Exploring Development Futures in a Changing Climate: Frontiers for Development Policy and Practice

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Climate change poses the most significant foreseeable threat to the development of humankind. Among the parts of the globe liable to be affected, the developing world is the most vulnerable to climate risks. Introducing a DPR theme issue on how development policy is responding to the increasingly pressured global climate agenda, this article reviews what is being done and still needs to be done, paying particular attention to action on three policy frontiers: (i) adaptation actions and finance, (ii) mitigation policies and their governance, and (iii) the implications for development planning. It addresses what will be needed for the development community to rise to the challenge in the run-up to the Copenhagen conference in 2009 and beyond.

Key words: climate change, development futures, mitigation, adaptation, governance, social development

1 Introduction

The argument for a strong response to climate change from those responsible for development policy is becoming clearer and more urgent, and is now widely supported (IPCC, 2007; G8, 2009). Yet there are reasons for believing that both the threats and the opportunities that climate change poses for the development agenda are still under-appreciated. The policy response that is required needs to be better, quicker and more coherent than anything that has been seen so far.

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On the side of the threats, the science is worse than was thought even three years ago: we are now looking at a business-as-usual scenario of about 4°C increase in global average temperatures, running the risk of altering the physical and human geography of the world significantly (Stern, 2009). There is recognition that current energy policies, if unchanged, threaten future economic prosperity and human development (UNDP, 2008). Projections of medium- and long-term impacts of climate change not only present challenges to development futures, but threaten to undermine development gains to date (World Bank, 2010). The recent Global Humanitarian Forum report estimates that 300 million people are already seriously affected by climate change (GHF, 2009).

On the other hand, development assistance is currently being squeezed as budgets adjust to the global economic downturn (Anderson et al., 2008). The financial opportunities potentially on offer from climate-change responses are increasingly attractive, therefore, to development. Evidence to date shows that climate funds are only just coming onstream. Development aid expenditure in 2007 was US$119.8bn (OECD, 2009a), whilst climate-change funds pledged to date by bilateral and multilateral donors (and not including the Clean Development Mechanism) total less than US$4 bn per annum (ClimateFundsUpdate, 2009). Of these pledged funds, only about US$0.3 bn are being disbursed per annum (ibid.). The CDM-related payments contribute a far larger amount of about US$7-8 bn per year in transactions (Capoor and Ambrosi, 2009). But, whilst there are ongoing issues around pledges and disbursement rates, many believe that payments required in the future for climate change will equal or dwarf those of current development expenditure (Peskett et al., 2009). With the money potentially on the table, now is the time for policy-makers and planners to build on their years of experience in both failures and success in development initiatives, to tailor climate-change activities in support of positive development outcomes, and to reshape ongoing development activities in the light of considerations of climate-change mitigation and adaptation.

This will be no easy ride. Development is already highly complex: its aims, goals and processes are dynamic and dependent on context and actors. People and places across the developing world have different needs and will therefore experience the impacts of climate in different ways. Development futures are already unclear and difficult to plan, even before adding the trump of the uncertainty of climate change into the mix. Bringing the two together coherently is an unprecedented challenge.

This theme issue of DPR explores some of the dimensions of this challenge. The contributions, from authors who straddle academia and policy-making, examine the implications for policy and practice of incorporating climate change in a serious way into thinking about development. This article provides an overview of the issues in three spheres where climate and development intersect, and where climate change challenges us to rethink and restructure development policy and practice. The three policy frontiers are adaptation, mitigation and planning. We ask what shifts are needed in current development activity and policy to ensure that acceptable development outcomes are achieved under likely scenarios of climatic, environmental, social and economic change.

1. Personal communication with one of the authors of the website, Jess Brown, who provided these approximate annual figures.
The article proceeds as follows. Section 2 discusses approaches to adaptation to climate change and the financing and institutional structures needed for community-based initiatives. Section 3 concerns the governance and social consequences of mitigation, how new models for governance may construct more robust futures for development, and how energy transitions might be affected in the larger emitting developing countries. Section 4 discusses lesson-learning from long-term planning and processes of social change over long timescales. Section 5 draws these together to consider policy frontiers, and the article concludes with a brief discussion of recommendations for Copenhagen 2009 and beyond.

2 Adaptation and financing development futures

The next ten years will lay the basis for the future capacity of communities, nations and regions to adapt to the impacts of climate change. National governments are challenged with acting now to plan infrastructure that is climate-smart and to create long-lasting incentives for behavioural change. In this section we contextualise the adaptation and development debate and comment on some of the national and international adaptation actions that are already taking place. We also reflect on the financial challenges and opportunities that adaptation has brought and provide suggestions for priority policy actions.

2.1 Adaptation on the agenda and in practice

Adaptation to climate change has been hampered by debates over scientific uncertainty regarding local-level impacts and the level of compensation demanded for historical emissions under the ‘polluter pays’ principle. Whilst the concept of adaptation was being developed in academic circles, adaptation was not considered a serious issue in the negotiations under the UN Framework Convention on Climate Change until countries agreed a plan of action with the UN Nairobi Agreement in 2006. Adaptation pilots and programmes have since progressed substantially. From a slow start, development practitioners are now very active in this field, as the potential implications of climate change for development become ever clearer.

For example, non-governmental development organisations and practitioners in the North have become more active in the past few years, engaging in efforts in five areas. First, emphasis has been placed on awareness-raising amongst developed-country populations (for example, in the UK, including NGOs Christian Aid, Oxfam, Tearfund and Practical Action). Secondly, political influence at national, multinational and international levels has been seen as important (for example, ‘Up in Smoke’ NGO group on climate change and development; BOND NGO group meeting on climate change with UK ministers; coalition group Climate Action Network Europe). Thirdly, there have been efforts to mainstream climate change into existing institutional strategies and projects. Fourthly, some development organisations have designed and funded stand-alone climate-change projects. Lastly, several organisations are exploring how to incorporate resilience and adaptation into security strategies or planning tools in
innovative ways, and much effort is currently being focused on these (for example, CCCD, 2009; Gigli and Agrawala, 2007; Klein et al., 2007; Boyd and Osbahr, 2009).

So how do development and adaptation interventions overlap? The key distinction between ‘business-as-usual’ development and adaptation is not necessarily about the types of activities that will be undertaken (which are mostly in the development toolkit already), but about differences in problem definition, the selection of strategies and the setting of problems (WRI, 2007). It is the scientific awareness of anthropogenic climate change that changes the problems that need to be addressed and therefore the priorities for action. A review of adaptation projects in 2007 found that activities on climate-change adaptation varied in nature, with some being oriented towards tackling the sources of vulnerability (for example, fairly ‘traditional’ development activities without much focus on climate change), others attempting to build response capacity and manage climate risk (greater consideration of climate change in activities), and others (a limited number) confronting climate change directly (for example, responding to glacial retreat) (ibid.). Increasing amounts of activity and funding are located in the middle of the spectrum (building response capacity and managing climate risk), and examples of confronting climate change are increasing, although they are often costly and complex to implement.

Another way of looking at adaptation is through the lens of the different levels at which adaptation is applied, or ‘mainstreamed’ in the development agenda. At the macro level of donor budget mainstreaming, the jury is still out on how official development assistance and adaptation funding can be brought together (see next section). At the meso level, looking at national levels and policy mainstreaming, various initiatives on mainstreaming climate change into current development policy and ODA have been developed (Persson, 2008). This has had limited, but increasing, success to date: National Adaptation Plans of Action (NAPAs) incorporate mentions of poverty, but there has been very little uptake of climate-change issues into the (currently more financially significant) poverty programming (PRSPs) (Prowse et al., 2009). By October 2008 38 NAPAs had been submitted to the UNFCCC by the least developed countries. Assessments of vulnerability to climate change have been undertaken in many other developing countries, though the process of shifting ministry policies is expected to take several years.

Perhaps the most positive action to date has occurred at the micro level, where projects can be piloted and moulded to incorporate adaptation angles. Community-based adaptation (CBA) – essentially activities involving participatory approaches building on autonomous practices – is rapidly increasing in scale, following recognition of the flaws within top-down approaches, and with ODA support facilitating the sharing of lessons (Huq and Ayers, this volume). There are increasing efforts by NGOs and grassroots practitioners to understand local perceptions of climate risk and the factors shaping their vulnerability to risk. South-South as well as North-South global networking on CBA is also expanding rapidly. A range of CBA toolkits has been developed to guide development practitioners in screening their existing projects or in designing new adaptation projects, although many now argue that there should be fewer stand-alone adaptation projects and that adaptation should be integrated into development across national, sectoral and local levels (OECD, 2009b; Ulsrud et al., 2009). Local observation and interpretation of climate variability and change are also becoming more
common in participatory planning processes, not only at the community level but also in multi-stakeholder learning processes across scales. However, more needs to be done to distinguish between observation and interpretation of climate change. Climate is perceived differently by different groups of people: it is a cultural construct rather than a fixed given (Nelson and Stathers, 2009). This shapes how local people will respond to changes in the climate.

Recently, potential limits to adaptation are being explored amongst climate-change academics. The limits are due to the significant and irreversible physical and ecological changes projected to occur as a result of a changing climate and because of social-sustainability and governance constraints which may also limit adaptive capacity (Adger et al., 2009). Sustainable adaptation is a new concept which, inter alia, highlights how some adaptations to climate change undertaken in the short term might be unsustainable or might create lowered sustainability for the population in the long term, actually undermining adaptive capacity and leading to damage of ecosystems or resource dispossession of poor people (Ulsrud et al., 2009). There is also increasing recognition that adaptation will involve increasingly difficult trade-offs between social groups, with gender-differentiated risks and outcomes (Nelson and Stathers, 2009). The work of the Resilience Alliance, an interdisciplinary research network, has also been important in highlighting how social-ecological systems adapt and transform in the face of disturbances, such as climate change – which has implications for the actions of development policy-makers, planners and practitioners.

2.2 Funding adaptation

The financing of adaptation is clearly a critical issue. Climate change requires that current actions are taken with a view not only to the near future but also to the longer term. Investments are needed now to lay the foundations for equitable adaptation over the next 40-100 years. For example, in the UK the existing Thames Barrier (which is currently being replaced, as it is not adequate to deal with sea-level rise) originally cost £534 m., or £1.3 bn at 2001 prices (Boyd and Tompkins, forthcoming). The new barrier is expected to cost significantly more, and far more than the adaptation funds pledged for developing countries. Although there are now more than 12 established international adaptation funds governed by multilateral and bilateral organisations (Lemos and Boyd, 2009), the funding committed so far is likely to fall far short of what is needed. The hopes of many development practitioners are now pinned on the Adaptation Fund, which derives funds through a 2% levy on the Clean Development Mechanism (Ayers, 2009; Müller, 2008; Flåm and Skjaersest, 2009). In 2007 approximately US$279 m. had been pledged for adaptation – just half the amount estimated to be required, which is estimated at US$60-80 bn per annum (Stern, 2009). Huq and Ayers (this volume) note the inadequacies of current formal financial mechanisms for responding to climate-change adaptation. However, they caution against the use of development assistance as a substitute, since this could divert funding away from other important development imperatives. Moreover, recognising the historical asymmetry in emissions between North and South, they argue that adaptation should be funded through a compensation mechanism rather than through an aid- or assistance-based approach.
Current proposals for improving adaptation funding include those made by the Commission on Climate Change and Development (CCCD). The CCCD recommends a phased approach in which immediate assistance is given to low-income countries, especially in Africa, and small-island states which are already suffering from climate impacts, without diverting from existing ODA (CCCD, 2009). A longer-term mechanism under local ownership would then be created through climate negotiations. The UNDP and Japan Adaptation Fund has begun to distribute US$92 m. in rolling out the NAPA priorities in a number of African countries. In São Tomé and Príncipe a groundbreaking UNDP-World Bank partnership has been formed in an effort to promote donor collaboration in this initiative, using relative strengths in capacity-building and infrastructure development. In sum, greatly increased funding for adaptation is needed, channelled through effective mechanisms that promote local ownership and mainstream gender and equity considerations. ODA funding can support learning and adaptation, particularly in the near future, but it should not be the main source of funding in the long term.

Despite the large amount of activity currently under way, efforts have to be stepped up, given the scale of the challenge. More support is needed to work out how local communities and stakeholders can adapt, plan and transform in response to the challenges of a changing climate. Adaptation funding should support research, action-learning, support for participation in multi-stakeholder planning processes, capacity-building, implementation, impact assessment and networking. Climate change will increasingly challenge development planners to think on unfamiliar and longer timescales. And the timing of adaptation interventions is important, because there may well be competing pressures to delay or bring forward action. It is now well rehearsed in the climate-change literature that uncertainty is a major obstacle to action, and flexibility and adaptive learning will be critical for keeping options open. The pathway that emerges or is followed will lock in societies to specific benefits and costs.

3 Mitigation: governance and consequences of clean development

Climate mitigation is intended as a means of reducing climate change. The mitigation challenge is twofold: first to create and implement effective policies to reduce greenhouse gas (GHG) emissions and enhance GHG sinks, and second to achieve greater energy efficiency using technological change and substitution (IPCC, 2007). In this section we address two mitigation-related questions. What is the current status of mitigation policy and practice; how successful have they been? And how does the governance of mitigation shape the impacts of climate change? We then present a set of priority questions relating to the challenges of embarking on a radical trajectory to a low-carbon future.

3.1 Current status of mitigation policy and practice

There has been significant progress in the field of mitigation, but much more remains to be done, including rapid scaling-up of efforts and improvement of quality. Mitigation
policies seek to correct for externalities through the creation of market mechanisms. The focus is on low-cost substitution of fossil fuels with new technologies, such as carbon capture and storage, stimulated by carbon trading rather than taxes and regulation. A commodities market in carbon has been established under the UNFCCC Kyoto Protocol and in the European Union’s Emissions Trading System (EU ETS). Following the success of the 2009 landmark US Clean Energy and Security Act for a US carbon and trade-emissions programme, the global carbon market is set to become the world’s largest commodity market, estimated to be worth approximately US$3 trillion by 2020. This development is welcomed by many national governments and businesses because global GHG emissions are continuing to rise sharply. The latest figures from the National Inventory Submissions in 2006 show that from 1997 to 2004 carbon emissions in the EU rose by 5.9% and by 7.3% in the US (Herzog, 2007). In contrast, Africa contributes only a small percentage of total annual emissions (3.6%), despite being home to 14% of the world’s population (UN Statistics, 2006).

In the medium term (the next 10 to 40 years), the focus of mitigation policy is on creating incentives for the greater involvement of industry and developing countries. In the longer term (up to 100 years), achieving and sustaining mitigation targets may require a total overhaul of energy systems in order to reach country commitments of up to 80% reductions in GHG emissions below 1990 levels by 2050 (for example, UK commitment in the Climate Change Act, 2008). Current policy is intended to foster the development of ideas and technologies, leading to changes in practices as well as helping developing countries leapfrog to clean development (Stern, 2009). While clean development provides an economic and R&D opportunity for wealthier, scientifically advanced countries to develop and transfer new technologies, for many developing countries its higher costs, as opposed to fossil-fuel-based development, are a concern. In response to demands for assistance with low-carbon development, the Clean Development Mechanism was established at Kyoto in 1997, which aims to help developing countries’ shift to clean (or cleaner) development and also to fulfil sustainable development objectives in the host country. Currently, the CDM has over 1600 registered projects, mainly in India, China and Brazil.

In rapidly developing economies mitigation is one of the key questions of debate on energy consumption and climate change. Population and consumption are rapidly increasing in China and India, with the achievement of a GDP growth of 9% and 11% respectively. It is now widely acknowledged that low-carbon renewable and cleaner energy is needed in both countries if they are to meet mitigation targets in future. Frauke Urban argues (this volume) that energy-modelling approaches can and should be adapted to developing countries to aid this process. The results of simulated low-carbon energy transitions in three case studies in China and India show that renewable and cleaner energy could be viable options for mitigation, together with positive effects on the society and the environment. Urban’s study opens up the discussion on processes of energy transition. She shows that pathways are available that, if followed with judicious policy and leadership, could effectively mitigate emissions and simultaneously increase energy security and offer new opportunities for development. The challenges and feasibility of her proposal will have to be tested further within the context of a new global deal on climate change.
3.2 Governance and consequences

Failures of the CDM to deliver development have been well documented (Sutter and Parreño, 2007; Sirohi, 2007; Olsen, 2007; Bozmoski et al., 2008; Boyd et al., 2009). Some CDM projects seek to provide development benefits to low-income communities through the delivery of small-scale technologies, and even direct payments and CDM credits. Yet the majority of projects have failed to deliver beyond specific geographical concentrations, and this has resulted in a low delivery of direct benefits (Boyd et al., 2009). Newell et al. (this volume) address the governance of the CDM, presenting a framework for its analysis within the bigger picture of clean development, and provide an overview of new models – based on private-public financing – which raise ethical issues of who should pay for what, and who should be responsible for different aspects of decarbonising societies. They highlight that, in its current form, the CDM is unco-ordinated, incoherent, unevenly distributed, and also characterised by lack of transparency, and they call for more co-ordination and consistency across actors and scales. The article provides a structured approach to the workings and governance issues associated with market-led approaches. In line with concurrent work (for example, Bumpus and Liverman, 2008; Liverman and Boyd, 2009; Boykoff et al., 2009), Newell et al. suggest that development futures must be based on low-carbon pathways that adhere to equity in carbon for development, and that acknowledge that there are likely to be winners and losers in decarbonising societies.

Radical changes are needed in development trajectories to reduce fossil-fuel consumption, and this challenges ‘business-as-usual’ development. The shift will require creativity, investment and political will. A key question is whether these embedded socio-technical systems can be changed fundamentally, and quickly, avoiding crisis and extreme pressure. What can enable a positive shift to occur? What can be done to create windows of opportunity to transition to a pro-poor, low-carbon society? Moreover, whose views count in whether a transition is deemed positive or not?

4 Development foresight: integrating, visioning and planning climate-change futures

Climate change challenges development policy and planning processes in several important ways. Planning and visioning for development futures relate to scenarios of future possibilities in a warmer world. The challenge lies in how to plan for development futures, given the risk of runaway climate change, tipping points and huge uncertainty. Future development scenarios will depend upon the impacts of climate change. How can planners, policy-makers and stakeholders engage in planning to envision new scenarios? What knowledge is missing? How does planning itself need to change in order to meet the challenges ahead posed by climate change, as well as other pressures?

In discussing this and other policy frontiers it is important to recognise that policy-making and implementation processes are neither straightforward nor apolitical.
Moreover, socio-economic change processes are not only driven by governmental decision-makers.

### 4.1 Questioning the models

National and international climate policy has so far largely been shaped by market-oriented solutions and technocratic, managerialist approaches. But current notions of progress have been critiqued for some time (see, for example, Norgaard, 1992; Benton and Redclift, 1994) and this critique has yet more resonance, given the implications of climate change (Brooks et al., this volume). Economic models based on carbon-intensive economic growth and high levels of consumption in wealthier nations are not ecologically sustainable (UNDP, 2008). Economic activities have to fit with ecological realities, but this requires ecological imperatives to be placed at the heart of economics and development planning (Norgaard, 1992; UNDP, 2008; Giddens, 2009).

The lack of ecological knowledge embedded in decision-making means that decisions are made without reference to the damage that will be cumulatively caused to ecosystem services and functions. This damage can cause an ecosystem in a particular place to transform, with the loss of those services and functions upon which all livelihoods, and especially rural livelihoods, depend. A recent cross-multilateral-institution report by UNDP, WRI, UNEP and the World Bank (2008) recognises this, demonstrating that the roots of resilience for local communities lie in community-based natural-resource management and the use of ecosystem assets in enterprise activities.

Sustainability science is encouraging a more sophisticated understanding of how social and ecological systems adapt and transform. Incorporating ecological considerations has implications for development trajectories (in other words, development trajectories have to move swiftly away from prevailing growth and yield-maximisation models towards encouraging resilience and risk-spreading (Folke et al., 2002). Managing for uncertainty requires flexibility, but moving away from yield-maximisation models to risk-spreading may have short-term costs, and it is important that the most vulnerable and least powerful are not those who carry these costs. Brooks et al. (this volume) argue that a shift to more resilient and risk-spreading development trajectories is needed. This can be supported through support for multi-stakeholder participatory visioning processes in which capacity, learning and awareness are promoted.

Climate change is exerting additional pressure on already stretched planning timescales for development improvement (ibid.). Planning agencies, usually with limited funds and resources in developing countries, now need to consider specific actions to tackle climate change, but there is a mismatch between planning timescales and those of climate-science research. Although there are glimmers of hope, there is little evidence of a widespread shift in planning institutions and government, private-sector or civil-society thinking to date; there is room for improvement.
4.2 Barriers to change

What are the barriers to achieving changes in planning? While planning is necessary, it is also inherently problematic (Giddens, 2009). For example, state-led planning has been unpopular since the 1980s with the rollback of state intervention on the part of many Western governments, although the recent economic crisis and subsequent global downturn have led many governments to intervene on a much larger scale – sometimes than ever before. Planning is often tricky because it involves management of competing interests, and these decisions will become more complex as climate-change impacts bite. Moreover, environmental policy processes are not neat, logical processes, led solely by the views of government planners, but play out through power struggles and competition between different stakeholder interests, and can be altered by unforeseen shifts in public perceptions or sudden environmental, political, economic or social shocks and crises. Planning is problematic because it often involves reconciling centralised plans with democratic decision-making, push-pull across centres, regions and localities, national planning rules and unpopular national guidelines for planning that affects local development (ibid.).

Of course, as human populations become increasingly urban over time, there is increasing focus on urban areas (Satterthwaite et al., 2007; Rockefeller Foundation, 2009). Climate-smart urban planning in developing countries will be more costly: although precedents exist in disaster-proofing of infrastructure projects, more costly, better structures mean fewer structures in total, unless significant additional funding is mobilised and effectively streamlined into development budgets. Extreme poverty, rural outmigration and stigmatisation and social exclusion of slum-dwellers in urban areas mean that there are pressing development issues to be tackled before planning for climate impacts in 2050 becomes a priority for local authorities and city inhabitants. In an ideal world, climate-development issues could be tackled alongside development planning and in a way that integrates climate-change funding with existing development-project funds. But consideration of future pathways and ecological imperatives must be integrated now; otherwise the future costs will be much higher. Currently there is limited understanding in many developing countries of the linkages between climate impacts, risks and planning (Stern, 2009), and a need for changes in the mindsets of those responsible for planned development beyond five-year units. For example, the city authorities in the megacity of Mumbai, which is built on seven reclaimed islands, hold a vision of high economic growth. The city hosts 9 million slum-dwellers, and the municipal authorities have to prepare and plan for future flood events in a context where building regulations are lacking on many levels. Local slum villages still lack support or legal titles, which makes them increasingly vulnerable to the impacts of climate change (De Sherbinin et al., 2007; Boyd and Boykoff, 2009).

4.3 Lessons from history

Our final article considers the implications of climate changes in the long-term historical past for current development pathways, drawing on archaeology. Brooks et al. (this volume) bring to the fore questions about times and scales of adaptation and development as a whole, as they are considered in practitioner circles. Whilst avoiding a
direct environmental determinist argument, they adopt a novel approach, using archaeological evidence to show how relatively small climatic changes in the past on the millennial scale resulted in significant changes in society, with links to population movement, technological change and conflict.

Firstly, this evidence reveals the non-linearity between absolute climatic changes and resulting societal change, and highlights how development practitioners are well placed to provide further insights alongside environmental specialists. Secondly, the evidence challenges prevailing understandings in current development efforts about development and progress, which emanate from Western philosophy. These underlying ideas of progress and development have changed little in the recent decades of development efforts in the Sahel, Amazonia and Mexico, despite rhetorical shifts. New paradigms of development are needed because of the severity and unprecedented nature of climate change and its anticipated impacts. This is currently echoed in many development policy arenas around climate change, ranging from NGOs to the more progressive developed-country governments (cf. the Green New Deal of the New Economics Foundation, and the ‘low-carbon economy’ currently under conceptualisation within the UK government). However, the shift is still too slow. Whilst this has been the theme of environmentalists since the ‘limits to growth’ debates of the 1970s (and there are other environmental-change processes of high significance for development futures, such as loss of biodiversity), climate change is adding new urgency and potency to the need for new thinking, new trajectories and new, more sustainable, development trajectories.

5 Pushing forward the policy frontiers

As discussed above, the four articles in this volume provide insights into the current status of development policy relating to the challenge of climate change. Huq and Ayers argue that adaptation must be kept integral to development, ‘given that all adaptation must be underpinned by development objectives’. The practicalities of achieving this are more complex, but resolvable, they claim, with careful planning by the development-aid and climate-change funding communities. They stress that integrating adaptation into development planning has to be done slowly, through a ‘learning by doing’ process; to get national capacities improved may take 5-7 years, realistically. Looking further to the future, Newell et al. insist that a low-carbon pathway is imperative for the development of lower-income countries in the light of the need to mitigate climate change in the long term, which has implications for all development policy currently under way. Frauke Urban shows one way of achieving this, with the attractive possibility of combining emissions mitigation through low-carbon energy transitions with increased energy security and development gains. Brooks et al. claim that these changes need to be underpinned by a new approach to development that takes a resilience-based perspective, fundamentally restructuring economies and societies to create a new development trajectory.

Both the social and the environmental sustainability of climate-change adaptations require attention. Short-term adaptations may assist the most vulnerable to adapt to climate change, but only for a short while, and they may foreclose future options. Over time as climate-change impacts become more severe, the challenges to livelihoods in
certain places may become insuperable. For example, a short-term climate-adaptation policy in a marginal semi-arid environment may be undertaken, such as sinking boreholes to sustain the population and avoid outmigration and related human and social costs. The long-term perspective may be to accept the inevitable inability of the increasingly inhospitable physical environment, avoid investment in the area, and instead look at developing services, support, and livelihood options for people in areas of inward migration – but this may mean that the most vulnerable would not be supported in the shorter term. Hard decisions are needed with what will be limited amounts of funding for climate-change adaptation and mitigation, at least in the foreseeable future, and the equity implications are significant.

Whilst Huq and Ayers did not make such deep pronouncements, the other three sets of authors agree that the changes are required at a fundamental level in order to alleviate the effects of climate change and improve human wellbeing in energy, institutions and fundamental approaches to development. But what of the thornier question of political motives and will in creating change in policy and action? An inherent tension remains in the variety of policy recommendations being proposed on climate change, due to different underlying development goals, means and approaches, including the combination of market-led, state-led, or civil-society solutions which will be most effective. Fundamentally, policy goals on climate change are shaped by different understandings of what sustainable development ought to be (Grist, 2008). Policy conflict within government is common. The UK government is currently facing such a conflict with its ambitious targets on climate-change mitigation still clashing with its commitments to continued cheap air travel, new coal-fired power stations and bigger airports (see Edward Miliband’s speeches in 2009). Whilst the UK government points rationally to overall targets and totals, others argue that the spirit of the efforts on mitigation should preclude such policies.

Rising to the ‘climate challenge’ is both an obligation and an opportunity for the development community. Climate change is challenging development approaches based on fossil fuels and prevailing economic-growth models, but in a way that invites us to explore more integrated approaches to policy and practice which would ultimately benefit development agendas as well.

The detail of how these new, or adapted, models might be applied in practice, is the most urgent priority. Development practitioners can help climate-change policymakers obtain access to affected communities, to plan activities alongside them with shared leadership and capacity-building, using the development skills that have been painstakingly honed over the last 40 years, to see what can be best achieved in different contexts. Whilst local community knowledge and observation of climate change has been championed to the wider world by some NGOs, there remains a gap in the integration of local observation with global/regional meteorological observation and climate-change predictions. This gap can be narrowed using the facilitation skills of development practitioners in local and regional contexts. Mutual envisioning and planning processes need to be undertaken that incorporate climate scientists, environmental social scientists, development planners and local stakeholders in order to discover pathways forward for collaboration, progress and capacity-building. We are in for the long haul with this, not the short hop.
6 Copenhagen and beyond

What are the implications of this discussion for the December 2009 Copenhagen conference and beyond? An agreement at Copenhagen based on targets will be a good starting point. At the time of writing, the texts for the new agreement are under discussion in a series of informal and formal meetings. In their first reading in Bonn in June 2009, many groups and countries stated significantly different positions regarding most aspects of the proposed texts on targets as well as regarding the processes and mechanisms for how funding should be disbursed. The G8 made reassuring noises at their 2009 meeting in Italy, showing that political will remains strong, at least at the public macro level.

National politics are under scrutiny at the same time. As this article goes to press, the US House of Representatives has passed its Climate Change Bill (by a slim margin) for a reduction by 17% of total 2005 carbon emissions by 2020. Getting this through the Senate is another step. This target is currently rather weak in comparison with developed-country targets sought in the UNFCCC negotiations. Strengthening this target later will be a huge battle.

It will be essential to reach agreement on a global deal at Copenhagen in order to set the stage for serious adaptation funding and serious cuts in emissions. The Kyoto Protocol has provided a platform for engaging developing countries, but has not delivered much in terms of serious development alternatives. Climate policy will now have to capitalise on this window of opportunity and reach agreement on a range of issues including: reforming the CDM and/or non-market-led mechanisms in order to achieve mitigation; changing the mindsets of planners and policy-makers to embed principles of resilience and risk-spreading and low-carbon trajectories, to successfully operationalise adaptation funding and to overcome associated political challenges; and ensuring that equity is a central issue in post-2012 policy debates.

We have explored how climate and development policy, practice and thinking are converging and diverging. In particular, we have shown how climate change is or should be forcing parts of the development community to rethink some of its assumptions relating to economic growth based on fossil-fuel trajectories. The political challenges ahead are significant, but there are ways in which development outcomes can be improved if shifts to more sustainable, equitable and resilient trajectories can be achieved.

References


