gambia	Dept of State for Forestry & Environment with Department of Comm. Development and others	Y	N	Y	Y	N	Y	N	Y
Guinea-Bissau	Ministry of Natural Resources and the Environment	Y	Y	Y	Y	Y	N	N	NC
Kiribati	Ministry of the Environment, Land and Agricultural Development	N	N	Y	N	Y	N	N	N
Laos	National Environment Committee	N	N	Y	N	Y	Y	N	NC
Lesotho	Ministry of Natural Resources and Lesotho Meterological Services	Y	N	Y	Y	Y	N	N	Y
Liberia	Various, inc. Ministry of Gender and Development, and Ministry of Health and Social Welfare	Y	N	Y	Y	Y	Y	N	Y
Malawi	Ministry of Mines, Natural Resources and the Environment	Y	Y	Y	Y	Y	N	N	NC
Maldives	Ministry of the Environment, Energy and Water	Y	N	Y	N	Y	N	N	Y
Mauritania	Ministry of Rural Development and the Environment	Y	N	Y	Y	N	N	N	NC
Mozambique	Ministry for the Coordination of Environmental Affairs	N	N	Y	Y	N	N	N	NC
Niger	National Environmental Council for Sustainable Development	Y	Y	Y	Y	Y	N	N	NC
Rwanda	Ministry of Land, Environment, Forestry, Water and Mines	N	N	Y	Y	N	N	N	NC
Samoa	Ministry of Natural Resources, Environment and Meteorology	Y	Y	N	N	N	N	N	Y
Sao Tome and Principe	Ministry of Natural Resources and Environment	Y	Y	Y	Y	Y	N	N	Y
Sierra Leone	Ministry of Transport and Aviation and Ministry of Land, Country Planning and Environment	Y	Y	Y	Y	Y	N	N	Y
Solomon Islands	Ministry of Environment, Conservation and Meteorology with contributions from others	Y	Y	Y	N	N	N	N	Y
Sudan	Ministry of Environment and Physical Development	Y	Y	Y	Y	Y	N	N	Y
Tanzania	Vice President's Office, Division of Environment	Y	N	Y	Y	Y	N	N	NC
Tuvalu	Ministry of Natural Resources, Environment, Agriculture and Lands	Y	N	Y	Y	N	N	N	Y
Uganda	Ministry of State for Environment	Y	Y	Y	Y	Y	Y	N	Y
Vanuatu	National Advisory Committee on Climate Change and Ministry of Infrastructure and Public Utilities	Y	N	Y	N	N	Y	Y	NC
Yemen	Environmental Protection Authority	Y	N	Y	Y	Y	N	N	NC
Zambia	Ministry of Tourism, Environment and Natural Resources	Y	N	Y	Y	Y	N	N	Y

Notes: MG (mentions gender); PG (prioritises gender); MP (mentions poverty); PP (prioritises poverty); DVG (defines vulnerable groups); MEG (mentions ethnic groups); PEG (prioritises ethnic groups); DPp (defines participation).

Y (Yes); N (No); NC (Not clear); Yns (Yes not specified).

ANNEX 2

Criteria and coding process for the analysis of NAPAs based on specific inclusivity factors of poverty, gender, ethnicity and participation:

Key words for gender: gender, woman, women, female, girl(s). Reports were reviewed to ascertain if and how the impact on women and between women and men due to climate was addressed and if this is being linked to vulnerability. If mentioned, then a "yes" is assigned on the first question. If gender equality or empowerment are used as criteria for designing and/or selecting projects, or if many of their projects explicitly say they will benefit women, a "yes" is also assigned for "prioritisation**".**

Key words for poverty: poverty, poor. Countries that include poverty reduction or targeting the poor in projects (includes most countries) get a "yes" for both poverty questions. Those that got a "no" on the second question did not prioritise poverty reduction and did not target the poor when selecting projects**.**

Key words for vulnerability: vulnerability, vulnerable. We also assessed the extent to which countries specified the most vulnerable groups. The notations regarding "Inclusivity in the NAPAs" document include exactly what is defined by the reports—i.e., only mentioned economic sectors, or regions, or also groups.

Key words for ethnicity: ethnic, ethnicity, race, racial, indigenous. If the report said that a specific ethnic group is more vulnerable, or is affected differently by climate change, or has special needs, the first question is coded as a "yes". If they did not give priority to vulnerable ethnic groups in their criteria for project selection, or in any of their projects, the answer to the priority question was a "no". Vanuatu was the only one to get a "yes" on this second question, because the indigenous population is the main beneficiary of Project 3.

Participation: it was often unclear who exactly participated in the process, and it is even less clear how much they actually contributed. Levels of participation were defined based by self-reporting contained in the NAPA itself and reflected whether countries identified participation and in what sense.

ANNEX 3

TABLE A2

List of Climate-Change Funds Currently Operational by Type and Date of Operational Status

CLIMATEFUNDS

Funds overview

October 15, 2010
1 of 2

Fund	Type	Administered by	Areas of focus	Date operational
Adaptation Fund	Multilateral	Adaptation Fund Board	Adaptation	2009
Amazon Fund (Fundo Amazônia)	Multilateral	Brazilian Development Bank (BNDES)	Adaptation, Mitigation – general, Mitigation – REDD	2009
Clean Technology Fund	Multilateral	The World Bank	Mitigation – general	2008
Congo Basin Forest Fund	Multilateral	African Development Bank	Mitigation – REDD	2008
Environmental Transformation Fund – International Window	Bilateral	Government of the United Kingdom	Adaptation, Mitigation – general	2008
Forest Carbon Partnership Facility	Multilateral	The World Bank	Mitigation – REDD	2008
Forest Investment Program	Multilateral	The World bank	Mitigation – REDD	2009
GEF Trust Fund – Climate Change focal area (GEF 4)	Multilateral	The Global Environment Facility (GEF)	Adaptation, Mitigation – general	2006
GEF Trust Fund – Climate Change focal area (GEF 5)	Multilateral	The Global Environment Facility (GEF)	Adaptation, Mitigation – general	2010
Global Climate Change Alliance	Multilateral	The European Commission	Adaptation, Mitigation – general, Mitigation – REDD	2008
Global Energy Efficiency and Renewable Energy Fund	Multilateral	European Commission	Mitigation – general	2008
Hatoyama Initiative	Bilateral	Government of Japan	Adaptation, Mitigation – general	2008
International Climate Initiative	Bilateral	Government of Germany	Adaptation, Mitigation – general, Mitigation – REDD	2008
International Forest Carbon Initiative	Bilateral	Government of Australia	Mitigation – REDD	2007
Least Developed Countries Fund	Multilateral	The Global Environment Facility (GEF)	Adaptation	2002
MDG Achievement Fund – Environment and Climate Change thematic window	Multilateral	UNDP	Adaptation, Mitigation – general	2007
Pilot Program for Climate Resilience	Multilateral	The World Bank	Adaptation	2008

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Fund	Type	Administered by	Areas of focus	Date operational
Scaling-Up Renewable Energy Program for Low Income Countries	Multilateral	The World Bank	Mitigation - general	2009
Special Climate Change Fund	Multilateral	The Global Environment Facility (GEF)	Adaptation	2002
Strategic Climate Fund	Multilateral	The World Bank	Adaptation, Mitigation general, Mitigation REDD	2008
Strategic Priority on Adaptation	Multilateral	The Global Environment Facility (GEF)	Adaptation	2004
UN-REDD Programme	Multilateral	UNDP	Mitigation - REDD	2008

Source: Climatefundsupdate.org (2010). Accessed from <https://climatefunds.dabbledb.com/page-print/fundsoverview.pdf?_s=lVQbDeCXQslBVccY&_k=yFtqxUvx >.

ANNEX 4

SELECT GUIDANCE ON THE CLEAN DEVELOPMENT MECHANISM

UNFCCC, 'Clean Development Mechanism Validation and Verification Manual', version 01.2, accessed from:http://cdm.unfccc.int/Reference/Manuals/accr_man01.pdf.

Terms for validating and verifying information provided by project participants

1. Accurate

Checking for accuracy means:

(a) For quantitative data and information: minimising bias and uncertainty in the measurement process and the processing of data;

(b) For non-quantitative information: minimising bias in favour of a particular result.

2. Conservative

Information can be considered as conservative if the GHG emission reductions or removal enhancements of a project activity are not overestimated.

3. Relevant

Information can be considered relevant if it ensures compliance with the CDM requirements and the quantification and reporting of emission reductions achieved by a project activity. Unnecessary data and assumptions that do not have an impact on the emission reductions are not considered as relevant.

4. Credible

Information can be considered credible if it is authentic and is able to inspire belief or trust, and the willingness of persons to accept the quality of evidence.

5. Reliable

Information can be considered reliable if the quality of evidence is accurate and credible and able to yield the same results on a repeated basis.

6. Completeness

Completeness refers to inclusion of all relevant information for assessment of GHG emissions reductions and the information supporting the methods applied as required.

7. Validation/verification opinion

Formal written declaration to the intended user that provides assurance on the opinion relating to the GHG emission reductions or removal enhancements of a project activity.

Modalities and Procedures (as defined in Article 12 of the Kyoto Protocol. Decision 17/CP.7. 8th Plenary Meeting. 10 November 2001)

Recognizing that Parties included in Annex I are to refrain from using certified emission reductions generated from nuclear facilities to meet their commitments under Article 3, paragraph 1.

Bearing in mind the need to promote equitable geographic distribution of clean development mechanism project activities at regional and subregional levels,

Emphasizing that public funding for clean development mechanism projects from Parties in Annex I is not to result in the diversion of official development assistance and is to be separate from and not counted towards the financial obligations of Parties included in Annex I,

Further emphasizing that clean development mechanism project activities should lead to the transfer of environmentally safe and sound technology and know-how in addition to that required under Article 4, paragraph 5, of the Convention and Article 10 of the Kyoto Protocol,

Recognizing the need for guidance for project participants and designated operational entities, in particular for establishing reliable, transparent and conservative baselines, to assess whether clean development mechanism project activities are in accordance with the additionality criterion in Article 12, paragraph 5(c), of the Kyoto Protocol,

Decides:

(a) That the eligibility of land use, land-use change and forestry project activities under the clean development mechanism is limited to afforestation and reforestation;

(b) That for the first commitment period, the total of additions to a Party's assigned amount resulting from eligible land use, land-use change and forestry project activities under the clean development mechanism shall not exceed one per cent of base year emissions of that Party, times five;

(c) That the treatment of land use, land-use change and forestry project activities under the clean development mechanism in future commitment periods shall be decided as part of the negotiations on the second commitment period;

Decides:

(a) That the share of proceeds to assist developing country Parties that are particularly vulnerable to the adverse effects of climate change to meet the costs of adaptation, as referred to in Article 12, paragraph 8, of the Kyoto Protocol, shall be two per cent of the certified emission reductions issued for a clean development mechanism project activity;

(b) That clean development mechanism project activities in least developed country Parties shall be exempt from the share of proceeds to assist with the costs of adaptation;

Annex

F. Participation requirements

28. Participation in a CDM project activity is voluntary.

29. Parties participating in the CDM shall designate a national authority for the CDM.

30. A Party not included in Annex I may participate in a CDM project activity if it is a Party to the Kyoto Protocol.

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NOTES

1. Author's explanatory addition to the quote.

2. This term was used by Simon Maxwell (June 2009) with regard to the politics of climate change and the attendant global social justice issues that apply, as one of four considerations. I have taken this more broadly here as a useful objective in achieving the balance of interests and actions necessary to arrive at what the Climate and Development Knowledge Network term as the approach of "climate-compatible" development, and further as a lesson learned from the global gender agenda, where qualitative quantitative outcomes are important.

3. Press Release of 5 October 2010, 'Putting a Price on Global Environmental Damage' by UNEP FI, which focuses on innovative finance for sustainability. More information on the study can be found at<www.unepfi.org/>.

4. The notion that several individuals can consume the same good without diminishing its value is termed "non-rivalry". Non-rivalry is what most strongly distinguishes public goods from private goods. A pure public good also has the characteristic of "non-excludability"—that is, an individual cannot be prevented from consuming the good whether or not the individual pays for it (<http://are.berkeley.edu/courses/EEP101/spring05/Chapter07.pdf>; and UNIDO, 2008).

5. Press Release 906 of 20 January 2011, '2010 Equals Record for World's Warmest Year' by World Meteorological Organisation, Geneva <http://www.wmo.int/pages/mediacentre/press_releases/pr_906_en.html>.

6. 'The Modern Development Enterprise', remarks by Rajiv Shah, Administrator, USAID, 19 January 2011, <http://www.usaid.gov/press/speeches/2011/sp110119.html>.

7. In their submission to the negotiating text for consideration at the 6th session of the AWG-LCA in Bonn in 2009, 'Gender Mainstreaming and Beyond—Five Steps Towards Gender-Sensitive Long-Term Cooperation', they noted that the issue of mitigation, for example, is still a male-dominated area, where most activity is centred around "talking numbers" (of ppm, degrees warming, and target dates) and considering technologies while disregarding social contexts, consequences, and resources (p. 1).

8. This definition of "structural transformation" is taken from Bah (2008) which is based substantially on the theory of Kuznets (1971).BusinessDictionary.com also defines it more definitively as requiring the large-scale transfer of resources from some sectors to others in a system, necessitated by fundamental changes in its policies or objectives.

9. Admittedly, on this point, it is also possible for targeting to limit flexibility and possibly make processes more bureaucratic and burdensome (Ghosh, 2010).

10. Sourced from <http://pressroom.ipc-undp.org/2011/undp-new-south-nations-to-bring-change/>.

11. The Paris Declaration was endorsed in March 2005 and embodies several principles: "ownership, alignment, harmonisation, results and mutual accountability". This was strengthened by the Accra Agenda for Action: predictability, country systems, conditionality and untying <http://www.oecd.org/document/18/0,3343,en_2649_3236398_35401554_1_1_1_1,00.html>. The Rome Declaration was endorsed in 2003 and focuses on harmonisation <http://www.oecd.org/dataoecd/54/50/31451637.pdf>.

12. Based on the exchange rate by the Central Bank of Brazil for mid-August at US$1/R$1.7597. Sourced from <http://www.bcb.gov.br/pec/indeco/ingl/ie5-28i.xls>.

13. Cartoon used and replicated in full with permission of the creator and the *Tiempo* editorial team.

14. Though other funds exist, these were selected because they are more advanced and can be easily evaluated in order to determine the current direction of adaptation and mitigation. Though the guidelines for the Special Climate Change Fund, as provided by the Conference of the Parties in its ninth meeting, also speak to poverty reduction and consideration of socioeconomic considerations (UNFCCC, 2003), this has not been examined in detail here but will be in a follow-up review.

15. See <http://unfccc.int/files/cooperation_and_support/ldc/application/pdf/annguide.pdf>.

16. The Oxford English Dictionary defines mitigation as "making less in force or intensity or to make less severe".

17. Lord Stein coined this term and outlined key underlying principles in a presentation in May 2008 and later in a publication entitled "Key Elements to a Global Deal on Climate Change". Also referenced in Giddens (2009).

18. The SRM approach was defined in a paper by Holzmann, Sherburne-Benz and Tesliuc (2003) as part of the approach to strengthening social protection frameworks. It defines social protection as more than social assistance and identifies a number of sources and characteristics or risks, as well as three levels of managing risk: coping, mitigation and prevention.

19. This comment was made in a speech at the World Climate Solutions 2010. The Green Growth Leaders website <http://greengrowthleaders.org/featured/giddens-the-mistakes-about-green-growth/> (accessed on 28 January 2011).

20. The precautionary principle emerged in the discourse of natural-resource management as a theoretical approach for taking action in the absence of certainty. It is at the core of risk management and is not unlike taking insurance against events that may not happen but for which there is little or limited capacity to recover endogenously.

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