1. Protection of the atmosphere – CDM and REDD+

HISTORY AND DESCRIPTIVE BACKGROUND OF THE CLIMATE CONVENTION

Agenda 21 did not specifically refer to climate change, other than to acknowledge ‘the 1992 United Nations Framework Convention on Climate Change and other international, including regional, instruments’ (UN 1993: 76). While the need for a convention to address climate change was acknowledged at Rio, the UNFCCC was negotiated largely outside UNCED. The primary objective of UNFCCC is to ‘prevent dangerous anthropogenic interference with the climate system’ (UNFCCC 1992: 9). It entered into force in 1994, and was principally determined by the need to develop a technical solution to climate change, as well as the market ideology of neo-liberalism, which led to the creation of the ‘flexible mechanisms’ of the 1997 KP: the CDM, joint implementation (JI) and International Emissions Trading (IET). The first (and only) supra-national emissions trading scheme (ETS) was established in 2005. The first phase of the ETS until 2007 was based on reducing emissions through a focus on internal EU sources in the power and heat sectors, oil refineries, etc. Starting in 2008, ETS participants were also able to purchase carbon credits from JI and CDM projects (Bäckstrand and Lövbrand 2007: 130). This linkage allowed for the ‘offsetting’ of emissions via the creation of investment projects in developing countries, which could then sell their ‘carbon credits’ into the compliance-based market established under KP, and be bought by greenhouse gas (GHG) emitting industries within the EU (Cadman 2013b: 1–2).

The Convention and the policy responses to climate change it develops through the annual Conference of Parties (COP) are informed by the advice provided by the Intergovernmental Panel on Climate Change (IPCC), a body that reviews the state of the science of climate change. It was established in 1991, before the Earth Summit, and made a considerable contribution to the climate discussions at UNCED. The IPCC

essentially peer reviews previously peer-reviewed publications, under the philosophy that it is policy descriptive rather than policy prescriptive, and it is the policy community that must ultimately determine the responses that need to be developed. Originally the IPCC had a strong emphasis on preventing (or mitigating) the increase in mean global temperatures by the reduction of GHGs into the atmosphere by humans. But between COP 7 in Marakesh to COP 12 in Nairobi (2001–2006) it gradually shifted focus and began to include research into adjusting (or adapting) to climate change, as negotiators began to accept the reality on the ground. As a consequence, the climate negotiations themselves, as well as the IPCC, began to move away from a purely technical discussion to a social discourse around environmental factors (Cadman 2013b: 2–3).

In 2014, the IPCC released a Fifth Assessment Report (AR) summarising the various outputs of its working groups and taskforces, and the findings of two specific reports that were first issued in 2011 (Pachauri 2014). There is now compelling evidence that human society, as a whole, must create pathways for future development that are based on low-carbon technologies. Since the Fourth AR in 2007, the certainty that the warming trend in global temperatures since the 1950s is a result of human activity has increased from 90 per cent to 95 per cent – a statistically significant change in certainty. The degree and rate of change in temperature since the mid-twentieth century, it is argued, are unparalleled in human history. What previously took thousands of years has now been achieved in under a century. These impacts have been observed in increased oceanic and atmospheric temperatures, resulting in the rising of sea levels and creating extremes in climate variability. Disruptions to planetary cycles of water, for example, have led to reductions in ice and snow, which in turn have contributed to the rise in sea levels identified. The heat of the upper ocean has also increased, leading to an expansion (and hence rise) of sea levels, but this increase in oceanic temperature is also working its way down to depths of 700 metres – and more. This has potentially major consequences for marine life as well as fisheries. There are already examples of fish species moving to new areas due to changes in existing habitats, which are being impacted by temperature rises (notably coral reefs). Extreme temperature and precipitation events, accompanied by marked variability, are also on the rise, particularly in the Asia region. Similar impacts are also being detected in terrestrial species. Fruit previously cultivated at low altitudes is now being grown at higher altitudes. Modelling indicates that extreme temperatures, which previously occurred once every 20 years may become biannual events, leading to predictions that both the intensity and frequency of events will increase, along with more extreme precipitation (Pachauri 2014).

The relationship between science and society has taken on greater significance with the ending of the first commitment period of the Convention and the expiry of the KP in 2013. ‘Pure’ science has given way to the necessity of finding ways to enact (and fund) societal change in the face of a changing global climate. The need for large funds to address climate issues and drive changes in behaviours has become more urgent with each COP. The constant rise in the economic activity of segments of the global population who have been incorporated into the global economy remain the key drivers behind fossil fuel combustion, which is the largest source of CO₂ emissions from energy production and transportation. Without policy action to curb production and emissions, fossil fuel usage will continue to increase. Industrial growth is a significant contributing factor through the use of energy to extract materials and process them (upstream/downstream atmospheric pollution). Land use, especially for agriculture and forestry, is also responsible for a significant proportion of emissions – currently around 24 per cent. Reducing emissions from all these areas of human activity is essential (Pachauri 2014).

KP’s market-based approach to problem-solving resulted in developing countries claiming that developed countries were simply trying to buy their way out of historical responsibilities, and at the same time, turning carbon into a tradable commodity from which they could profit. These claims did not prevent the KP mechanisms from being implemented, but in the wake of the end of the KP commitment period, these perceptions have come to the forefront of negotiations. This has impacted considerably on the shape and proposed future of one of the most well-developed mechanisms under negotiation, REDD+, which seeks to reduce global GHG emissions by reducing deforestation and forest degradation in developing countries through payments in exchange for reduced impact – or avoided – logging (Cadman 2013a: 3–4).

A lack of certainty is therefore affecting discussions on the type of instruments to replace the KP models. Under KP the countries with the greatest emissions levels agreed to reduce the GHGs by 5 per cent below the levels of the reference year (1990), the most well known of which is carbon dioxide (CO₂). The present round of negotiations have been challenged to achieve a far more formidable target of 18 per cent (UNFCCC 2014b). This would indeed be ambitious and essential to combat global warming, but it seems unlikely to be reached, given that under the original KP, current GHGs rose to 50 per cent above 1990 levels. The trading in emissions has also failed to deliver a genuine market, and at present carbon is an almost worthless commodity. The markets as such that exist are heavily criticised by anti neo-liberal

countries who reject this approach, and have been lobbying within the negotiations for payments for ecosystems services instead, with this charge being led by Latin America (Cadman 2014).

In view of the push for payments, it is not surprising that funding climate change responses make up a considerable proportion of the discussions, as well as the institutional apparatus of the Convention. Finance covers mitigation and adaptation, technology transfer as well as existing ongoing commitments. A range of actors contributes to climate finance, from the private sector, to multilateral development- and bilateral banks and donor countries. Most initiatives are implemented via recognised UN agencies and NGOs at the national level especially adaptation, which is a real and present necessity for small island states and other vulnerable countries. This is guided by the Cancun Adaptation Framework and via national adaptation plans as well as national adaptation programmes of action. There are other mitigation-related elements in addition to the flexible mechanisms, notably country-level Nationally Appropriate Mitigation Actions (NAMAs) and national reporting around land use, land-use change and forestry (LULUCF). LULUCF addresses terrestrial land-use changes. Tradable carbon can be generated from reductions in carbon emissions as a result of positive changes in land-use activities. These become 'assigned amount units' eligible to enter the emissions-trading market as 'emissions reduction units', which in turn can be used in JI projects. Annex 2 countries within the broader Annex 1 grouping can establish projects in economies in transition (EIT) – former Soviet Union countries and emerging economies in Eastern Europe and elsewhere. These projects can be developed nationally and effectively be self-managed ('Track 1'), or internationally ('Track 2'), under the auspices of the JI Supervisory Committee. A global emissions-trading scheme has not yet eventuated, and remains confined to regional schemes such as the ETS of the EU, or on a state or sub-national level. It is possible that an IET could come out of one of the negotiating streams in the climate talks – the so-called 'new market-based mechanisms' discussions (UNFCCC 2014a).

The nature and type of funding climate action over the next commitment period has also aroused much debate, and change. The GEF (a UN-accredited agency of the World Bank) has been largely responsible for managing climate-related funds, as well as broader funds related to sustainable development generally since Rio. It receives contributions from developing countries and allocates and oversees their use in developing countries. Specific in-country or international implementing agencies manage on-the-ground activities in priority countries (in the case of climate change, those are the most vulnerable developing

countries). These can be aid agencies, such as Norway's Norwegian Agency for Development Cooperation (NORAD) (active in Indonesia on REDD+). UN agencies, such as the United Nations Development Programme (UNDP), the Food and Agriculture Organisation (FAO) and the United Nations Environment Programme (UNEP) work with local partners (usually government ministries) and NGOs, which run the projects. GEF has managed several rounds of funding over the years, and billions of dollars have been expended, largely under the CBD, but also UNFCCC. The GEF is responsible for oversight and management of the Special Climate Change Fund (SCCF), the Least Developed Countries Fund (LDCF), and a range of other small funds that relate to climate change. It also played a role in the Adaptation Fund in its early institutional development. At COP 16 in Cancun (2010) Parties determined that the Convention needs its own fund, and the Green Climate Fund (GCF) was established. This has posed something of an existential threat to GEF's activities in the climate policy arena, and it has been suggested that the SCCF and LDCF should be managed by GCF, as the 'mega fund' for climate finance (Cadman 2014).

Nevertheless the allure of carbon credit trading as a mechanism to raise funds for climate mitigation and other sustainable development is incredibly powerful and drives a lot of experimentation with new mechanisms. For example, EU national official 4 said:

We have initiated what we call 'the sustainable trade initiative' and they, of course, look at certifying commodities and making sure that farmers get a price premium for sustainable coco or sustainable palm oil or whatever.

But they also are now looking into the possibility, together with World Wildlife Fund (WWF) – they call it carbon bundling. They look at the carbon that is stored in the fields while taking all the measures needed to have sustainable coco or sustainable palm oil.

And the carbon so far has been neglected and their question is, can we measure it and if we can measure it, can we market it? Thus providing another priced premium. But if you take that kind of thinking, you can take it one step further because there will be a biodiversity premium as well, and if you can capture that as well as the carbon, then you are finally closing in on what you might call 'sustainable land management'.

Similarly, developed country national official 3 concluded:

What would help most of all is climate financing, in my view, because it will provide, it is *already* providing, quite a lot of money that will leverage the sort of development that can deliver a vision of the green economy that makes it successful and that people want to be part of. I think the fundamental point

[is] that you can't any longer hope to develop now and fix things out later. The only way that I think we can make a fundamental change in the application is to make money available for green projects: projects which create economic activity, but economic activity that supports environmental concerns.

Financing the required technological changes has resulted in often acrimonious discussions between 'Non-annex' (or developing) countries, who are recipients of finance and technology, and 'Annex 1' (or developed) countries, who are the donors (technically, those who signed up to reduction targets, and who also provide funds within Annex 1 group, are referred to as 'Annex 2' or Annex B countries). Under the 2011 Durban Platform for Enhanced Action, developed and developing countries were expected to generate their own 'intended nationally determined contribution' (INDC) towards reducing GHG, and their activities have been separated into various thematic areas (mitigation, adaptation, finance, technology development and transfer, transparency of action and support, and capacity-building). There is little support for a rerun of the Kyoto model, and the negotiations have focused on a 'protocol, another legal instrument or an agreed outcome with legal force under the Convention applicable to all parties' (UNFCCC 2012b). The previous 'two-track' model of developed/developing country pledges is giving way to a 'one track' approach to reduction commitments. How this affects the long-established UN dictum of CBDR – that is, developed countries give the most, and developing countries give what they can – is unclear. These factors made for fraught discussions about emissions trading at COP 20 in Lima 2014, and COP 21 in Paris, the supposed concluding point for negotiations around the institutional arrangements for the next commitment period to 2020 (Cadman 2014). The announcement in November 2014 that the US would reduce its emissions by 26–28 per cent of its 2005 levels, and that China would increase the level of non-fossil fuels in primary energy consumption to 20 per cent by 2030 were encouraging (Office of the Secretary 2014). In the command-and-control economy of China, this is realisable. But the US, a non-signatory to Kyoto, has a history of unimplemented commitments in the climate change policy arena, as well as a hostile Republican Party currently in control of Congress, which branded the agreement a 'one-sided deal' (Voldovici and Lauder 2014).

CDM

The negotiations leading to the creation of the KP at COP 3 in 1997 represents the first time that developed countries were prepared to accept

responsibility for historical GHG emissions, agreeing to cap emissions by means of legally binding targets. The principal aim of the CDM is to assist recognised GHG-emitting entities (such as industry) in developed countries to meet nationally quantified emission reductions obligations in an economically efficient manner, while simultaneously enabling developing countries to benefit from the transfer of technology as well as sustainable development (Maraseni 2013: 96). There were over 7000 projects by 2013, and the amount of credits issued equated to 1.2 billion tonnes of carbon (UNFCCC 2012a).

There are two types of carbon markets, the regulated, or compliance market, centred on the CDM, and the voluntary offset market. Carbon credits relate to emission-based allowance as well as project-based offsets. Carbon offsets are a sub-set that allows targets for emissions reduction that need to be met in one jurisdiction to be addressed through the purchase of reductions elsewhere, through project-based climate mitigation activities. The compliance market exists solely as a consequence of KP, with the voluntary carbon offset (VCO) market, largely driven by NGOs and private sector-driven schemes, occurring as a spin-off (Lovell 2010: 353).

While they are regulated differently, they are interlinked due to their common origin. They are often also retailed together, with 'failed' or delayed compliance offsets being sold on the voluntary market. This raises to key governance challenges, namely whether they generate robust and credible offsets that actually reduce atmospheric emissions and how to communicate with, and reassure, consumers that they do indeed do this (Lovell 2010: 354). The CDM is made up of an Executive Board (CDM EB) and related CDM-methodology and accreditation panels and small-scale working groups. Corporations and NGOs participate in these bodies. The process for issuing carbon credits is complex and lengthy, with various stages relating to project design, method approval, validation, registration and verification, and ultimately the issue of a Certified Emissions Reduction (CER). The process usually lasts about 500 days, and concerns have been raised over the overly bureaucratic nature of the process. The buying and selling of credits requires legal documentation, but once registered through the CDM EB, carbon finance is channelled through the private sector or the various World Bank carbon funds, which then finance the projects as they are implemented in the developing countries. Host countries and purchasers of credits must be in a Kyoto signatory country. Host nations must provide a Designated National Authority (DNA) to certify that the project contributes to sustainable development (part of the UNFCCC treaty requirements). Once operational, the credits (CERs) are listed on the International Transaction Log

(ITL) and may then be used by Annex I governments to reduce their emissions levels in compliance with their commitments under the Protocol. The ITL is intended to provide transparency of CERs within the compliance-based market (Lovell 2010). These accountability provisions, along with the requirements for validation, review and verification, have led some scholars to view it as a leading example of what public–private partnerships can provide (Bäckstrand 2008: 96–100).

Given its development in the post-Rio policy environment, it is not surprising that the CDM has been identified as a ‘second generation’ environmental policy instrument, typified by its voluntary, market-based approach. It embodies neo-liberal ideologies and is heavily influenced by the elites of industrial capital in developed countries. However, given its origins it is also subjected to a degree of NGO influence, and exhibits many of the network-like arrangements that make up contemporary global environmental governance. However, the degree to which non-state interests are reflected in policy practice is moot, due largely to a focus on the ‘flexibility’ aspects of the mechanism, rather than poverty reduction. The emphasis on markets and the technocratic verification requirements make it more the domain of state-centric, managerial and scientific elites than civil society (Bäckstrand and Lövbrand 2006).

However, the ability to which the CDM can both reduce GHG emissions and deliver sustainable development has been questioned. This led to calls for a reform of a broad range of structures and processes around implementation. While it has indeed facilitated technology transfer, included developing countries in emissions-trading mechanisms and enabled the private sector to develop innovative cost-effective emissions reductions projects, this does not necessarily equate to sustainability. It has been both theoretically and practically difficult for it to do so. While there is general agreement that it has led to the transfer of funds to pay for emissions reductions, its focus on project-based reductions rather than larger programmes of technological transformation of developing countries, has not lowered transaction costs nor created wider benefits. At COP 15 (2009) the CDM was instructed to develop more broadly applicable and standardised baselines for projects, and to ensure that these projects were more closely aligned with reducing emissions via NAMAs (Bumpus and Cole 2010: 541–2).

In addition there have been some economic inefficiencies around how CDM projects have been funded. The majority of investors in CDM projects are from the EU and the UK, which has effectively reduced competition. In addition, encouraging developing countries to create their own ‘unilateral’ projects without developed country investment and then sell the credits proved ineffective. Transaction costs were extremely

high, due to lack of external investments, requiring internal funding; since payments only occurred at the end of the project, a considerable amount of costs had to be carried before remuneration. In addition, very little technology transfer occurred, and consequently the level of sustainable development was also limited. The ‘additionality’ requirement for all projects to be able to demonstrate that their activity genuinely added to emissions reduction, which would not otherwise have happened, also added further complexity to an already complex system, even if it added integrity (Maraseni 2013: 99–102).

There were also some unintended consequences associated with a number of policy settings. The emphasis on developing country projects ultimately led to equity issues, whereby a few countries ended up dominating the mechanism. Approximately 67 per cent of projects were established in three of the four ‘BRIC’ countries. China dominated the scheme with over one-third of projects (36 per cent), while India took up nearly a quarter (23 per cent). Smaller countries, desperately in need of technology transfer and investment, missed out. There was also one much-publicised example where companies in China inappropriately profited from the ‘greenhouse potency’ of hydroflourocarbons (HFC-23) used for refrigerants, and nitrous oxide (N_2O), a by-product of nylon manufacture. These gases had vastly more impact than CO_2 , and companies found they could generate more income from selling these as CERs, than both the products they were manufacturing, and the technologies that could be installed to avoid their production. One tonne of avoided HFC-23 could be sold for almost 1200 credits. Before this loophole was closed, almost 5 billion euros went to Chinese manufacturers, while it was estimated that abate cost of producing the pollutants in the first place would most likely have been less than 100 million euros. In addition to such perverse incentives, China’s emissions have grown more than 120 per cent since 2000. Consequently, the credibility of the CDM as a mechanism for reducing emissions has been challenged, despite the large number of projects and the actual tonnage of carbon offset (Maraseni 2013: 103–7).

The CDM has also been criticised for part-financing climate change mitigation projects that have negative impacts on the environment and people. This is evident in the CDM’s subsidisation of hydropower projects at the expense of freshwater ecosystems and potential perverse impacts of sequestration through plantations on biodiversity conservation. The CBD Secretariat warned: ‘The neglect and/or omission of social, environmental and economic considerations can lead to conflicts which could undermine the overall success of carbon mitigation projects, and long-term biodiversity conservation’ (CBD 2003: 277). Many developing nations have

adopted targets for hydropower development in their national climate change strategies (Pittock 2011: 25). CER certificates are granted to hydropower projects in developing countries registered by the CDM, providing additional income for such projects. Only projects that exceed a power density ratio of more than 4 mega watts (MW) generation capacity per square metre of land inundated in the development can be registered (CDM EB 2009: 18). This is intended to minimise the area of flooded land and the resulting social and environmental impacts. Some environmental degradation may be attenuated by smaller reservoirs, but barriers to fish migration and other severe ecological impacts are not (de Leaniz 2008: 83, Nilsson et al. 2005: 609). As of March 2012 there were 2194 active hydropower projects, amounting to around a quarter of all CDM projects. Most were sited in Brazil, China, India and Vietnam (International Rivers n.d., CDM 2015b). EU companies purchase most CDM hydropower CERs. For credits accepted into the EU ETS, the EU requires hydropower projects with a capacity greater than 20 MW to demonstrate adherence to the applicable criteria and guidelines of the World Commission on Dams (WCD) (European Union 2008: 2). This is a consequence of a considerable level of advocacy to limit social and environmental impacts of dam building (Orr 2001). Yet, of the 675 registered and proposed CDM hydropower projects assessed in a 2010 study, only 35 cited the WCD guidelines in their project-definition documents (Pittock 2010). CDM projects are also meant to demonstrate economic ‘additionality,’ in other words, that they are only financially viable with the income provided by CERs as well as genuinely contributing to emissions reductions that would not otherwise have occurred (Shrestha and Timilsina 2002, Lecocq and Ambrosi 2007, Tanwar 2007). Of large hydropower projects registered under the CDM in November 2007, 35 per cent were completed before project registration, 89 per cent were expected to be completed within a year, and 96 per cent within two years, which raises questions as to their additionality (Haya 2007: 6, Pottinger 2008).

The Ramsar Convention adopted a resolution encouraging its contracting parties to use all:

Available information, including information provided by the [WCD], in association with relevant guidance adopted by Ramsar Convention ... in order to ensure that wetlands and their values and functions are fully taken into account in decision-making on large dams. (World Commission on Dams 2002: 10)

The CBD introduced elements of the WCD report into its programme of work, and directed parties to ‘use, where appropriate, all available

information on dams in order to ensure that biodiversity considerations are fully taken into account in decision-making on large dams' (CBD 2000: paragraph 4). It also encouraged them to 'apply environmental impact assessments on water-development projects' (CBD 2004: 29). By contrast, CDM guidelines and the approved methodology for hydropower projects merely require that environmental impact assessments are 'undertaken in accordance with the procedures as required by the host Party' (CDM EB 2008: 19). This demonstrates that the CDM is providing incentives for hydropower projects without rigorous checks such that they that may seriously impact upon biodiversity and wetlands, in conflict with the resolutions of international biodiversity agreements.

The future of the CDM continues to be uncertain. In 2012 an expert review determined that the mechanism was 'imperilled', citing the collapse of the carbon price by 70 per cent in that year alone. The experts blamed the weak mitigation targets in discussion in the climate talks, and the failure of national governments to take up the opportunity of developing CDM projects and of not linking mitigation projects governments were developing to the CDM. This led to policymakers questioning its value, which had in turn driven private sector investors away. The authors of the report were concerned that, while many policymakers might not mourn the CDM's passing and 'new generation' instruments were under development, they were not yet ready, and the world could be left with no global mechanism at all. This was despite the robust assessment and verification methodologies, and the success of the CDM in generating over USD 215 billion in investments over its life (CDM Policy Dialogue 2012: 3). The authors made a dire prediction:

If nations permit the CDM market to disintegrate, the political consensus for truly global carbon markets may evaporate along with much of the world's developing country carbon market capacity. Developing countries and the private sector are unlikely to see sufficient benefits to justify aggressive emissions mitigation steps in those nations. The collapse of the CDM, in short, could seriously set back international climate cooperation, with potentially devastating consequences for all. (CDM Policy Dialogue 2012: 3)

One of the problems that have confronted the CDM has been the declining value of carbon markets. It has been estimated that the European market required a value of around 30 euros to drive sustainable investment levels. But mistakes there (notably the issuing of free credits) had depressed prices. In 2008 the carbon price was at 28 euros, but by 2013 it had plummeted to less than 4 euros (Ares 2014: 2). The extent to which this can be laid at the feet of the CDM is questionable, but it does appear to be the case that uncertainty over the price and prospects for

carbon markets has challenged its viability in the future. As the KP commitment period has now expired, there is not necessarily a reason to keep the mechanism, although the CDM EB is continuing to meet and promote ongoing activities, including the development of methodology for aviation industry to measure its emissions, engage in reduction activities and ‘earn saleable credits’ (CDM 2015a).

Sources and Means of Delivery of Finance

Although one of the objectives of a CDM is to assist in sustainable development and to reduce poverty in developing countries, concerns regarding the efficient delivery of benefits to pro-poor have long been raised, mostly in terms of the effectiveness of minimising climate change risks. To address such concerns, a major challenge for CDM planners is how to prioritise projects that provide both sustainable development and pro-poor benefits (Crowe 2013: 58). It is reasonable to suggest that it is easier to address CDM objectives on reducing GHG emissions in developed countries rather than to allocate the benefits among developing communities on a market-based approach, where other externalities may result in market failures. At the same time, those communities encounter hand-to-mouth problems, and must overcome disasters influenced by extreme climatic variability. In this perplexing context and within the concept of ‘climate as a public good’, equitable delivery of finance holds significant meaning in alleviating poverty.

Allocating CDM benefits with a market-based approach strongly demands that investment and new technology cope, for example, with extreme increases in the price of energy (Mohammadi et al. 2013: 210), and where normal CDM policies should have upgraded high-priced carbon credits to ensure extra pro-poor benefits. Given the fact that poor people are more vulnerable due to their socioeconomic constraints, climate change may thus impose additional burdens on them. Therefore, prioritising quality governance through developing local partnerships not only consolidates such demands but also develops aptitude in managing resources at the local level. Due to the prominence of the agricultural contribution in employment and livelihood in these communities, CDM projects have to invigorate the objective of sustainability into ‘win-win’ strategies (Torvanger et al. 2013: 471), generating non-farm employment, and ultimately offsetting market-based production. Therefore, in this CDM-poverty nexus, additional incentives, along with investments in technology and regular carbon benefits, are required in combatting climate change.

There have been a number of studies on CDM projects, including pro-poor mechanisms allocating benefits to poor people in Africa. Karani and Gantscho (2007: 203) analysed the interactions of Development Finance Institutions (DFIs) with existing CDM projects. Employing a bottom-up approach, the study investigated the projects that focused on building local capacity by working experts in Cameroon, Ghana, Mali, Mozambique and Zambia. The results revealed that the existing projects had acted as catalysts for the development of a carbon market even though high transaction costs were major barriers for CDM implementation. A fragile carbon market cannot develop homogeneity in resource allocation. A similar situation of inequality related to CDM benefits in Africa results from South Africa's larger share in the Development Bank of Southern Africa (DBSA) loan portfolio than other African country members. Therefore, further investment in a DBSA mechanism, in this case, can concentrate any allocated loan benefit in South Africa, and may thus enhance the disparity among developing communities of Africa in the longer term.

CDM has direct and indirect links with agriculture and its market instruments. Agriculture as the mainstay of developing economies provides the main opportunity for pro-poor growth as it provides employment opportunities to increase the livelihoods of poor people. Thus, CDM projects have an important role in turning subsistence farming into agribusiness systems. Using a systematic review and meta-analysis, Resanond et al. (2011: 80) analysed the role of a company's competitiveness enhancement in Thai agribusiness, and illustrated that companies make key decisions to move towards better technology with efficient operational performance when this also generates non-farm employment. For instance, Sirohi highlights an urgent need for mechanisms in Indian CDM projects to improve infrastructure, and to generate non-farm employment that supplements agricultural income (Sirohi 2007: 91). Thai CDMs have to focus on technology and innovations in addition to the macroeconomic infrastructure created by the government to improve its agricultural productivity and reduce escalating poverty (Resanond et al. 2011: 80). Slow market innovation (Karani and Gantscho 2007: 226), on the other hand, leads to institutions' administrative constraints in improving CDM-benefits to achieve pro-poor growth. Thus, to create natural inflows of resources in agribusiness, administrative efficiency has to be improved in the Thai agricultural system.

A comparative enquiry of CDM projects in China, India, Saudi Arabia, UAE and Qatar in Mohammadi et al. (2013: 211) identifies China and India as first in the way of implementation of CDM-objectives. In contrast, Saudi Arabia and UAE come first and second respectively when

investigating economic criteria of investing in CDM improvements. The study recommends implementing high-priced carbon credits, which could play a meaningful role in post-2012 energy policies where a political decision could change the situation. Politically unstable countries have a lesser chance to consolidate the policies towards better outcomes of CDM projects. In this case, Torvanger et al. (2013: 473) suggest a two-track CDM mechanism of sustainable development (SD) and offset production (OP). Such a mechanism helps to break political deadlock, and allows the inclusion of SD benefits in the price system itself, and sanctions both sustainable development and OP objectives to be simultaneously achieved.

Newell (2009: 425) argues that the quality of CDM outcomes depends on the type of governance, particularly in developing countries where political decisions are generally inconsistent. The political-economic context, a vital element of CDM governance, outlines a spectrum of carbon mechanism. By broadening the capacity of CDM projects, reasonable mechanisms can be developed to include the justifiable use of local resources. Thus, the quality outcomes of CDM projects depend significantly on how the planners understand the broader nexus of political conflicts, institutional aptitudes and globalisation. In this regard, a balanced composite of SD and OP, referred to in Torvanger et al. (2013: 477), has to be maintained in order to achieve good governance, and to broaden the prospect of market-based incentives on a global level.

Efficient delivery of finance through CDM projects has been questioned in many respects, including the equitable allocation of resources. There are some examples of CDM projects that demonstrate equitable revenue sharing. Crowe (2013: 58) analysed 114 CDM projects in order to develop indicators on reducing poverty and promoting pro-poor growth. The study used two approaches: a description and assessment approach of seven pro-poor indicators, and a stakeholder-participation approach. The study identified 67 respondents as carbon market participants in five job types, and found that only one of the analysed projects, RE-biomass in India, had positive ratings for all seven indicators, where one of those indicators is equitable revenue-sharing. The participants indicated that there is good market potential for an explicitly labelled pro-poor CDM add-on standard to deliver on. This means that while regular CDM projects are only moderately successful at delivering pro-poor benefits, CDM projects with premium add-on standards may accomplish more comprehensive results through finance.

With respect to investment, there is an ongoing argument related to which should come first, adaptation or mitigation, or both simultaneously. Delivering benefits is determined by which objective is

prioritised to minimise climate change impacts. From a socioeconomic perspective, as opposed to mitigation, adaptation seems to have many more dimensions. To overcome this argument, Haïtes (2011: 967) has suggested that a country should have a balanced approach of financing to mitigation and adaptation, and the most efficient way to finance mitigation measures is for governments to adopt policies that address GHG emissions and other market failures. Similarly, an analysis of the Organization of the Petroleum Exporting Countries (OPEC) database in Mohammadi et al. (2013: 236) recommends investing in technology advancement to combat several-fold energy price increases that could serve to reduce GHG emissions in the long run. Hence, simultaneous investment in both mitigation and adaptation can better alleviate poverty in developing countries, and can bring the GHG emission into benchmarks targeted by developed countries.

As the objectives of CDM for developing countries and developed countries are different in terms of resource allocation and its use to maintain economic growth, implementation of an ideal tool is a must to refresh inflows of investment and technology. Industrialised countries, for instance, may prefer to reduce GHG emissions in the targeted time frames, whereas developing countries are expected to continue their development. Thus CDM needs to be framed along these two trails. Torvanger et al. (2013: 478) developed an approach for CDM-countries and formulated a mechanism to harmonise SD benefits and offset GHG productions. Sirohi (2007: 104) suggested a different approach to achieve a ‘win-win’ strategy for rural poverty alleviation in India. He suggested designing a system for rain-fed farms as a major CDM project to accelerate agricultural growth, and motivate pro-poor growth in non-farm employment that supplements agricultural incomes. Such micro-level strategies should be equipped with macroeconomic infrastructure created by the government.

According to Resanond et al. (2011: 82), a major challenge of CDM implementation is the local and international approvals structure, leading to fault assessment and misinterpretation of carbon market because of uncertainty in CDM processing. Local approvals come along with socioeconomic attributes of local communities whereas international approvals are determined by global sociopolitical elements. Sometimes these approvals move in different directions as the stakeholders have developed different interests with regard to climate change and sustainability. To overcome this challenge, a set of globally approved and accepted guidelines should be formulated. Decreasing the CDM processing time can offer opportunities for big national and multinational companies to improve their operational performance and GHG reduction

(Resanond et al. 2011: 84) though some country-specific strategies may need to supplement the mainstream.

Overall, empirical studies of CDM projects describe significant misgivings towards the efficient delivery of benefits to pro-poor growth in developing countries. However, these studies recommend different ways or solutions to achieve better results. For example, some studies (e.g. Crowe 2013, Sirohi 2007, Resanond et al. 2011) argue that regular CDM projects are only moderately successful at delivering pro-poor benefits, suggesting that a lack of efficient mechanisms has created big hurdles. Still fewer studies such as Karani and Gantsho (2007) and Mohammadi et al. (2013) have identified grey areas while analysing investment indicators such as overall economic criteria, such as recent CDM investments in Saudi Arabia and UAE. China and India have come to the forefront in implementing CDM projects. All of the studies show fragile aptitudes in political decision-making in developing countries to overcome the vicious poverty cycles. This is why there will need to be hard-hitting mechanisms to achieve pro-poor growth in order for developing countries to escape from poverty caused by already overstrained impacts of climate change.

REDD+

Nearly 20 per cent of global GHG emissions are a consequence of deforestation and forest degradation. Deforestation is a consequence of the conversion of natural forests to non-forest uses such as palm oil plantations and soybean production. It is dropping in some countries, but increasing in others. Degradation contributes no less than 20 per cent of carbon emissions from forests, and is a consequence of logging for timber and fuel wood. Logging increases access to resources, which in turn leads to further extraction. Forest fires also contribute to degradation. Logging and burning create a feedback loop of expanding degradation, and eventually, deforestation (de Oliveira et al. 2013: 9–10).

The idea of paying countries to reduce emissions from deforestation (first termed ‘RED’) has been linked to an MBA thesis written by Kevin Conrad. Conrad was one of the driving forces behind the Coalition of Rainforest Nations, representing the main regions with tropical forests, and who were successful in encouraging UNFCCC to include payments for combatting deforestation into the climate negotiations around mitigating carbon emissions (de Oliveira et al. 2013: 8). The idea of planting trees as carbon ‘sinks’ was not new, dating back to the development of the flexible mechanisms under Kyoto, and the World Bank Prototype Carbon

Fund (PCF) (World Bank 2015). This led to a growing interest in ‘afforestation’ projects, which it was demonstrated had resulted in the establishment of monoculture ‘carbon sinks’ plantations established through the clearing and burning of ancient forests and rainforests – thereby defeating the purpose of the projects (Cadman 2000). This partially contributed to the breakdown of negotiations in COP 6 (2000) in The Hague, requiring a second, COP 6 ‘bis’, in Bonn the same year to resolve the issue of how to include forests in mitigation activities (Carbonweb 2001: 2–3). This may have dampened interest in using forests for offsets notably in Europe, and by 2004 they appeared to have slipped off the climate agenda (de Oliveira et al. 2013: 9). But at COP 13 in Bali, 2007, Papua New Guinea and Costa Rica launched the concept of REDD, submitting a formal proposal for discussions (Chiroleu-Assouline et al. 2012: 2–3). As a consequence, the concept was elaborated around the issues of how to deliver financial payments, what reference levels would be required to determine emissions reductions, how monitoring, reporting and verification (MRV) should take place, and how to ‘promote’ Indigenous peoples’ and local communities’ participation. It was further recommended that any subsequent programme that was developed be broken down into three phases: national strategy development, capacity-building and demonstration activities; implementation of the policies and measures developed; and performance-based payments against agreed reference levels (Zarin et al. 2009: vii).

A series of institutional arrangements were developed in subsequent negotiations. Partner-based projects were encouraged, led by the Forest Carbon Partnership Facility (FCPF) of the World Bank, and UN-REDD, which provide financial and technical support. Other organisations with a supporting role include the Forest Investment Program (FIP – also World Bank), the GEF, the REDD+ Partnership (a countries-based alliance) and the UNFCCC itself, which effectively guided the nature and intent of REDD+ via the climate negotiations (Multipartner Trust Fund Office (MTFO) 2013).

The United Nations Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries (REDD) was launched in September 2008 to assist capacity-building in developing countries to reduce emissions and develop related market mechanisms – (UN-REDD 2009: 11). The ‘plus’ in REDD+ was adopted after the COP 15 in Copenhagen in 2009 to include the sustainable management, conservation and enhancement of forests and forest carbon stocks. REDD+ allows ‘avoided deforestation’ to be included in market-based carbon trading mechanisms. It is linked to the KP and the KP-related CDM, and offers developed countries a means of meeting

their emissions targets through reducing GHG emissions in developing countries (de Oliveira et al. 2013: 8–9).

The FCPF was formally launched in Bali in December 2007 and became operational in June 2008 (REDD Monitor 2008). The Facility grew out of internal discussions that started in 2006 at the World Bank, but situated in a broader context about carbon rights, notably Indigenous peoples' rights, which IPOs and NGOs feared could be weakened (The Forest Peoples Programme (FPP) 2008). These discussions, which involved a number of countries and organisations including environmental NGOs, highlighted the value of developing the Facility in partnership with a broad range of actors, to balance the interests of potential donors and buyers, recipients and sellers and other stakeholders. The FCPF provides a fresh source of financing for the sustainable use of forest resources and biodiversity conservation. Eventually, it is hoped that this will lead to a large-scale system of incentives for reducing emissions from deforestation and forest degradation in developing countries. The FCPF involves countries as recipients of funds, donors of funds and participants on committees. Donors are developed countries; recipients of funding are developing countries wishing to use forest resources sustainably and conserve biodiversity. All countries participating in the FCPF, either as donors or recipients of funding, are members of the Participants Assembly. The FCPF has two separate funding mechanisms: the Readiness Fund (RF), which provides eligible governments with public grants to support policy and institutional reforms aimed at preparing the country to implement REDD; and the Carbon Fund (CF), which will link countries that are ready to implement REDD with payments for the purchase of their avoided GHG emissions. These mechanisms each have their own trust fund, for which the World Bank acts as trustee. Donors are known as Donor Participants (if they contribute to the RF) or CF Participants (if they contribute to the CF); whereas developing countries participating in either fund are known as REDD Country Participants (Forest Carbon Partnership Facility 2010).

At 1 January 2013, 14 developed countries and the European Commission had donated to the RF, and a total of USD 259 million was pledged to the RF (Forest Carbon Partnership Facility 2012c). Using the FCPF's framework and processes for REDD+ Readiness, each participating country develops an understanding of what it means to become ready for REDD+. The main ways that countries do this are by developing reference scenarios, adopting a REDD+ strategy, designing monitoring systems and setting up REDD+ national management arrangements, in ways that are inclusive of the key national stakeholders (Forest Carbon Partnership Facility 2013b). Readiness funds could also be used to

establish the foundations of good forest governance; for example, by providing secure tenure over forest land and resources, enforcing forest laws and empowering forest-dependent communities to participate in forest management (Davis et al. 2009). The FCPF RF relates to Phase 1, whereas the FCPF CF relates to Phase 2. Initially, the World Bank was the only delivery partner (DP) for the RF. However, a meeting of the Participants Committee in June 2011 approved two additional DPs: the Inter-American Development Bank and the UNDP. In October 2011, the UN FAO was approved as an additional DP. These additional DPs can provide REDD+ Readiness support services to distinct countries (Forest Carbon Partnership Facility 2013a).

The CF became operational in 2011, and piloted performance-based payments for verified emission reductions from REDD+ programmes in countries that have made considerable progress towards REDD+ Readiness. The goal was to provide incentives to reduce emissions while protecting forests, conserving biodiversity and enhancing the livelihoods of forest-dependent peoples and local communities (Forest Carbon Partnership Facility 2012a). The CF, which has a target size of USD 350 million, is a public–private partnership, and FCPF has acknowledged that ‘the private sector is critical, not only to scale up funding for REDD+ but also to provide management capacity and experience with innovative financial instruments’ (Forest Carbon Partnership Facility 2012d: 2). Programmes were required to be undertaken at a significant scale (for example, at the level of an administrative jurisdiction within a country or at the national level) to align with the proposed national REDD+ Strategy and management framework, and to be consistent with the emerging national REDD+ MRV system and national reference emission levels (Forest Carbon Partnership Facility 2012a: 33). By March 2013, the European Commission as well as seven other developed countries and three private entities had contributed to the CF (Forest Carbon Partnership Facility 2012c).

The intent of the UN-REDD Programme was to manage and simplify the distribution of financial resources for the implementation of initiatives to reduce deforestation and forest degradation at the national level (MTFO 2013). UN-REDD provides support to national-level ‘REDD+ Readiness’ initiatives, delivered through two principle methods: global support at the international and regional levels; and specific, targeted assistance in the development and implementation of country programmes (UN-REDD 2009: 11). An emphasis is placed on Joint Programmes between international and national-level agencies (FAO et al. 2008: 1). The intention is to encourage effectiveness and efficiency (United Nations Development Group n.d.). Where possible, there is also

an expectation that funds will also be delivered through one programme, one lead agency, one budget and one office, under the UN's wider drive for efficiency, expressed in the 'delivering as one' concept (2015). As an institution, UN-REDD is a collaborative management arrangement between the UN bodies: the UNEP, the UNDP and the FAO (UN-REDD 2009: 11). The UN-REDD Framework Document and the Programme Strategy 2011–2015, approved in November 2010, has been responsible for guiding activities to date. In the context of national-level actions to mitigate and adapt to climate change mitigation and adaptation, UN-REDD's economic and social strategies are aimed at providing performance-based payments in exchange for sustainable forest management and changed land-use practices to reduce emissions (UN-REDD 2011b).

However concerns about the potential for perverse impacts from REDD remain. Additionally, there are concerns about the lack of attention under REDD frameworks (even REDD+ frameworks) for addressing ecosystem benefits. For instance, IGO official 3 says:

You have things like REDD and REDD+. There's a lot of worry about those, actually undermining the whole approach, the way it is used and things like that in terms of sectorally-based carbon sequestration increasing through forestation and not doing damage to other aspects of biodiversity and disenfranchising local communities, Indigenous people. So, a lot of concern is flying around about that at the moment.

All the right words are there, if you look at the UN-REDD Programme objectives and purpose and so on, but it hardly works on the ground and there's a lot of concerns from what I've heard that large amounts of money are being poured into preparation of REDD Readiness, REDD+ Planning and so on. And then implementation on the ground risks a large extra pot of money ending up in the hands of unsustainable forestry interests.

For example, it [REDD+] certainly is an area that is causing some quite difficult challenges that we face. We have a situation where at least one party is fundamentally opposed politically at the moment. Any attention to evaluation of ecosystems, monetisation, economic values of services, REDD+, a whole lot of this concern rests on the grounds that this monetises ecosystems and particularly supports the private sector making profit. That's a bit extreme but it's a valid concern. Yet at the same time many of our parties are desperately putting top priority on getting better information about the importance of wetlands and the values through team-related work and so on, to help them get into the heads of the decision-makers, that they've got to understand the real implications of destroying ecosystems. They are making better-informed decisions on tradeoffs and hopefully informed by the value of what they might be destroying. So we have a real conflict of view between different parts of the world and countries on some of these issues at the moment.

As REDD+ is delivered largely at the national level, programmes are expected to engage effectively with UN agencies in country and demonstrate the country's contribution to reducing emissions and thereby mitigating climate change. Assistance from the relevant UN agencies in each country is available as 'targeted support' from the global support to the national REDD+ Action fund to assist in the development of strategies to achieve REDD+ Readiness. Country-level activities are also directed towards the creation of Readiness Preparation Proposals (R-PP), either through UN-REDD or FCPF under a 'harmonised' preparation process. All these activities, strategies and proposals are included in a National Programme Document (NPD). It is effectively the guidance manual that is used to describe and coordinate the nature and extent of UN agency financial and technical support, and the legal basis on which collaboration with governments occurs. The NPD, R-PP and a signed submission are provided to UN-REDD at the international level when requesting funds. All these activities and processes are guided by various documents and tools, as well as approaches to safeguards regarding such issues as stakeholder engagement and the participation of Indigenous peoples and forest-dependent communities (UN-REDD 2012: 7–15).

Despite the progress on implementing REDD+ pilots, the fate of Phase 3 (performance-based payments) is less certain. In the June 2014 Climate talks in Bonn there was a clear difference of opinion between donor countries and recipient countries over the use of market-based approaches. Developing countries sought to de-couple implementation funding of REDD+ from the trade in emissions, a position supported by a number of countries in both the Asia-Pacific region and Latin America, notably Indonesia, Brazil and Bolivia. This objection may be based on ideological grounds (revisiting the critique of 'carbon imperialism') or economic grounds, given the low market value of carbon. The US attempted to provide a reconciling position and indicated that it would support payments in a 'mixed economy' of market and non-market-based approaches, but was keen to link REDD+ to carbon markets. This was not positively received. This leads to the conclusion that lack of certainty around the future of carbon markets in the climate negotiations may well be contributing to underperforming markets. These disagreements created another point of contention leading up to COP 21 (Cadman 2014).

Sources and Means of Delivery of Finance

There are widespread concerns about reducing emissions from deforestation and forest degradation, and enhancing forest carbon stocks in developing countries (REDD+) in terms of market mechanisms, acting on

global strategies in local communities and achieving SD. Market mechanisms are directly and indirectly involved in the delivery of pro-poor growth benefits through REDD+ in developing countries. One of the major objectives of REDD+ is to provide strong incentives through performance-based approaches to carbon right holders (Angelsen et al. 2009: 296), and thus reduce GHGs emissions in the long term. In this regard, governmental and institutional capacity to build interactive linkages between the national and local delivery systems determines the efficiency of the mechanism, and involves institutional reforms to move REDD into REDD+.

In the supply chain of market-based benefits, enhancements of private sector involvement and investments determine the success of efficient finance delivery, thus allowing extractive industries in the REDD+ supply chain to operate in effective ways (Bernard et al. 2012: v). At the same time, a public-private partnership as referred to in Darragh et al. (2014) could play a vital role in using compensation credits to secure financing for REDD+. Therefore, the design of projects requires attention to be paid in this area in order to have country-specific mechanisms and to create inclusive strategies for marginalised communities. This is also due to the fact that a REDD typology of global mitigation policies cannot transfer the overall qualities into REDD+ until (and unless) a locally relevant forest payment system is created and acted upon. In this regard, it is important to overcome institutional barriers and rectify fragmented structures of global governance architectures (Kanowski et al. 2011: 114), and to integrate the outcomes of the best REDD+ initiatives (Richards and Swan 2014: 14).

As was alluded to in the remarks of interviewees noted above, a great challenge to implementing REDD+ in a number of countries is related to overcoming forest tenure issues (Angelsen et al. 2012: 114). This includes legislative apparatuses that may not sufficiently address indigenous land tenure concerns. To assess market payments to the carbon holders, transparency in a forest tenure system is important. For this, illegal use of land and the exploitation of resources raise challenges to forest sector regulations. Other than this, the concept of a voluntary carbon market has long been raised in combination with result-based payments (Darragh et al. 2014: 27). A trade-off between agricultural policies and energy policies is another issue to be addressed by REDD+ in developing countries. As agriculture-based local communities continue traditional ways of farming for their livelihoods, it is a great challenge to switch into forest conservation for stocking carbon in sufficient ways. The chance of shifting land becomes more challenging in these communities as they have been facing the increasing impacts of climate

change. Therefore, it is imperative to discuss delivery of finance through REDD+ in developing countries, and to seek good evidence of these market-based payments to pro-poor growth.

There have been a number of case studies on REDD+ in recent years. Darragh et al. (2014: 4) compare financing options in the EU, and give possible options for mobilising finance such as REDD+ compensation credits, sustainable supply chains, ring-fencing public finance, stimulating results-based payments for REDD+, coordinating EU results-based financing, member-state incentives and public–private partnership. It has offered a variety of options as the persistent economic weakness manifest across the EU has led to public finances being stressed, and thus putting pressure on public allocation for REDD+. The establishment of voluntary carbon markets can support public finances, although stakeholders identified a number of barriers. Technical issues associated with REDD+ (Darragh et al. 2014: 7) and inefficient stimulation in private investment are creating difficulties in EU countries, and are slowing institutional transformation from REDD to REDD+.

The private sector plays an important role in financing REDD+ and in developing a secondary carbon market. Bernard et al. (2012: xi) have analysed implementing safeguard information systems to foster the role of private sectors in Kenya, Japan and California by engaging them in the REDD+ supply chain. California's emerging cap-and-trade system very quickly created a compliance-based market for REDD+ credits. In addition, a bilateral offset mechanism in Japan which disseminated advanced low-carbon technologies, has created a conducive environment for an efficient secondary carbon market. However, Somorin et al. (2011: 399) argue that while investing in technological advancement, the success of the multiple aspects of REDD+ remains critical, as forest dwellers are likely to be severely impacted. As such, some African government respondents suggested that local participation is the only way to find better solutions, and to cope with the challenges of complexity, governance and decentralisation.

Political instability in developing countries continues to raise security concerns for private investment. A case study of the Amazon basin conducted by UNEP (2014: 113) refers to the case of Terra Global Capital in Cambodia, who, through incentive-based conservation contracts and co-management with communities, invested in the project with a political risk insurance contract from the Overseas Private Investment Corporation. UNEP argues that this demonstrates that, to ensure ecosystem services through REDD+ payoff, it is essential to focus on positive environmental external influences along with the marketing of biodiversity-friendly products (UNEP 2014: 113). In this regard, Rey and

Swan (2014: 56) have provided a country-led safeguard approach with national REDD+ guidelines, one of which states: 'while defining safeguard guidelines, a country should consider who will be involved and be responsible for collection, aggregation, review and a potential assessment of the information'. Similarly, channels for the dissemination of information play an important role in bridging global REDD guidelines and national strategies, and community participation in information sharing can resolve local disputes.

Government intervention is required to balance ecosystem payments and the cost of implementing REDD+ at a national level. A study in Brazil-Amazon by Mann et al. (2012: 279) has raised an issue around policy intervention in agricultural conversion, and suggests a preference towards a municipality-level tax in land conversion. According to the report, the local level tax provides two benefits: (1) generating additional annual funding through the uniform tax, and (2) keeping a check on haphazard conversion of land creating unfriendly environmental outcomes. However, different types of critical issues are experienced in Kenya (Bernard et al. 2012: 5). Finding extractive industries that will convert land to achieve sustainable outcomes is difficult while providing REDD+ credits to them. In this case, Corbera and Schroeder (2011: 96) have suggested improving local governance, whereby government should design a land-use plan by conducting in-depth examinations of how policies and actions unfold in local contexts through existing commercial networks, extension services, and both legal and illegal markets for natural resources.

Overall proficiency of REDD+ projects is ultimately determined by how efficiently the projects are delivering to achieve the pro-poor growth benefits in developing countries. Thus the methodology of delivery and strategy of regulation requires careful examination. The Institute for Global Environmental Strategies – IGES (2014: 4) has reviewed the efficiencies of eight REDD+ projects, mostly based in Brazil, in terms of their architecture and jurisdictional approaches. The report depicts that certified REDD+ projects have only transacted about half of the carbon offsets that the projects are able to trade, therefore it suggests that 'the UNFCCC negotiations must lead towards targets for deep emissions cuts to generate the levels of funding required for REDD+ to be significant as an instrument for climate change mitigation'. Hence, there is an urgent need for the development of a basis set of standards that each country can adapt to their own contexts to ensure that the safeguards are appreciated and addressed.

Every REDD+ project is examined in terms of equal and equitable delivery of benefits in actual contexts. The lack of properly defined roles

of stakeholders, including means to disseminate the benefits, creates disputes among communities. For example, Bolivian communities face difficulty as two ministries compete for attention, where the forest is administered by the ministry of rural development and climate change is administered by the ministry of environment; both are responsible for allocating resources (Angelsen et al. 2009: 294). In this sense, it is unclear who is going to receive the benefits. Hence, REDD+ projects have to specifically identify the beneficiaries, especially in forest-dependent communities. A good example of this is a Tanzanian project (Angelsen et al. 2009: 39) which distributes benefits equally to communities by classifying the groups of beneficiaries. The same solution is seen in a Vietnamese REDD+ project, where the cross-sectoral coordination has been prioritised. However, the way of classifying the beneficiaries depends on the policy which governments have in place. For example, market liberals (Angelsen et al. 2012: 37) favour market mechanisms and prioritise improvement in the forest products to reduce the poverty in developing countries, and forest users choose forest conservation if the compensation they receive is higher than their potential earnings from alternative forest uses.

In many cases, the land tenure system has become a great challenge in financing REDD+. Severe tenure insecurity, for example, is faced by smallholders whereas large landholders have been enjoying forest rent in Indonesia (Angelsen et al. 2009: 33). In this scenario, a better option is to involve local communities as in a Cameroon REDD+ project (Angelsen et al. 2009: 37) where a benefit-sharing portfolio of 50–40–10 (50 per cent to national administration, 40 per cent to communal office and 10 per cent to communities living around the logging area) is managed by the forest users. However, the benefit-share portfolio depends on institutional structures, perceptions of local communities and socioeconomic constructs. Therefore, countries have different approaches in designing the benefit-sharing portfolio. Moreover, policies with national and international negotiations (Corbera and Schroeder 2011: 96) lead to the broader framework in designing the portfolio, though in-depth examination of how policies change while manifesting at the local level is essential to avoid community disputes.

REDD+ regulation also needs to be considered in delivering benefits for pro-poor growth. Diversity of institutions is a great challenge (Kanowski et al. 2011: 114), and brings inefficient outcomes. Fragmented structures of national and international governance have diverse impacts on the consolidation of the guidelines of REDD+ regulations. The information systems on the other hand also play a vital role in formulating national guidelines. 'Who will be involved and be responsible for

collection, aggregation, review and a potential assessment of the information' (Rey and Swan 2014: 56) should be included in the guidelines prepared. Some steps are suggested by Richards and Swan (2014: 12) regarding methodology and step-by-step guidance such as: preparatory studies, drivers analysis, interventions analysis, safeguards analysis, monitoring plan and reporting and socialising results. Thompson et al. (2011: 108) present a different argument and suggest that REDD+ regulations should be observed as environmental governance. According to the report,

the best way is to carefully consider how participation of affected communities is facilitated in the REDD+ process, both to ensure that the voice of a wide range of affected people might be heard in this process, and to make a significant effort to make participation as unconstrained as possible, so as to hear the real concerns and needs of these communities as these programs and projects move forward.

In another version in compliance markets for REDD+ by USAID (2013: 16), materialising demand and supply are observed closely to foster result-based mechanisms of REDD+ countries, highlighting that emission reductions and removals from REDD+ need to be tradable and eligible for use to meet future emission reduction commitments. The study (p. 54) suggested that between 2016 and 2020 demand could significantly exceed the estimated credit insurance, and a lack of strong demand until after 2020 could cause financial harm to governments, local communities, civil society and the private sector already engaging in REDD+ activities. Through this crisis, the countries whose growth and development primarily depends on agriculture will bear the brunt of challenges resulting from the new market dynamics (La Vina et al. 2014: 12). To tackle the situation, national and sub-national policies have to concentrate on the issue of land-use change in developing countries, and have to regulate the supply to meet the demand till 2020.

Developing a uniform set of REDD+ guidelines is necessary to achieve checks and balances in national and local decision-making. An increased risk of national and local political interests threatens the project's proficiency. Hence, a set of global guidelines can contribute to resolve national and international disputes. In addition, this can also offer opportunities for the private sector to develop better understandings of the potential market of carbon credits (Bernard et al. 2012: vi), providing greater collaboration between the public and private sectors and ultimately assessing, articulating and classifying the beneficiaries. A well-planned public-private network will help to coordinate different resource-allocating institutions, and increase the efficiency of the delivery of finance as there will be less chance of duplication of beneficiaries. This

'local-flavoured' strategy should be aimed at rural communities, and designed to accelerate agricultural growth in the rain-fed regions of developing countries. It could be a genuine solution that would enable a test of the REDD+ at the local level before enabling broad policy reforms.

Finally, there is an urgent need for an efficient REDD+ mechanism to mobilise finance to improve incentives for SD in developing countries. Public finances should be free of persistent economic weakness. To achieve consistency in policy development, some of the options referred to in Darragh et al. (2014: 9 and 10) such as compensation credits, ring-fencing finances and member-state incentives, can ensure how and when the benefits could be delivered to local communities. Institutional regulation should be developed on the basis of social-REDD+ experiences and local knowledge. In this way, the overall goals of REDD+ can be achieved through the incentivising of sustainable supply chains and overcoming market failures. Thus, an efficient mechanism of delivering finance through REDD+ projects can be achieved and a reduction in abject poverty in developing countries can be realised.

NORTH/SOUTH RELATIONS AND STATE AND NON-STATE ACTORS

Given the historical relations in the climate talks between developing and developed countries, it would be easy to conclude that these geo-political divisions have become entrenched. The literature argues that the North/South divide has contributed to an almost complete 'ossification' of the regime (Depledge 2006: 9–15). Other scholars have made similar observations, characterising the regime's governance as constituting a pattern of arrested development (Young 2010). Inequality has been identified as a central impediment to collaboration within the climate regime, and epitomised by the impasse between North and South, and which therefore necessitates changes to the structural barriers which developing countries face in climate negotiations (Parks and Roberts 2008: 621 and 644). The construction of the climate problematic as one which requires economic neo-liberal responses, it has been argued, is essentially a Northern construction of the problematic, foisted on the South, and is hampering progress towards understanding climate change as a de-territorialising, transnational phenomenon. Countries such as India, which is heavily reliant on economic growth, tend to vacillate between accepting this discourse while also trying to engage with alternative geo-political and geo-economic conceptions (Doyle and Chaturvedi 2010: 516–17).

It is not surprising to see some changes in the geo-political and stakeholder dynamics, given the age of the Convention. These changes have been placed into three distinct phases. The first is portrayed as consisting of a formalised North/South divide through the designation of Convention participants as being either Annex I, i.e. developed countries, or non-Annex I parties. The second is better understood as a North/North struggle between various alliances either in support of – or reluctant to ratify – the KP and implement market mechanisms; and a period of increasing North/South cooperation around Kyoto implementation, but also commensurate with a fragmentation of South, culminating in the Copenhagen Accord of 2010, which created a separation between those developing countries which were expected to support mitigation measures ('will' in the text), and least developed countries as well as small island states, who were not obliged to do so ('may' in the text) (Abreu Mejía 2010: 9–39). Phase 1 commenced with negotiations around the climate regime formation, including the creation of the IPCC, and culminated in the 1994 Framework Convention on Climate Change. In this phase the North/South divide was formalised and institutionalised through the designation of countries as being either Annex I (developed) or 'non-Annex I parties' (i.e. developing countries) and the consequential CBDR dictum of international diplomacy (Abreu Mejía 2010: 14–18). Phase 2 has been interpreted as commencing with the Berlin Mandate in 1995 and the ratification of the KP. This period was marked by the heavy influence exerted by the neo-liberal market order (Abreu Mejía 2010: 20–6). The third stage can be seen as ongoing, but effectively commenced with the first dialogue in Montreal in 2005, around what arrangements should be put in place once the KP commitment period ended in 2012. Initially, this period generated a good degree of cooperation among parties to the Convention, reaching a high point in 2007 with the 'Bali Road Map', which included a 'shared vision', as well as renewed commitment to taking action on both mitigating and adapting to climate change. In addition, parties agreed to transfer technologies to enhance 'green' development, and provide financial resources to assist all the points agreed. Discussions became fraught, however, around the expectation that all countries, developed and developing, should implement programmes to mitigate climate change (Abreu Mejía 2010: 26–9). This was to become particularly pronounced at negotiations at Copenhagen in 2010, and at this point it is possible to identify the emergence of what has been referred to as 'a fragmentation process in the South', combined with an increasing closeness between the US and large developing countries (Abreu Mejía 2010: 3). This was a consequence of the last-minute attempt to rescue discussions through the release of the

Copenhagen Accord, which for the first time divided non-Annex I parties (i.e. developing countries) between those who were expected to implement mitigation actions and least developed countries and small island states, who were not obliged to do so (Abreu Mejía 2010: 27).

Some heavy criticisms have been levelled against the CDM. These have both an ethical and practical basis. On the ethical side the CDM has been characterised as re-introducing methods of re-colonisation and control by the North over the South, notably through the use of afforestation projects, created as carbon ‘sinks’. This has engendered an imperialist dimension to global environmental governance leading to an ‘empire of carbon management and control’ (Paterson and Strippel 2007: 163). On the practical side it has been argued that the division between Non-annex and Annex countries (those with responsibility to reduce emissions) was based on a world order that ceased to be relevant very quickly after the collapse of the Soviet Union). China and India also had no reduction commitments under KP. This is particularly relevant given their quasi-developed status. This effectively placed most of the blame and most of the costs on developed countries (Okereke 2010: 467). At the same time, developing countries did not have to take ownership of their own historic responsibility for rising global emissions. The focus on mitigation inherent in the CDM (and the developed country agenda this represents) also resulted in a lack of action around adaptation and capacity-building in areas other than mitigation generally (Okereke 2010: 468–70).

NGOs have documented a number of poorly managed CDM projects in developing countries over the years, and a sub-sector has emerged that tracks such projects. One of the first of these, SinksWatch, arose after the inclusion of forests in the offsets market, as a consequence of COP 6 bis in Bonn, 2000. It began tracking one of the earliest projects seeking CDM accreditation, Plantar in Brazil. This project, one of the early World Bank PCFs, drew the attention of NGOs as the company had also had its afforestation activities FSC-certified. The company was attempting to have its iron-smelting activities offset by establishing monoculture eucalypt plantations for the production of charcoal, rather than using coal (SinksWatch 2003). The case was pursued by another monitoring NGO, CDMWatch (CDMWatch 2002). It claimed in an online report that Plantar had plans to establish the plantation before the creation of the CDM, thereby calling its ‘additionality’ into question (Person 2002). NGOs continued to express their opposition to the project, which was registered as a CDM project in 2007, despite claims that local Indigenous communities had not been consulted, and that the auditor’s concerns had not be adequately addressed (Carbon Market Watch n.d.). A number of NGOs from both the North and South wrote to the CDM EB objecting to

the project on the grounds that ‘large-scale, chemical-intensive plantations of fast-growing eucalyptus trees and their subsequent burning can in no way be considered a mechanism for climate justice’ (World Rainforest Movement (WRM) 2010). Carbon Market Watch (previously CDM Watch) has continued to document problematic CDM projects in developing countries, including pollution generated by a coal-fired power station in India, contaminated groundwater arising from a waste incinerator in China, and the falsification of consultation documents associated with a hydroelectric scheme in Honduras (Carbon Market Watch 2013: 3–9).

The CDM appears to have taken a long time to respond substantively to NGO objections, only agreeing to rules to ensure that ‘local stakeholders have a say’ in projects in July 2014 (CDM 2014). This was part of a broader process of investigation into CDM procedures, including those associated with deregistration of CDM projects, and addressing the problem of ‘double counting’ of projects under national emissions reduction schemes (CDM 2014). However, it should be noted that the method of complaining to CDM remains complex, and is subject to a mandatory process of submission of pro-forma documents to the EB (CDM 2015c).

In REDD+ the stakeholder dynamics differ somewhat. The North/South power balance, it has been claimed, has been somewhat reversed, as REDD+ ‘facilitates a co-incidence of developed and developing country self-interest’ (Cadman and Maraseni 2012: 166). National-level involvement in REDD+ is on the basis of developing country status. Developed countries provide funds, and developing countries receive them, without the intermediation of companies seeking to develop industrial projects. But for non-state actors, the situation is less clear-cut.

The REDD+ programme was somewhat controversial from the outset, because Indigenous peoples were not included in the initial consultations (Griffiths 2008). It has even been the subject of some detailed analysis and criticism from academics questioning its ‘white’ (i.e. Northern) bias:

The core concept behind REDD+ is its implicit contention that only countries with non-white populations and governments are guilty of producing emissions of CO₂ when they undertake forestry ... it is ‘white’ countries that do far more logging annually than non-white countries (60% of total timber forest production in all countries in 2004 came from countries like Canada, Norway, Sweden, Finland, Germany, FAO 2005). Moreover, it is the white countries – mostly in the northern hemisphere – whose timber harvesting (i.e. logging) is showing a strong rising trend. At the same time it is the countries most fiercely targeted by the German and Australian government and their academics promoting application of REDD+ to SE Asia, especially in Malaysia and Indonesia, whose timber harvesting has actually dropped since 1995 for reasons wholly independent of REDD. Both these countries have

diverted timber acreage to oil palm trees, in Indonesia's case oil palm trees in 2010 occupied 5 million hectares, up from only 1.2 million ha in 1995. However Australia's REDDists claim the increase was mostly due to deforestation. (Curtin 2012: 3)

Concerns have also been raised by NGOs regarding UN-REDD and FCPF activities. In 2013 Indigenous peoples withdrew from UN-REDD activities in Panama, citing as it had not offered any 'guarantees for respecting indigenous rights [nor for] the full and effective participation of the Indigenous Peoples of Panama in all phases and in the implementation' (Lang 2013). While UN-REDD in principle has procedures for consultation of non-state actors, the observation has been that (as of 2013), there was 'no detailed guidance available in terms of what would happen if there is insufficient effort put into applying these principles' (Martin 2013: 51). FCPF has received similar criticisms. In 2010, NGOs complained about the lack of consultation over activities in Indonesia (Lang 2010). In the same year Greenpeace published a report critical of Papua New Guinea's involvement based on its poor forest governance arrangements (Greenpeace Australia Pacific 2010). The World Bank has claimed that it has put mechanisms in place to ensure civil society participation (Martin and Elges 2013: 56). These have been challenged, however. One NGO was of the view that 'the lack of binding requirements seriously undermines public accountability of the FCPF to civil society and potentially affected communities. There are few mandatory requirements ... which generally use optional terms like "should", "could", "may"' (Dooley et al. 2011: 41).

Given the multiple nation states and varying legal frameworks under which it operates, CSOs and IPOs undertook a concerted effort to secure the inclusion of environmental and social justice mechanisms (referred to as safeguards) at COP 15 in Copenhagen in 2009 (Eastwood 2013: 51–3, Global Witness 2009). At COP 16 in Cancun, 2010, the outcome document called for 'transparent and effective national forest governance structures' as well as 'the full and effective participation of relevant stakeholders, in particular indigenous peoples and local communities' in relation to REDD+ activities (Decision 1/CP.16, Appendix I, 2. (b) (UNFCCC 2011: 26)). This caused the World Bank to review its current policies, and FCPF responded in kind, but was heavily criticised by NGOs for creating 'a dense set of guidelines that appear to water down existing policies and obfuscate minimum standards' (Dooley et al. 2011: 7). UN-REDD responded by developing a process of 'participatory governance assessment' of country activities in consultation with stakeholders (UN-REDD 2011a). But the issue of safeguards was raised again in COP

17 in Durban, and both FCPF and UN-REDD responded by developing safeguards systems for country-level projects (UN-REDD n.d., Forest Carbon Partnership Facility 2012b). The effectiveness of these was again questioned by NGOs, who extended their concerns to the broader issue of the institutional integrity of REDD+ finance, and the activities of the funds at the national level (Martin 2013, Martin and Elges 2013). Of particular concern was the issue of ensuring the free, prior and informed consent (FPIC) of stakeholders regarding project activities. FPIC is an emerging international human rights norm, and private governance standards have arisen to verify and accredit FPIC (Forest Stewardship Council 2012: 6). There has been an acknowledgement of the need for a complaints mechanism to address concerns about FPIC (UN-REDD 2013: 33). The problem confronting REDD+ is that implementation of parts of the programme are largely voluntary, following the UN tradition of subordinating global agreements to national sovereignty.

QUALITY OF GOVERNANCE

CDM

Table 1.1 CDM – quality of governance by region (February 2015)

Principle	1. Meaningful participation Maximum score: 25 Minimum: 5							
Criterion	1. Interest representation Maximum score: 15 Minimum: 3				2. Organisational responsibility Maximum score: 10 Minimum: 2			Principle score
Indicator	Inclusiveness	Equality	Resources	Criterion Score	Accountability	Transparency	Criterion Score	
North (38)	3.0	2.7	1.6	7.3	2.7	2.7	5.3	12.6
South (52)	2.7	2.7	2.4	7.8	3.2	3.1	6.3	14.1
Principle	2. Productive deliberation Maximum score: 30 Minimum: 6							
Criterion	3. Decision-making Maximum score: 15 Minimum: 3				4. Implementation Maximum score: 15 Minimum: 3			Principle score
Indicator	Democracy	Agreement	Dispute settlement	Criterion Score	Behavioural change	Problem-solving	Durability	
North	2.4	2.8	2.3	7.4	2.7	2.4	2.6	15.2
South	2.9	3.0	3.0	8.9	2.8	2.9	2.9	17.4
Total (out of 55)								
North					27.8			
South					31.5			

Note: Light grey represents the highest scoring indicator by region; dark grey the lowest; numbers in **bold** are below the threshold value of 50 per cent.

Table 1.2 CDM – quality of governance by sector (February 2015)

Principle	1. Meaningful participation Maximum score: 25 Minimum: 5								
Criterion	1. Interest representation Maximum score: 15 Minimum: 3				2. Organisational responsibility Maximum score: 10 Minimum: 2			Principle score	
Indicator	Inclusiveness	Equality	Resources	Criterion Score	Accountability	Transparency	Criterion Score		
Environment	3.2	2.7	2.3	8.2	3.0	3.0	6.0	14.2	
Social	2.6	2.0	1.4	6.0	1.8	2.0	3.8	9.8	
Economic	4.7	2.0	1.0	7.7	3.7	3.7	7.4	15.1	
Government	3.3	3.0	2.1	8.4	3.5	3.3	6.8	15.2	
Academic	2.9	2.8	1.9	7.6	2.9	2.9	5.8	13.4	
Other	1.8	2.7	2.2	6.7	2.7	2.0	4.7	11.4	
Principle	2. Productive deliberation Maximum score: 30 Minimum: 6								Principle score
Criterion	3. Decision-making Maximum score: 15 Minimum: 3				4. Implementation Maximum score: 15 Minimum: 3			Principle score	
Indicator	Democracy	Agreement	Dispute settlement	Criterion Score	Behavioural change	Problem- solving	Durability	Criterion Score	
Environment	2.5	2.9	2.7	8.1	2.8	2.6	2.7	8.1	16.2
Social	1.8	1.4	1.8	5.0	2.0	2.0	2.4	6.4	11.4
Economic	2.0	3.3	3.0	8.3	3.3	3.3	2.7	9.3	17.6
Government	3.2	3.3	3.2	9.7	3.2	3.1	2.8	9.1	18.8
Academic	3.0	3.0	2.8	8.8	2.8	2.7	3.0	8.5	17.3
Other	2.0	2.5	2.2	6.7	1.8	2.0	2.2	6.0	12.7
Total (out of 55)									
Environment					30.4				
Social					21.2				
Economic					32.7				
Government					34.0				
Academic					30.7				
Other					24.1				

Note: Light grey represents the highest scoring indicator by sector; dark grey the lowest; numbers in **bold** are below the threshold value of 50 per cent.

Commentary on the Results

Ninety respondents answered the survey, with a clear majority from the South. Respondents did not appear to be especially impressed with the CDM, which received a low ‘pass’ only. Southern respondents rated the mechanism more favourably – a result that was repeated across both principles. Northern respondents identified interest representation and decision-making as the weakest criteria. At the indicator level, both South and North gave resources a low score, and for Northern respondents,

this was the lowest scoring indicator. Democracy and dispute settlement also received a low rating from the North. The highest performing indicators were inclusiveness (North) and agreement and dispute settlement (South).

Government provided the highest score, followed by the economic, academic and environmental sectors. The results from 'other' respondents as well as the social sector (which gave it the lowest score of all) constituted a 'fail'. This was repeated at the criterion level. Environment, government, academic, social and economic all identified resources as the weakest indicator, and it is interesting to note that economic respondents provided the lowest score of all. 'Other' identified inclusiveness as the lowest indicator, while conversely, the economic and environmental sectors both identified inclusiveness as the highest scoring indicator; for government it was accountability. Academics rated democracy, agreement and durability as equally high.

Commentary from Survey Respondents

Respondents provided a few CDM-specific comments. One Northern academic was concerned about the lack of inclusiveness in the CDM's policy agenda. Its 'focus on incentives' had diminished the extent to which those responsible for emissions had any 'accountability to the impacts'. 'Carbon linkages' were 'so many and interactive' that they were 'beyond the capability of bureaucratic decision-making' that only focused on incentives. Another Northern academic felt that small island states received unequal treatment even though they were most heavily affected by climate change. The emphasis on large-scale projects in the CDM meant that such countries, with their low populations, would only ever develop small-scale projects, which stood 'no chance' of being approved. Another environmental respondent from the South commented that the application of the CDM on the ground was 'too cumbersome and very expensive for developing countries to manage', and that it was 'mainly geared towards benefiting developed countries'. One Northern economic respondent, commenting on resources noted that for businesses it was 'rather the opposite' – they funded the CDM, not the other way round. Two respondents commented on implementation aspects of the CDM. A Northern academic noted that it was only market mechanisms with payments for 'practical projects' such as CDM that had any 'real effects'. Another Northern environmental respondent, speaking from the 'frustrated point of view of

a CDM project developer’ questioned the CDM’s effectiveness, however. Since it had ‘failed to provide a price on carbon, sustainable initiatives are no longer possible’.

REDD+

Table 1.3 REDD+ – quality of governance by region (February 2015)

Principle	1. Meaningful participation Maximum score: 25; Minimum: 5							
Criterion	1. Interest representation Maximum score: 15 Minimum: 3				2. Organisational responsibility Maximum score: 10 Minimum: 2			Principle Score
Indicator	Inclusiveness	Equality	Resources	Criterion Score	Accountability	Transparency	Criterion Score	
North (41)	3.7	2.9	1.6	8.1	2.8	2.7	5.6	<u>13.7</u>
South (49)	3.1	3.1	2.8	9.0	3.4	3.2	6.6	<u>15.6</u>
Principle	2. Productive deliberation Maximum score: 30 Minimum: 6							
Criterion	3. Decision-making Maximum score: 15 Minimum: 3				4. Implementation Maximum score: 15 Minimum: 3			Principle Score
Indicator	Democracy	Agreement	Dispute settlement	Criterion Score	Behavioural change	Problem solving	Durability	
North	2.5	2.8	2.5	7.7	3.1	2.9	3.1	9.1
South	3.1	3.2	3.0	9.3	3.1	3.2	3.2	9.5
Total (out of 55)								
North					30.5			
South					34.4			

Note: Light grey represents the highest scoring indicator by region; dark grey the lowest; numbers in **bold** are below the threshold value of 50 per cent.

Table 1.4 REDD+ – quality of governance by sector (February 2015)

Principle	1. Meaningful participation Maximum score: 25 Minimum: 5							
Criterion	1. Interest representation Maximum score: 15 Minimum: 3				2. Organisational responsibility Maximum score: 10 Minimum: 2			Principle Score
Indicator	Inclusiveness	Equality	Resources	Criterion Score	Accountability	Transparency	Criterion Score	
Environment	3.6	3.0	2.3	8.9	2.9	2.8	5.7	14.6
Social	.0	2.0	1.8	6.8	2.0	1.3	3.3	10.1
Economic	4.3	2.7	1.0	8.0	3.3	3.7	7.0	15.0
Government	4.1	3.4	2.8	10.3	3.8	3.4	7.2	17.5
Academic	3.7	2.9	2.1	8.7	3.3	3.0	6.3	15.0
Other	3.2	3.3	2.3	8.8	3.0	3.2	6.2	15.0
Principle	2. Productive deliberation Maximum score: 30 Minimum: 6							
Criterion	3. Decision-making Maximum score: 15 Minimum: 3				4. Implementation Maximum score: 15 Minimum: 3			Principle Score
Indicator	Democracy	Agreement	Dispute settlement	Criterion Score	Behavioural change	Problem- solving	Durability	Criterion Score
Environment	2.7	3.0	2.8	8.5	3.2	3.2	3.1	9.5
Social	1.5	1.8	2.0	5.3	2.5	2.5	2.8	7.8
Economic	2.3	3.7	3.0	9.0	3.3	3.7	4.0	11.0
Government	3.3	3.5	3.2	10.0	3.5	3.4	3.6	10.5
Academic	3.0	3.0	2.8	8.8	3.2	2.9	3.2	9.3
Other	2.8	2.7	2.5	8.0	2.0	2.5	2.5	7.0
Total (out of 55)								
Environment					32.6			
Social					23.2			
Economic					35.0			
Government					38.0			
Academic					33.1			
Other					30.0			

Note: Light grey represents the highest scoring indicator by sector; dark grey the lowest; numbers in **bold** are below the threshold value of 50 per cent.

Commentary on the Results

Ninety respondents participated in the survey, with a few more respondents from the South. REDD+ received a relatively high ‘pass’, but not a ‘credit’. The mechanism did pass all principles and criteria across North and Southern respondents however, with Southern respondents providing consistently higher ratings. Resources was again the weakest indicator, with Northern respondents providing a much lower rating than their Southern counterparts (1.6 cf. 2.8). Interestingly, the indicator ratings provided by Northern respondents were more dynamic than those from the South, and included the highest rated indicator (inclusiveness). With the exception of resources, Southern participants rated REDD+ governance indicators within the ‘high’ band, with little differentiation. For the South, accountability was the highest performing indicator.

Government provided the highest total score, followed by economic, academic and environmental (following the CDM). The mechanism received a low ‘pass’ from the ‘other’ sector, but was again awarded a ‘fail’ from the social sector. These results were replicated at the criterion level. The lowest rated indicator was again resources, provided by the economic sector. Resources also received a ‘fail’ from the academic and the environmental sectors, and although the lowest indicator for government, it received a better rating (2.8). ‘Other’ identified behaviour change as the lowest indicator, while social respondents identified transparency. Inclusiveness was the highest performer across sectors, with the exception of ‘other’, which selected equality.

Commentary from Survey Respondents

Respondents provided a number of detailed observations regarding REDD+ governance. One Northern academic, also critical of CDM, was of the view that REDD+ ‘ignored carbon linkages’ as well, especially regarding biodiversity, but acknowledged that it was ‘harder to measure than even carbon’. Another academic from the South similarly believed that REDD+ had ‘little or no potential’ to address carbon issues. They went further to assert that it was ‘increasingly seen as a magic bullet promising much and delivering little anywhere’. One Southern government respondent was more positive, observing that the ‘root cause of deforestation and forest degradation is weak forest governance’ and was of the view that the initiative would ‘support the improvement of governance’.

In terms of its inclusiveness, one Southern environmental respondent thought that ‘REDD+ inclusiveness varies country to country’. However,

when it was ‘initiated by the collaboration of civil society and NGOs’ at the ‘local level’ it could be more inclusive. But despite this, it was still not ‘fully aligned to social and environmental safeguards’. A Southern academic was of the view that REDD+ ‘does not meet needs of communities and rural people and in fact may make them worse off’. In commenting on equality, this respondent also questioned its capacity to ‘assist the rural poor’, a view that was shared by one ‘other’ Southern respondent. For them, the ‘real ground level people’ were ‘less participants’, due to the prevalence of ‘elite tapping and government control’. One Southern academic discussed the mechanism’s methods for reaching agreement. They thought that it ‘may not lead to as many emission reductions as initially were sought, but again, decisions influence policies and behaviour. Even the prospect of decisions affects policies and behaviour’. The main drawback with this approach was that it took ‘too much time to come to agreement’. Basing their experience on REDD+, a Northern government respondent simply commented: ‘current climate change agreements are not working’. Regarding dispute settlement, the Southern academic (quoted immediately above) thought that it needed to be recognised that ‘dispute settlement should be at different scales. Internationally, disputes are managed but not settled (at least, not yet)’, but they did think that at the ‘project level some advancement has been achieved’ by REDD+.

Finally, one environmental respondent from the South was unsure whether REDD+ would solve the problem of deforestation. As a mechanism, it had the capability, but ‘real payment is not practiced’. As it was a new initiative, local communities also had ‘high expectations’. If REDD+ could not gain ‘market access’ it would encounter the same problems face by other initiatives. It needed to be designed in alignment with the ‘local context’ and have ‘flexible standards’ for monitoring, reporting and verification.

ANALYSIS AND CONCLUSIONS

The present scope of CDM projects has been challenged with respect to consistency and governance in developing countries. The fundamental issue among many regulatory aspects is instrumental to achieving pro-poor growth. A genuine but unresolved question of transparency in regulatory instruments has been challenging the developing world. Extreme corruption in these countries is one of the major elements that are preventing good governance. Legal uniformity of regulatory instruments is another issue to be addressed as this has created many loopholes

in the economic use of resources, and increases corruption. The decentralisation of power to the local community is another urgent step that needs to be put in place in developing countries. Most of the decisions in CDM projects in developing communities are top down, leaving less chance for local strategy formulation, and local experience and capacity development.

A set of globally accepted CDM guidelines with identified processing and implementation times for both international and local approvals are urgently required, as challenges experienced by private investors are diluting interest. This then could also offer opportunities for private companies to move towards using better technology and achieve better operational performance and GHG reduction. A smooth inflow of investment and technology is possible if CDM projects can link their objectives with rural poverty alleviation. Such a 'win-win' strategy should be aimed at rural communities, and could be designed to accelerate agricultural growth in the rain-fed regions of developing countries. It would represent a genuine effort in improving farming technology that could also improve the availability of energy and other infrastructural facilities, as well as generate new non-farm employment that supplements the agricultural income.

In sum, there is an urgent need for an efficient CDM mechanism that would improve incentives for SD and OP. To achieve consistency in policy development, two-track CDM approaches as referred to in Torvanger et al. (2013: 473) could break the political logjam and facilitate the inclusion of SD benefits and OP benefits. Likewise, in developed countries, this mechanism could reduce the uncertainty of whether real emissions reductions have actually been achieved. The role of financial institutions could also be promoted with this approach. Reducing institutional and administrative constraints may lower the transaction costs that are currently resulting in slow and constrained market innovation. Institutional regulatory mechanisms could be developed on the basis of social experience and local knowledge, not merely economic rationalism. In this way, the overall goals of CDM can be achieved by using the carbon market as a catalyst for change and addressing market failures. Efficient mechanism for delivering finance through CDM projects can then be obtained in order to reduce the persisting poverty in developing countries.

The major scope of global REDD – preparing local communities to actively participate in national REDD+ – has been challenged by non-uniform sets of social actors and weak governance in developing countries. This raises the question of how efficiently the delivery of benefits has been achieved with systematic regulation. The fundamental

issue among many regulatory aspects is the instrumental efficiency to deliver the benefits to achieve pro-poor growth. Therefore, a lack of legal uniformity has created many gaps in the economic use of resources, and has increased corruption. The situation is being worsened by the political instability in developing countries. To overcome this problem, power decentralisation to the local community is another urgent step that needs to be put in place.

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