
Overview

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1 Introduction

Climate change is a relatively “young” international issue with significant social, economic and political ramifications. Although there is a wealth of policy-relevant research on climate change written by and for the environmental community, examination of substantive linkages between climate and developmental concerns is in its early days. The contribution from Dr Pachauri, Chairman of the Intergovernmental Panel on Climate Change, shows there is evidence that climate will have significant developmental consequences for all, but especially on the most vulnerable and for the achievement of the Millennium Development Goals (MDGs). Climate policies, in turn, will have to be “development-led”, if they are to have any chance of achieving the political support necessary for implementation.

The purpose of this *Bulletin* on climate change and development is to generate awareness of climate change in the development community and to catalyse discussions about linkages with developmental policies, programmes and international funding priorities. The 19 contributions to the *Bulletin* that follow, have been prepared by leading development and climate change policy makers, researchers and members of the donor community from across the globe. Collectively, their contributions set out to:

- look at the implications of the latest scientific assessments of the causes and impacts of climate change for development prospects in the developing countries
- examine the substantive linkages, connections, conflicts and institutional issues between key development issues and climate change which have implications for how climate change can “fit” into development agendas, and
- focus on what lessons and insights development researchers can provide that might be relevant to climate change based on decades of development theory and practice.

The contributions comprise shorter “think pieces” with longer, more detailed overviews and analytical pieces. Section 2 of this overview provides a brief historical overview of the emergence of the climate regime and provides a thumbnail sketch of the main features of the political and institutional response focusing on the 1992 UN Framework Convention on Climate Change and its 1997 Kyoto Protocol. Section 3 sets out a number of key research and policy issues that emerge from the *Bulletin*, ordered to prioritise areas that need work most urgently. The concluding section makes some practical suggestions about what comes next for the climate and development research agenda.

2 A brief guide to the climate regime

2.1 Climate science: causes and impacts

The scientific assessment of the causes and impacts of climate change has been undertaken by the Intergovernmental Panel on Climate Change (IPCC). Established in 1988, the IPCC has produced three major assessment reports that have helped policy makers understand that the Earth’s climate system is the result of complex and dynamic interactions between the Earth’s atmosphere, biosphere and oceans, which human activities are beginning to throw out of balance (see Pachauri, this *Bulletin*). The IPCC reports have been subjected to the most intense scientific scrutiny that any global issue has ever received. But its findings have been affirmed by the scientific community and by all governments. The main greenhouse gases (GHGs) are carbon dioxide, methane and nitrous oxides and industrial long-lived gases. GHGs have risen considerably due to fossil fuel burning, deforestation, livestock farming and other human activities. All countries contribute to GHG emissions by emitting GHG from sources and by sequestering GHGs through their sinks, such as forests. Industrialised countries are responsible for the greatest share of past and current emissions, but

increased contributions from developing countries are projected to match industrialised countries' levels around 2020 (or around 2050–2070, if historical emissions are included).

The IPCC Third Assessment Report (TAR) concluded that if current GHG trends continue, the concentration of GHGs in the atmosphere will double by the end of the century. Under business-as-usual scenarios, the Earth could see a rate of increase in global mean temperatures greater than that seen over the past 10,000 years (see Pachauri). Resultant climate impacts include sea level rise, changes in agricultural yields (see Devereux and Edwards), forest cover (see Leach and Leach) and water resources (see Burton and May) and an increase in extreme events, such as storms, cyclones, landslides and floods (see Hamilton). These impacts will have adverse consequences, including serious health consequences (see Bloom), particularly for developing countries and poorer communities, particularly women and the vulnerable, as they generally lack the financial and institutional resources necessary for coping or adapting to shocks (see Bloom, Huq and Reid, Denton, Agrawala, Hamilton and Burton and May). Although the IPCC has declined to define what a safe level of GHG concentration in the atmosphere should be, it has concluded that stabilisation of CO₂ concentrations at any level requires eventual reduction of global CO₂ emissions to a small fraction of the current emission level. Mitigation has been the core political issue in the early years of the regime and resulted in the Kyoto Protocol. But questions about who should undertake further emission cuts, on what basis and through what kinds of mechanisms and actions, remain (see Pan, Denton, Humphrey, Leach and Leach).

2.2 The international response: UNFCCC

The UN Framework Convention on Climate Change (UNFCCC) was negotiated between 1990 and 1992 against the backdrop of preparations for the Rio UN Conference on Environment and Development, which was meant to usher in a period of global partnership to integrate environment and development (see Bezanson, Kjellén). The Convention establishes an objective, guiding principles, commitments and institutional provisions to help ground the international response to climate change. Article 2 of the Convention establishes an ultimate objective for the Parties: stabilisation of GHG concentrations in the

atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. This goal emphasises mitigation (prevention of GHG emissions) while also recognising that some degree of adaptation (coping with climate impacts) will also be necessary.

Climate negotiations were strongly influenced by Rio's North/South dynamics and the principle of "common but differentiated commitments", which implies that because of their lesser historical contribution to global environmental degradation, and their current more limited resources, international commitments by developing countries to protect the global environment should be less onerous than those taken by developed countries and their achievement to be conditional on the provision of technology and financial resources, mainly Official Development Assistance (ODA), from developed countries (see Huq and Reid, Greene, Lamin).

Accordingly, nearly all of the commitments in the UNFCCC are differentiated: more detailed commitments have been taken on by a total of 41 developed countries that are listed in Annex I of the Convention (Annex I Parties).¹ In terms of mitigation commitments, Annex I Parties are required to take the lead in modifying long-term GHG emissions trends by enacting policies and measures. The Convention also includes a quantified aim for Annex I Parties: to stabilise their CO₂ emissions and other GHGs at 1990 levels by the year 2000, which the majority of the Organisation for Economic Cooperation and Development (OECD) countries failed to achieve. To monitor progress, Annex I Parties have to submit *annual* GHG inventories and implementation reports, called national communications, every 3–4 years, to the UNFCCC's supreme body, the Conference of the Parties (COP). This information is subject to expert scrutiny in a process called in-depth reviews, which provides (indirectly) information about virtually every aspect of a country's economy as well as projections.

The term non-Annex I Parties refers to 130 other ratifying countries. The majority are developing countries that negotiate as a bloc called the G-77, which China formally supports. Increasingly, many non-Annex I Parties neither see themselves, nor are regarded by others, as developing countries, such as Mexico and Korea, and countries from Central Asia, such as Kazakhstan. The mitigation commitments of non-Annex I Parties requires them

to prepare inventories (not annually) and national programmes addressing climate change, but without specifying any specific reduction results or arresting deforestation.

The Convention also contains financial, technological and adaptation assistance provisions mandating resource flows from the OECD Development Assistance Community (DAC) countries (listed in Annex II) of the Convention in favour of developing countries. Annex II Parties have commitments to providing developing countries with “new and additional” financial resources and technological assistance to meet the *full costs* of preparing GHG inventories/national communications and the *incremental costs* of implementing their other Convention commitments (Huq and Reid, Greene, Lamin, Agrawala). Annex II Parties must also assist developing countries that are vulnerable to climate change impacts meet the costs of adaptation (the Convention is ambiguous about whether it is full costs).

Unlike many development-orientated agreements, the climate regime establishes heavy institutional machinery to oversee the implementation of commitments and to ensure that further action is taken by Parties to respond to the latest scientific and technical information. The main Convention institution is the Conference of the Parties (COP) which meets annually, is attended by thousands of delegates and provides the chief political forum for international discussions. Nearly 200 decisions have been adopted by the nine COPs held to date, addressing matters related to the implementation and evolution of commitments, and increasingly on issues relating to other policy areas such as the World Trade Organisation (WTO). The Convention entered into force in 1994 in record time, in part because of swift ratification by the USA.

2.3 Political developments and the Kyoto Protocol

Negotiations to strengthen the Convention occurred at a time when the USA was actively engaged in climate issues and worked multilaterally alongside the European Union (EU). Although initially cautious about climate change restraining economic growth, developing countries recognised they would be worst affected and broadly supported the EU to fight for deep emission cuts by developed countries. These negotiations led to the adoption by COP 3 of the 1997 Kyoto Protocol.

The Protocol establishes individual, legally binding targets for Annex I Parties. These targets are in the form of absolute national emissions caps to be achieved from 2008–12, with a specific requirement on Annex I Parties to have made demonstrable progress by 2005. The targets cover the six main GHGs from defined sectors and sources. In addition, Annex I Parties are allowed to count net sequestration from certain land use, land use change and forestry activities towards compliance with Kyoto targets (Leach and Leach). The Protocol also establishes a collective target for Annex I Parties amounting to 5 per cent below 1990 levels in the commitment period 2008–12.

Annex I Parties may achieve Article 3 targets through domestic policies and measures. They can achieve compliance with Article 3 by making use of three flexible Kyoto mechanisms: joint implementation, the Clean Development Mechanism (CDM) and emissions trading. These mechanisms permit countries to invest in overseas projects that result in GHG reduction, or else buy surplus-to-requirement quotas from other countries (Humphrey, Pan, Leach and Leach).

The inclusion of legally binding targets and the Kyoto mechanisms necessitated consistent and transparent reporting of GHG inventory data and mechanisms-related transactions. This information must be reported in detail and is subject to review by internationally constituted expert teams who can report any discrepancies and non-compliance to the Kyoto Compliance Committee, a quasi-judicial body that will oversee non-compliance with the Protocol’s binding commitments.

One feature of the Kyoto Protocol which distinguishes it from the Convention is the higher profile given to issues concerning the economic impacts of mitigation measures on developing countries. These provisions were included because many Organisation of Petroleum Exporting Countries (OPEC) wanted minimisation of the potential adverse economic impacts (oil prices dropping) they might experience as a result of mitigation policies being implemented by Annex I Parties.

2.4 Kyoto and beyond

By saying “no” to Kyoto in March 2001, without putting forward any alternatives and subsequently downgrading scientific assessments carried out by the IPCC and by USA research bodies, the Bush Administration hoped to kill the momentum in the

climate regime. Thus far, this strategy has failed. By April 2004, over 120 countries, including all major industrialised countries, had ignored the USA by ratifying the Protocol regarding its multilaterally agreed structure and approach as the pragmatic (not perfect) way forward. In the EU, the reductions demanded by Kyoto will come into effect under EU law (whether or not Kyoto enters into force), with emissions trading commencing in 2005 among 25 countries with a market potential estimated at 10 million euros per annum. Japan, Canada, New Zealand and other OECD countries are proceeding with Kyoto consistent national implementation. Australia has stated it will abide by its Kyoto target (even though the stance of the current government, is to not ratify).

The USA has kept the Protocol from formally entering into force by exerting pressure on Russia not to ratify using inducements relating to energy contracts and the WTO membership. These actions ensure that a degree of policy uncertainty remains over the Protocol's fate, however widespread its appeal. Yet the Administration's essentially negative strategy on climate change looks increasingly out of touch. The tabling of over 43 climate-related bills in the USA Senate since 2001 (including one that would have established a domestic emissions trading scheme consistent with Kyoto mechanisms that failed by just 12 Senate votes), and the myriad regulatory actions at the state, municipal and sectoral level, indicate more widespread support for action on climate than ever. This support is coming not only from the litigation minded ecological/social justice movement that are getting ready for class action lawsuits (see Pettit) but also the traditional, rather conservative policy community, as evidenced by the report on the national security implications for the USA recently published by the Pentagon (see Rogers).

These initiatives will generate political momentum, but given that the USA is expected to overshoot its Kyoto target (-7 per cent from 1990 levels) by something close to 30 per cent, it is unlikely that the USA will come back into Kyoto and/or a supplementary international agreement before 2012. Strong USA domestic pressure and international momentum for Kyoto is likely to lead to the USA enacting domestic legislation based on the Kyoto mechanisms, which were modelled on the USA sulphur emissions trading programme.

What of the developing world? USA insistence

that climate change does not merit loss of short term, essentially unsustainable economic growth, has generated anger and frustration, not copy-cat behaviour. As the contribution by Pachauri in this *Bulletin* detailing the assessment of adverse climate impacts on India makes clear, the scientific and local evidence of climate change consistent impacts is now simply too overwhelming. And perhaps because of that, the calculus of monetised costs has shifted from centre stage in climate policy as human impacts, loss of life and livelihoods, local migration and the prospect of social unrest (see Rogers), begin to enter policy-making radars (see Denton, Pan, Leach and Leach, Kjellén). Whether entrenched North/South dynamics will give way, so that emerging social movements (Pettit) support developing countries taking domestic action, rather than demanding actions of others, remains unclear.

3 Research and policy issues

This *Bulletin* is intended to provide development and climate practitioners with an opportunity for mutual learning and to explore connections, conflicts, and to think "out of the box". For guidance, the contributions are clustered and sequenced so that they address four core sets of research and policy issues.

3.1 Adaptation, development and funding

The first ten articles address the most urgent task facing the climate and development community: how will climate change impact on the most vulnerable populations? What policy responses are (in)appropriate? And what institutional and funding arrangements might avoid the worst impacts and/or enhance coping capacities?

The contributions discuss this by examining the scientific evidence on the sectors likely to have a disproportionate impact on vulnerable populations: agriculture (Devereux and Edwards), water (Burton and May) and health (Bloom). Because they have rarely been addressed, the contribution by Denton examines the gender dimension of climate impacts on agriculture, water and energy. These contributions also have a geographic focus with Denton and Devereux and Edwards focusing on Africa and Pachauri and Huq and Reid focusing on Asia, as these two continents will carry the largest proportion of the global population vulnerable to climate change. Countries in other parts of the world are also examined in the case studies described by Agrawala.

All the adaptation contributions make clear that climate considerations will cost money and must be mainstreamed into development. It is also made clear that the necessary awareness, research, policy tools and finance are not yet available or insufficiently so for this to occur. The contributions by Agrawala, Hamilton, Lamin and Greene all focus on how adaptation will be financed. An important point that is not made clearly here, however, is that because climate impacts will be happening also in the developed world (witness the spate of heatwaves and floods in recent years in Europe), it is likely that developed country governments will come under pressure from their own citizens for interventions (to, e.g. provide insurance for flood-prone housing, when the commercial insurers withdraw; see Hamilton). Additionally, having the capacity and resources to cope does not automatically mean people will actually be prepared for adaptation any better than others with less resources (see O'Brien *et al.* 2004, comparing climate adaptation in Norway and Mozambique). Both of these factors will likely lead to costs and transitions in the developed world, the implications of which are not being addressed in research.

Should climate adaptation be “folded into” existing plans for improved development? On one level the answer is yes. But there are many problems about what this actually means. This is because climate research on vulnerability and adaptation uses these terms in completely different ways (O'Brien *et al.* 2004). Seeing climate change in “end point” terms focuses attention on adaptive capacity as the main determinant of ability to cope. Developmental approaches, on the other hand, more commonly see vulnerability as a “starting point”, whereby vulnerability *determines* future adaptive capacity. This viewpoint stresses “adaptation now” (see Burton and May). The “end point” approach tends to result in climate change being regarded as an anthropogenically incremental add-on to (natural) climate variability. This seems logical until, as highlighted by Burton and May, such an approach also seems to go hand-in-hand with relegating climate change to the level of an incidental background noise, with tiny streams of funding then being justified to cope only with the increment.

Huq and Reid, too, focus on how nuances of vocabulary hide approaches with very different political and financial outcomes: *mainstreaming adaptation into development* is not the same as

mainstreaming adaptation funding, as the latter ends up requiring existing sources of ODA to do a lot more work. As Agrawala points out in his overview of adaptation case studies of Bangladesh, Egypt, Fiji, Nepal, Tanzania and Uruguay, existing ODA funds are so much larger than available climate funding. But use of existing funds for climate change would conveniently take pressure off climate donors to provide additional resources. It would also reduce pressure on donors to change the application of flawed concepts, such as incremental costs, which were designed by economists to deliver “objective and rational” ways to differentiate between “global” and “national” benefits – a distinction which looks increasingly archaic in the interdependent emerging world order described by Kjellén and Bezanson.

Lack of sufficient public funding for adaptation has led to exploration of insurance schemes (public and private). The contribution of these to risk coping strategies in developed and developing countries is explored by Hamilton. She concludes, however, that the current financial structure of the industry does not make commercial insurance viable in many developing countries although *micro-finance*, an option which has not been explored by the climate community, might prove effective for many groups (Humphrey 2004). On the positive side, greater investor awareness of increased future carbon liabilities is already making the financial services sector a bigger player in advocating climate mitigation.

A further theme highlighted by Bloom is that our knowledge of poverty and major transitions, such as HIV/AIDs, suggests that in some cases, climate change could push certain societies or regions “over the edge”, as successive shocks combine with systemic weaknesses causing chronic problems a society simply cannot cope with.

A final, clear theme that emerges is the need for climate adaptation policies to be rooted in local realities and concerns. As pointed out most clearly by Scoones, one lesson from pastoral development is that local communities will not wait for climate impacts to strike, but will deploy traditional strategies and invent new ones to cope with change and uncertainties. The “management” of climate impacts and policy responses needs to be squarely rooted in these creative, adaptable and flexible forms of self-help to avoid top-down policy determinism.

This sits somewhat uneasily with the insights on donor proliferation and aid fragmentation

highlighted by Greene in his article on possible improvement of the delivery mechanisms and value of climate finance. The research and policy issue here is determining the degree of donor coordination and the project autonomy necessary to avoid the worst effects of proliferation, which distort host country priorities and drain administrative resources. Because climate finance will involve flows through the Convention's centralised financial mechanism as well as through bilateral aid, increasingly for locally determined adaptation needs, tracking and making both sets of flows as effective as possible, is critical.

3.2 Mitigation, livelihoods and sustainable development

The second cluster of issues, touched on by Leach and Leach, Humphrey and by Pan, examine ways of integrating climate mitigation into increased levels of sustainable development and sustainable livelihoods.

Integrating multiple objectives is not a strong feature of climate policy, which has tended to emphasise targets linked to inanimate aggregates (nations, gases, Kyoto units). As noted by Bezanson, development policy has not improved, with the emphasis on inanimate aggregates (countries, GDP, income gains/losses). And Kjellén points out the social dimensions of sustainable development and globalisation have been neglected and are only now moving squarely into the environment/development agenda. Poverty and gender issues have also been left on the back burner.

All three contributions concerning mitigation, stress the need to put livelihoods (see Leach and Leach), development benefits (see Humphrey) and basic human development goals (see Pan) as the central focus of future abatement efforts. This emphasis on trying to focus on mitigation in a way that also builds resilience (social, economic and environmental) is in keeping with the wish expressed by Pachauri for the next IPCC assessment report: to consider the nexus between climate and development as well as between mitigation and adaptation. The contribution by Humphrey focuses on research issues that might assist (re)design of emerging CDM markets so as to maximise developing country gains, including whether unilateral or South/South CDM projects might prove an attractive model. He also questions why more multilateral forms of the CDM, reflected in early

portfolio approaches advocated by developing countries, were rejected. Acknowledging that carbon sinks are a topic of tense debate, Leach and Leach stress the multiple social, economic and environmental benefits which trees and forests provide.

The contribution by Jiahua Pan sets down markers for the hot research topic in recent years: the design of mitigation commitments, particularly for major GHG-emitting developing countries. As the second largest GHG emitter in the world (after the USA), the question of what kind of commitments China may be willing to negotiate and implement is key to averting climate change. Pan introduces the concept of luxury/wasteful emissions and classifies commitments that are voluntary (which translates as ones that must be done), conditional (which need only be done if resources permit) and obligatory (from a moral perspective, and thus binding on developed and developing countries). His piece is closely argued and fascinating, layering moral notions with more pragmatic features that define a tailor-made approach for China.

3.3 Participation, social movements and political transformations

The third set of issues raised by the contributions is that little work has been done on delineating the possible impact of climate change on social movements and their potential transformation of national and international political landscapes (see Pettit, Rogers and, to a certain extent, Kjellén).

Pettit starts by noting that the snail's pace of climate negotiations and their highly technical and overly market-orientated nature, has led to activist frustration (a point also made by Denton). The prospects for international diplomacy to solve the problem are described as "grim". He argues that building on decades of experience with social and ecological justice movements, marginalised communities are beginning to demand action be taken to reduce the life-threatening effects of climate change. In the last three years (2000–2003) these emerging, and as yet, fairly small movements have organised alternative summits at COP meetings, involving farmers, fisherfolk, indigenous groups, women, youth and the urban poor. The key focus of their strategies is challenging vested interests (such as multinationals) to get policy makers to address the power structures that cause climate change close to home.

Whether these movements will take off and can reconfigure global politics remains to be seen. Increased impacts, such as famine and food insecurity could swell the ranks of the urban poor, lead to internal and trans-boundary migration and thus lay the basis for increased crime, social unrest and collective political action as highlighted by Rogers. But climate impacts may be discrete and difficult to disaggregate from natural variability, limiting collective organisation (on the politics of international development and inclusion, see Houtzager and Moore 2003). Additionally, the effect of mass social movements on local, state and the international political scene on an issue like climate change may not be positive. This is because climate change is one of the most technically complex multilateral negotiations ever undertaken. The regime is full of necessary jargon; it operates in real time across multiple levels of governance and when international meetings do occur, negotiations take place round the clock. This is not the sort of domain in which social justice activists thrive. Additionally, it is not clear whether the present impasse on the entry into force of the Kyoto Protocol is the root cause of climate activist frustration and would dissipate once Russia ratifies and when the USA gets back in the driving seat (as it will eventually because the climate issue goes to the heart of its economic and industrial policy).

Pettit also raises the issue of litigation strategies, which provide a more focused, high media profile way for “victim communities” to voice their concerns. Again, the advantages and drawbacks of litigation strategies as tools to effect behavioural change by the defendant multinational or polluting county, as well as to empower and/or provide material gains to the marginalised/poor communities plaintiffs, remain to be assessed. Certainly, outside the domestic USA context, there is very little research examining how communities view such global litigation strategies before, during and after the legal processes. Because litigation campaigns are increasingly triggered by globally organised non-governmental organisations (NGOs), it is important to know, for example, how cases have been identified, financed and “sold” to the communities concerned. Policy issues also arise: what are the broader resource allocation and political implications of international litigation when compared with more traditional forms of collective political action? Would involving courts to settle

climate policy undermine existing political accountability channels or enhance them?

The activist observation noted by Pettit, that the prospects for international diplomacy are “grim”, is not shared by Kjellén who argues that a new form of diplomacy has emerged over the last 20 years which is rooted in global interdependence; ecological, economic and social, and which is distinct from traditional diplomacy based on the pursuit of sovereign interests (Hain 2001). The emergence of legal concepts, such as sustainable development which requires the consideration of the needs of existing and future generations, challenge profoundly the geographic and temporal boundaries underpinning the concept of sovereignty (Allot 1990, 2002).

The involvement of new actors (local communities, NGOs as well as countries traditionally marginalised in international politics such as the least developed countries (LDCs) and the Alliance of Small Island States) is also notable. Although studies documenting the formal rules allowing NGO access to international meetings abound, research investigating actual practices of participation of new actors (NGOs, marginalised countries and private concerns) at the international level is still relatively rare. International fora are highly diverse in their practices, a point made by Kjellén when emphasising the importance of personalities in certain stages in effecting outcomes, sometimes easing, and sometimes hampering, transitions. Yet, there is a tendency in development circles to see the global as one homogenous lump of remoteness. When in reality, many international processes are far more fluid in allowing new actors free reign to organise events, networking and lobbying activities.

3.4 Mapping future development policy, practices and discourse

The contribution by Kjellén about new forms of diplomacy defining pathways to the future is a natural transition to the final three articles by Bezanson, Scoones and Newell. These contributions are not blueprints in any sense. They share instead, from different perspectives, the challenge of defining what kind of development policy, practices and discourses are needed to respond to lessons learnt, emerging realities and new policy challenges, not just in climate change but more broadly.

Bezanson lays down the need to question the post-war intellectual architecture of development.

He argues that we can no longer hold that development is linear, measurable, predictable and subject to the universal treatment of economic theory; a point echoed earlier by Bloom and reinforced by the people-centred vision of development embedded in the articles by Denton, Burton and May and Leach and Leach. As economic globalisation concentrates gains with the “haves” – wherever they are – using North/South lenses blurs realities, which are better captured by using an excluded/included focus.

The obsession with material gain cannot be met by economic “catch-up”. The market does not deliver to all and ODA purses will remain inadequate. Materialism also transgresses sustainability constraints and in any case the “haves” do not seem happy because materialism does not address the cultural, social and spiritual dimensions of development, which are increasingly driving political action. Development “new style” will have to emerge from understanding the implications and opportunities provided by three core issues: global interconnectedness, our ability to innovate and transform and local initiatives by communities asserting their voice and demanding accountability. One possible benefit of the current turmoil is that fundamental change often occurs in times of flux. Progressive institutions have a leading role to play in redefining the concepts and institutional infrastructures needed for development.

Lessons from dryland management in Africa provided by Scoones also point to the need for development institutions to rethink their operations to function better in a world where unpredictability is the norm. Drawing on earlier work (Mehta *et al.* 1999), Scoones talks of the implications for development thinking which require institutions to shift, for example, from static, rule-based environments where responsibilities are fixed and clearly delineated, to an emergent mode where institutional arrangements are dynamic, overlapping, heterogeneous, socially defined and flexible. This implies a shift in power in favour of multiple sources. Because Scoones suggests that science cannot be a final arbiter, there will be more disputes. Dialogue will thus become a key method in reaching negotiated agreement. The future of top-down change driven by centralised expertise appears limited. The vision for development here centres, instead, on more local-level, integrated, participatory learning involving sequential learning through trial and error.

It is difficult to argue against the need to make institutions flexible, responsive to people and more adept at dealing with complexity and uncertainty. What will these new institutions look like? How will they work? Are there some already working in this way? Also, settled rules are essential for transparency, for generating expectations about how processes work to enable more effective participation and for agreeing boundaries. Research to define how these considerations can be balanced will be context specific, eschewing generalisations, but is also likely to be more time consuming and constantly in need of updating, and above all responsive, to take into account unpredictability and local activism.

The contribution by Newell explores head-on, the challenge most germane to climate change and development agendas: policy coherence and institutional coordination. Climate change highlights the unsustainability of fossil fuel business-as-usual growth trajectories. Multilateral banks and other international economic institutions have an enormous emissions footprint. Their role in supporting conventional development strategies: funding large-scale coal, oil and gas plants, instead of small-scale solar and other renewables, demonstrates how vested interests continue to dominate economic institutions that are supposed to serve the needs of the poor. The resulting policy incoherence cannot be addressed by old style development, as this cannot tackle the root causes and is reduced, instead, to incrementalist interventions, which consistently skew benefits towards vested interests serving the “haves”.

Although efforts to mainstreaming environmental concerns into development have raised significant policy integration challenges, effective responses have been stifled by formidable vested interests. Witness the World Bank’s negative response to the independent review of the Bank’s operations in relation to extractive industries, which recently recommended the Bank develop a long-term plan to cease lending and move to supporting more environmentally benign and socially beneficial projects.

There are positive signs too. The concluding sentence in the contribution by Lamin in this *Bulletin*, is apt. She writes the ‘effective integration of climate change into mainstream development activities both within the EU and in partner countries remains of essence and indeed the greatest challenge if current

efforts are to prove successful and sustainable in a longer perspective'. Holding organisations to account for pursuing development that skews gains continually in favour of the "haves" and consequently shifts the burden of climate impacts to the vulnerable, will be an important step in the "joined-up" approach to policy now demanded by climate change. It is the practices, policies and discourses to support the pace of joined-up thinking and action that need to be addressed. Success would ultimately be judged by whether there was a need for a separate climate policy.

4 What next for climate and development?

Can climate and development policy be joined up and realigned in time to prevent significant impacts and to ensure adequate responses to the impacts? What sort of things do we need to know to do that? What sort of actions must climate and development professionals do or refrain from?

A broad range of researchers in this *Bulletin* and elsewhere have pointed out that the generally "top-down" climate negotiations should be accompanied by a range of actions, formal and informal, to engage a broader constituency of policy makers and publics in future climate policy than is currently the case.² The need to involve mainstream economic, trade and finance ministries and the development community, comprising donors, research institutions and a broader range of stakeholders than environmental interests is also abundantly clear.

One suggestion to galvanise greater engagement is to bring together the climate community with the development community. Although the main UN agencies attend the COP meetings and these provide a ready-made ongoing forum, few development perspectives are present. The COP may turn out not to be the right "policy space" for catalysing this dialogue; the IPCC could play a part but this may also not be ideal. A first step might then be to think about what kinds of policy spaces might be more constructive in enabling mutual

learning to support integration of environment and development generally, before focusing on the mainstreaming of climate change modalities.

Although aspects of the long-term and complex nature of climate change are well researched, some are not, i.e. how to deal with shocks, surprises, and unpredictability. And in many instances, existing research does not reflect well broader shifts in social science thinking (Berkhout *et al.* 2003). Additionally, there is still a fundamental lack of shared understanding about: which actors, what policy spaces and what kinds of knowledge should inform the formulation and implementation of climate policy. Although the development community has done research in this area (see Edwards and Gaventa 2001; Cornwall and Coelho 2004), research on global spaces (other than invited space created by the usual development suspects) may be needed.

More thinking about how climate policy is currently constructed, perceived and influenced by various players is also critical in analysing factors affecting the viability and success of mainstreaming. Much existing climate research, undertaken in the late 1980s/early 1990s, predominantly by environmental institutions, is now of limited value. First, much of it is not based on recent scientific understanding, suggesting climate change may be abrupt and unpredictable (not gradual and linear). Second, most of it does not take into account the vast cultural, political and economic changes that have occurred in the last decade (such as globalisation, commitment to MDGs), which have radically shifted actors' perspectives.

A multi-disciplinary research undertaken by a more geopolitically balanced coalition of environment and development research institutions that take the changed understandings and circumstances we find ourselves in today, will advance not only the specific mainstreaming challenges facing the climate regime, but also contribute to the broader challenge of rethinking development.

Notes

* Thanks are owed to many colleagues at the Institute of Development Studies (IDS) and beyond in helping to pull this *Bulletin* together. Mark Kenber and WWF supported the idea for this *Bulletin* and provided financial support for the *Bulletin's* production costs. I also want to thank all the contributors, especially from the different research teams at IDS, for diligently taking time out of hectic schedules to reflect, on my timetable, about the

implications of climate change. As a newcomer to IDS, your support and encouragement has been much appreciated.

1. Primarily, the OECD countries plus the former planned economies of Central and Eastern Europe.
2. All of the following reports make this point in one form or another: J. Aldy *et al.*, Pew Centre, *Beyond Kyoto: Advancing the International Effort Against Climate Change*,

December 2003; C. Philibert, J. Pershing, J. Corfee Morlot and S. Willems, *Evolution of Mitigation Commitments*, OECD, 2003, COM/ENV/EPOC/IEA/SLT (2003): 3, Ministry of Environment, Japan, 'Climate change beyond 2012: basic considerations', *Interim Report*, December 2003; A. Najam, S. Huq and Y. Sokona, 'Climate

negotiations beyond Kyoto: developing country concerns and interests', *Climate Policy* 3 (2003): 221–31; F. Yamin and J. Depledge, 'Taking stock and moving forward', concluding chapter from *The International Climate Change Regime: A Guide to Rules, Institutions and Procedures* (Cambridge University Press, forthcoming).

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