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**THE CLIMATE CHANGE –
DEVELOPMENT NEXUS AND TRIPARTITE PARTNERSHIPS**

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THE CLIMATE CHANGE – DEVELOPMENT NEXUS AND TRIPARTITE PARTNERSHIPS

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Abstract

In view of the very limited number of tripartite partnerships for climate change in general, and those focused on development (developing countries) in particular, as shown in an earlier position paper (Kolk & Pinkse, 2010), it would seem useful to take a step back and consider the linkages between climate and development in more detail. This paper starts by doing that. It includes a brief discussion of linkages and trade-offs between the two issues and the crucial distinction between climate change adaptation and climate change mitigation. Subsequently, it presents the results of an empirical exploration of a number of illustrative partnerships in what seems to be an emergent phenomenon. Implications will be given for follow-up research on climate change and development partnerships.

The climate development-nexus: synergies and trade-offs

The linkages between climate change and sustainable development are widely recognized and the content and approach to policy in both areas has converged over the past years (Beg et al., 2003; Eriksen & O'Brien, 2007; Michaelowa & Michaelowa, 2007; Swart, Robinson & Cohen, 2003). As sustainable development can be understood as 'attempts to combine concerns with the environment and socio-economic issues' (Hopwood, Mellor & O'Brien, 2005, p. 40), the linkages with climate change are obvious. This issue, when regarded in the context of developing countries, combines environmental concerns with social equity and the economic issue of poverty. Accordingly, climate change is related to a large number of other environmental and socio-economic issues; these include biodiversity, deforestation, rural electrification, desertification, resource availability (e.g. water), income generation capacity, security, and health. These linkages can, however result in a negative interaction between climate and development. For example, climate change can cause severe droughts that would lead to an increased shortage of water resources, which, in turn, might intensify conflicts and create security problems in developing countries (Eriksen et al., 2007; Swart, Robinson & Cohen, 2003). However, there is also potential for positive interaction. Developing countries tend to be more vulnerable to climate change as their economies often depend on agriculture, which is highly susceptible to weather conditions, and they lack the means to cope with variable and quickly changing weather conditions. Raising the level of development could reduce this vulnerability (Eriksen and O'Brien, 2007; Tol, 2005). It is not surprising then, that calls have been made to deal with both issues simultaneously and arrive at an integrated policy (Beg et al., 2003; Swart, Robinson & Cohen, 2003).

Although there might be important synergies in addressing climate change and development at the same time, there is no guarantee that these synergies would materialize in all cases (Eriksen & O'Brien, 2007). In addition to this, certain trade-offs between the two issues might appear (Michaelowa & Michaelowa, 2007). Table 1 provides an overview of some of the most noteworthy trade-offs in this context. One source of trade-offs in the climate-development nexus is that advocates of one issue might tend to see the other issue as a way of furthering their own main goals. In other words, even though there are linkages, there is also considerable tension between, on the one hand, preventing climate change and eradicating poverty on the other. Related to this is the conflict about which of these two issues is considered as the overarching goal in which the other is embedded.

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For example, the Millennium Development Goals launched at the 2002 WSSD have been an important force for further integrating environmental issues like climate change in the development debate (Klein, Schipper & Dessai, 2005; Michaelowa & Michaelowa, 2007). This process of integration, known as 'mainstreaming', means that climate change has become an integral part of development policy (Eriksen et al., 2007; Klein, Schipper & Dessai, 2005). However, the risk of mainstreaming is that it often redirects funds to projects that appear to have an optimal overlap between both issues, but sometimes do not have the highest potential impact on either the development issue such as on poverty reduction or universal primary education (Michaelowa & Michaelowa, 2007) or on climate change issues like mitigation or adaptation (Klein, Schipper & Dessai, 2005).

In climate change negotiations, the term 'development dividend' is employed to refer to climate policies that have clear development benefits (Forsyth, 2007). The development dividend is mainly debated in the context of the Clean Development Mechanism. CDM was set up as part of the Kyoto Protocol to allow countries with a binding target to carry out emissions reduction projects in developing countries in order to help them meet their target. Here too, trade-offs have emerged. The goal of the CDM is to achieve emissions reductions in developing countries while enhancing technology transfer from industrialized to developing countries and contributing to sustainable development (Lecocq & Ambrosi, 2007; Streck, 2004). However, the CDM works as a market mechanism and participants have predominantly focused on achieving efficiency gains and capturing economic value from reducing emissions. As a consequence, the main outcome of the CDM has been projects that achieve low-cost emissions reductions rather than sustainable development benefits. This is often due to the fact that contributions to sustainable development are often not valued the same as emissions reductions that create additional tradable credits (Olsen, 2007; Sterk & Wittneben, 2006). Most CDM projects have taken place in emerging economies with stronger institutions like China and India, where the risk that CDM credit delivery would fail were deemed lower than in poorer developing countries in sub-Saharan Africa (Lecocq & Ambrosi, 2007; Michaelowa & Michaelowa, 2007).

This brings to bear two other trade-offs: efficiency versus effectiveness and short-term versus long-term objectives. The efficiency/effectiveness trade-off is reflected in the frequent incompatibilities between achieving low-cost emissions reductions and reaching broader sustainable development benefits. While the underlying rationality of an efficiency orientation is fairly instrumental in the sense that emissions reductions should also contribute to profits, at the root of an effectiveness orientation lies a sustainability rationality valuing long-term social and environmental objectives (van

Tulder et al., 2009). The short-term/long-term trade-off is more complex in this context, because both climate change prevention and poverty eradication are in essence long-term objectives. The difference though is that most climate change measures will only materialize in the long term and thus involve a pure case of achieving intergenerational equity (at least those aimed at mitigation, see below for an explanation). Poverty eradication, on the other hand, has long-term objectives as well, but in addition involves intragenerational equity and outcomes of measures in this direction can already be expected to surface in the short to medium term. Therefore, in ranking social issues, it has been argued that dealing with poverty should be prioritized at the expense of climate change (Lomborg, 2004), although this has been criticized heavily. Moreover, research on issue prioritization among European CEOs has shown the complete opposite result, as in 2007 they considered global warming the most urgent social issue and far more urgent than poverty (Kaptein et al., 2007).

Questions can therefore be raised as to whether the integration of the climate change and the development agendas has indeed been fruitful. The climate-development nexus takes on a different meaning when a clear distinction is made between climate change mitigation and adaptation (Burton et al., 2002; Klein, Schipper & Desai, 2005); an important divide that has come to the fore in climate policy over the past decade, particularly in a developing-country context.

Addressing climate change: mitigation and adaptation

The United Nations Framework Convention on Climate Change established at the United Nations Conference on Environment and Development in Rio de Janeiro in 1992 and the 1997 Kyoto Protocol together still form the foundation of international climate policy. Both international treaties contained two basic options for climate policy, mitigation and adaptation, which continue to be central to the current debate in relation to the successor to the Kyoto Protocol.

Mitigation comprises all human activities to reduce or stabilize greenhouse gas emissions to prevent (further) climate change. Over the years, national and international policy makers have predominantly focused on this option (Burton et al., 2002). However, since the publication of the Intergovernmental Panel on Climate Change's (IPCC) Third Assessment Report in 2001, adaptation has gained more recognition as a valid policy option. The Third Assessment Report stated that some of the impacts of climate change are inevitable and made a case for minimizing the magnitude of these impacts through adaptation (Burton et al., 2002; Klein, Schipper & Dessai, 2005). In this context, adaptation denotes 'any adjustment that takes place in natural or human systems in response to actual or expected impacts of climate change, aimed at moderating harm or exploiting beneficial opportunities' (Klein, Schipper & Dessai, 2005, p. 580). Adaptation is particularly relevant to developing countries because, even though climate change is a global problem, these countries are relatively more vulnerable to its (potential) consequences. Not only does their geographical location often result in their being harder hit than industrialized countries, their lower level of development and lack of funds also makes adaptation more challenging (Beg, et al., 2002; IPCC, 2007; Shalizi & Lecocq, 2010; Swart, Robinson & Cohen, 2003; Tol, 2005). Although mitigation and adaptation are two distinctive policy options for climate change, both are linked to sustainable development, but in different ways. Mitigation and adaptation are markedly different because their impact refers to different temporal and spatial scales, and involves different actors in the process of policy formulation and implementation (Klein, Schipper & Dessai, 2005). Their distinctiveness has consequences for how they are linked to sustainable development and in particular to the different issues within the broad realm of sustainable development. The effects of mitigation are only noticeable in the long run but they operate on a global scale. Because of this, a broad range of public and private actors from industrialized nations and an increasing number from developing countries are involved in mitigation (Klein, Schipper & Dessai, 2005). The CDM has given actors from industrialized countries a financial incentive to invest in mitigation options in developing countries, such as avoiding deforestation, transferring energy-efficient technologies and investing in renewables (Beg et al., 2003). The potential impact of mitigation on development is therefore linked to issues such as biodiversity, deforestation, and rural electrification.

In contrast to this, the effects of adaptation are visible sooner, but they essentially operate on a local level. In other words, adaptation is a local collective good that relates to issues such as land use, agriculture, urban planning, water supply, coastal vulnerability, desertification, health and ecosystem integrity. It is the local nature of these issues that makes it more difficult to engage actors from industrialized countries, because the responsibility for them to take action is not that obvious (Klein, Schipper & Dessai, 2005; Swart, Robinson & Cohen, 2005). Moreover, the adaptation debate tends to focus on systems and countries, and less on the individual, private actors that function within them, even though the IPCC also refers to private adaptation. The role played by businesses deserves attention here. Not only are companies affected by climate change but they are where most adaptation activities (have to) take place or originate from (Berkhout, Hertin & Gann, 2006). It should be noted, however, that there is no common definition of what adaptation means for business, and both theoretical and empirical evidence in this area is very limited (Nitkin, Foster & Medalye, 2009). There are examples of activities undertaken by companies active in insurance, agriculture and food, and oil and gas that are directed at adapting to the physical impact of climate change like drought and extreme weather conditions (Sussman

& Freed, 2008). However the vast majority of companies merely adjust their business processes in response to climate change as a matter of societal concern and/or regulatory constraints.

Corporate response to climate change has, so far, merely involved mitigation, with most efforts directed at the reduction of GHGs, particularly carbon dioxide. The last few years has seen a great increase in the implementation of a set of business practices like emissions inventories, emissions reduction targets and carbon accounting for tracking and disclosing climate change-related information. However, due to a lack of standardization of these practices and the many options that companies have in choosing an approach that best fits their situation, it is unclear to what extent this leads to reliable and comparable information about the corporate impact on climate change (Kolk, Levy & Pinkse, 2008; Pinkse & Kolk, 2009). It therefore remains a challenge to assess whether business is making any progress in cutting emissions over and above what would have been achieved under a business-as-usual scenario, and thus to what extent mitigation has actually taken place.

The complexity of the adaptation-mitigation distinction in a business setting originates not only from its relative novelty and the fact that the adaptation concept has mostly been used in an IPCC, policy-focused setting, but also from the tendency to frame adaptation as adjusting company processes and strategies in reaction to government mitigation policies. Moreover, companies also use notions like risk mitigation, which may then be presented as the way in which they can engage in climate change adaptation (Nitkin, Foster & Medalye, 2009; Sussman & Freed, 2008). Notwithstanding the precise definition of adaptation in a climate context, what the mitigation-adaptation dichotomy shows is that climate change has become more multi-faceted as a business issue and no longer only involves emissions reduction. Given its novelty as a business issue, the type of companies currently integrating adaptation can be viewed as fairly pro-active, since there are no clear external pressures necessitating companies to take this issue into account. In contrast, while mitigation also used to be an issue only picked up by more pro-active companies, more recently it has become somewhat of a hygiene factor due to the various regulations that have been implemented across the globe (Pinkse & Kolk, 2009) and thus also relevant for more reactive companies. Interestingly, though, while the benefits of mitigation are mainly a public good and accrue to society at large, adaptation can also create private goods, e.g. a lower crop failure benefits the agro-food sector, and as such might become of interest for the purely self-interested, inactive companies. In other words, adaptation might be less an issue of corporate social responsibility than mitigation, because for some sectors it is more strongly aligned with an instrumental rationality of maintaining profitability (cf. Van Tulder et al., 2009). So, lack of conceptual clarity, different perceptions and framing, and the overlap between the concepts prove problematic. This paper does not aim to settle this debate, as it has a different objective, and we will therefore not go into it further. However, it should be noted that for our specific purpose, that is, to explore corporate involvement in tripartite partnerships for climate change in developing countries, we will adopt an empirical approach to adaptation and mitigation by examining how both policy approaches are being targeted by partnerships.

Exploring tripartite climate partnerships in developing countries

In this section we explore how both climate policy approaches – mitigation and adaptation – are being targeted by tripartite partnerships in developing countries. The complexity of dealing with climate change in a developing country, characterized by regulatory, participation and resource gaps (Beg et al., 2003; Biermann et al., 2007; Schäferhoff, Campe & Kaan, 2009), has raised expectations as to the contribution of tripartite partnerships as a form of governance which can harness the strengths of different parties (Andonova, Betsill & Bulkeley, 2009; Forsyth, 2007). Although partnerships have been studied before, insight on how corporate involvement in a tripartite setting might help address climate policy in developing countries has been limited, and represents an emerging and novel field. This complicates assessments, as it is unclear to what extent existing frameworks can be applied. We therefore, followed an inductive approach and searched for tripartite partnerships for adaptation and mitigation in developing countries.

To this end, we first performed an extensive web search, analyzed responses to the Carbon Disclosure Project and carried out a literature review to identify a broad set of climate-development partnerships. We then consulted the Transnational Climate Change Governance network, on which information about several initiatives had been collected and exchanged. This initial exploration led to the conclusion that climate-development partnerships are still in their infancy. We could only identify 23 partnerships that touch upon climate and development simultaneously (see Table 2 for an overview), with just seven addressing synergies between the two issues as well as having a clear role for business. Therefore, rather than being able to present a comprehensive set of climate-development partnerships, we will focus on a limited number of seven illustrative examples which best reflect the complexities of dealing with the linkages between climate change and development and indicate how corporate involvement can be taken into account in the future study of this emerging phenomenon.

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To analyze the selected tripartite partnerships for climate and development, we consider the main aim of the partnership and how it addresses issue linkages; the mode of involvement and contribution of each stakeholder; the (potential) impact and geographical coverage; and the (potential) pitfalls of this form of climate-development governance. Although tripartite partnerships for climate and development are discussed in general, the analysis focuses on the role of companies, because the existing literature on climate partnerships falls short on this perspective. We will start with mitigation as this has received most attention over the years, and then move to partnerships oriented towards adaptation.

Partnerships for mitigation in developing countries

The mitigation partnerships that we found tended to be linked to the global carbon market (either the regulatory or voluntary carbon market), which creates a financial incentive for participation. This can be attributed to the fact that the Clean Development Mechanism has emerged as the main instrument for addressing climate mitigation activities in developing countries (Newell, Jenner & Baker, 2009). Interestingly, CDM itself has sometimes also been regarded as a partnership, because governments, firms, and NGOs frequently cooperate in realizing CDM projects (Streck, 2004). However, it is debatable whether it can truly be labeled as such because CDM rules were negotiated between states embedded in the international governmental setting (Bäckstrand, 2008). Moreover, as noted above, CDM projects often fail to reach the poorest countries, and doubts have been raised about its ability to contribute to sustainable development (Michaelowa & Michaelowa, 2007; Olsen, 2007; Sterk & Wittneben, 2006). Nevertheless, CDM has been pivotal in attracting corporate interest for climate mitigation in developing countries, because it enables firms to cost-efficiently comply with climate regulation in their home countries and, more importantly, provides a financial incentive (Lecocq & Ambrosi, 2007; Streck, 2004). This profit motive, while being an important driver, might also create trade-offs in sacrificing the development impact for the sake of more carbon credits.

Renewable Energy and Energy Efficiency Partnership (REEEP)

Another frequently mentioned mitigation partnerships is the Renewable Energy and Energy Efficiency Partnership (REEEP). The UK government initiated REEEP at the WSSD in Johannesburg in 2002 as a Type II partnership and it has expanded since then. It is comprised of over 246 partners and had around €16 million in resources in 2009. The mission of REEEP is threefold: to increase investments in renewable energy, to promote energy efficiency measures, and to provide the poor with access to sustainable energy services (REEEP, 2009). It strives to establish supportive policies and regulations for renewables and energy efficiency, and to remove market and institutional barriers. Moreover, REEEP tries to create 'business and finance solutions' to overcome financial barriers and lack of investment in these technologies, particularly in developing countries. Not surprisingly, the partnership leverages funding from CDM for the implementation of its projects and advocates using the CDM Gold Standard (REEEP, 2009).

REEEP has been characterized as 'public governance of private finance' (Newell, Jenner & Baker, 2009), as national governments from OECD countries (most notably the UK and Norway) are the dominant stakeholders and provide most of the funding (REEEP, 2009). Nevertheless, REEEP has a broad representation of stakeholders including governments, business, NGOs, international organizations and academia. The governance structure enhances the inclusiveness of local stakeholders and the decision-making process is bottom-up (REEEP, 2009). The projects undertaken by REEEP mainly reflect their goal to transform markets by removing regulatory and financial obstacles, whereas the issues of climate mitigation and poverty alleviation are considered secondary at best (Pattberg et al., 2008). REEEP uses public funds to stimulate business to participate in the investment of renewables and energy efficiency. Although more than 100 of their projects have a global coverage, their priority seems to lie in large emerging economies like China, India and Brazil, as it is here that market transformation has the highest potential. Still, REEEP seems to have been quite successful in achieving the goals it set itself and has grown to an unprecedented size and is much larger than all other partnerships in this area (Pattberg et al., 2008).

Energy Poverty Action (EPA)

While the goals and potential impact of REEEP are quite broadly defined, another mitigation partnership, Energy Poverty Action (EPA), is more focused in its aim, as it specifically targets rural electrification. The EPA partnership was initiated at the World Economic Forum in 2005 by three firms, British Columbia Hydro (Canada), Eskom (South Africa) and Vattenfall

(Sweden). The World Energy Council (WEC) and the Development Bank of Southern Africa (DBSA) joined as partners in 2007 and the World Business Council for Sustainable Development (WBCSD) the following year. The main function of EPA is the implementation of rural energy services in developing countries, focusing on sub-Saharan Africa. However, until now the partnership has only set up two pilot projects in Lesotho and Democratic Republic of Congo with the aid of the Asian Development Bank and the World Bank. The main mode of involvement of the corporate partners is to leverage business expertise and best practices, instead of funding (EPA, 2009). However, what the potential impact of this partnership will be on climate mitigation or rural electrification is still rather unclear as the information provided is minimal.

Partnership on Sustainable Low Carbon Transport (SloCat)

A mitigation partnership of a different kind is the Partnership on Sustainable Low Carbon Transport (SloCat), which was launched in September 2009. It addresses the carbon impact of transportation and focuses on developing countries, which it considers has received little attention in the international debate recently. SloCat strives to integrate the issue in multilateral negotiations on climate change, in regional, national and local transport policies and aims to put it on the agenda of international development agencies as well. Although this partnership is still quite new, it already has a broad membership of 50 organizations from different sectors (SloCat, 2009). These are mostly policy and research institutes but there is minimal corporate participation. SloCat appears to function as a coordinating body to help partners in their activities in low-carbon transport. One of its members, the World Resources Institute (WRI) Center for Sustainable Transport EMBARQ, has already successfully implemented sustainable transport solutions in several cities and has formed tripartite partnerships. In other words, SloCat can be seen as a 'nested partnership', made up of other entities sometimes organized as a partnership. This phenomenon is seen more often. Other examples include the Energy Poverty Action and Energy for All, the latter of which has the REEEP and WBCSD as member.

Creating mitigation-adaptation linkages in partnerships

The examples of mitigation partnerships presented above all entail mitigation by reducing energy-related emissions by providing access to renewable energy, energy efficiency and sustainable transport solutions. Recently, however, the debate on mitigation through land use, land use change and forestry (LULUCF) received new impetus when efforts to reduce emissions from tropical deforestation and forest degradation (REDD) were included in the 2007 Bali Action Plan. This shift in debate is due to the fact that emissions from land use change make up a significant portion of global emissions and REDD is considered a way of including developing countries in a post-Kyoto framework (Evidente, Logan-Hines & Goers, 2009). Moreover, it is here that the linkages between climate change and sustainable development are most apparent, because land use and forestry are linked to issues like biodiversity and desertification (Swart, Robinson & Cohen, 2003), and could have an impact on the adaptive capacity of developing countries (Fankhauser et al., 2008; Nelson, 2009).

For years, the debate on carbon sequestration from afforestation, reforestation and the prevention of deforestation has been a contentious one (Bäckstrand & Lövbrand, 2006; Boyd, Corbera & Estrada, 2008). While national governments were allowed to use carbon 'sinks' to comply with the Kyoto targets, the inclusion in CDM has taken much longer. It was finally included in 2003. However, CDM only allowed for afforestation and reforestation projects, leaving out deforestation and forest degradation, and limits were put on the number and longevity of credits from CDM sinks projects (Boyd, Corbera & Estrada, 2008). Moreover, the European Union decided to exclude CDM sinks credits from its emissions trading scheme. Due to all the complexities and the delay in approving afforestation and reforestation projects, the number of CDM projects in this area has been extremely low, comprising only 6 out of the total of 2148 registered CDM projects in 2009 (Evidente, Logan-Hines & Goers, 2009). In other words, there have been huge regulatory and resource gaps in dealing with mitigation through carbon sequestration in developing countries, in part due to a lack of financial incentive to engage in such projects. Not surprisingly, tripartite partnerships have emerged to fill these gaps.

BioCarbon Fund

Over the past years, the World Bank has been most active in this regard and launched the BioCarbon Fund in 2004, which focused on investing in projects that sequester or conserve carbon. Since 2004, the BioCarbon Fund has financed 29 projects, most of which are related to afforestation and reforestation (with the aim to create CDM credits) and a few to pilot REDD with the aim of developing methodologies (World Bank, 2008). Besides creating carbon sinks, the projects financed by this fund also enhance adaptation. Many projects reduce soil erosion and create watershed and biodiversity protection and stimulate local employment. Nevertheless, it must be noted that one of the main aims of the fund is to extend the (regulatory and voluntary) carbon market to the poorest areas in the world and advocate the inclusion of forestry projects in the post-Kyoto carbon market.

Although the main function of the BioCarbon Fund is to provide financial resources for carbon sinks, it is a tripartite partnership because it draws on OECD country governments and (mostly Japanese) companies (e.g. Tokyo Electric Power, Sumitomo Chemical and Suntory) for financial contributions and uses local NGOs to implement the projects. In terms of geographical coverage, the BioCarbon Fund has an even distribution across developing countries, with sub-Saharan Africa comprising 32% of received funding (World Bank, 2008). Nevertheless, the World Bank has been heavily criticized for its governance structure, which hardly leaves room for developing-country involvement (Newell, Jenner & Baker, 2009), the way it finances energy projects in the developing world (WWF, 2008), and its approach to carbon finance (Redman, 2008). This includes the fact that the World Bank not only funds clean energy projects, but also continues to subsidize fossil-fuel-based industries and controversial hydro-electric projects, which raises doubts about the net benefit of the carbon finance activities (WWF, 2008). Moreover, the carbon funds that specifically aim at a sustainable development impact, i.e. the BioCarbon Fund and Community Development Carbon Fund, only comprise 10% of all carbon finance activities, and, as a consequence, there are reservations about the priority given to poverty alleviation in the World Bank's carbon finance. Finally, the World Bank has been blamed for its top-down approach that does not take into account the interests of local communities and indigenous people (Redman, 2008). These points of criticism have persistently been raised about this organization over the past decades (e.g. Kolk, 1996).

Noel Kempff Climate Action Project (NKCAP)

This criticism of the lack of local stakeholder interest is not merely directed at the World Bank, it is also a point of criticism about carbon mitigation through forestry in general (Bäckstrand & Lövbrand, 2006). A case in point is one of the earliest partnerships in this field and one that has been very well documented, viz. the Noel Kempff Climate Action Project (NKCAP). NKCAP was one of the first large-scale REDD projects. It was set up in 1996 in the context of Activities Implemented Jointly (AIJ). It was a pilot program for CDM, with two NGOs, the Nature Conservancy and Fundación Amigos de la Naturaleza (FAN Bolivia), as projects developers and three companies – American Electric Power, BP America and PacificCorp – and the Bolivian government as investors. In this project, existing logging concessions in the Bolivian tropical forest were indemnified to prevent timber harvesting and slash-and-burn agriculture, and thus reduce carbon emissions. From the onset it had the multiple goals of reducing emissions, enhancing biodiversity, decreasing soil erosion, and creating sustainable benefits for local communities (Virgilio, 2009). NKCAP was therefore regarded as a project for developing synergies in the implementation of mitigation and adaptation policies, and also between climate change measures and other global environmental agreements (Klein, Schipper & Dessai, 2005).

Nevertheless, views on whether this project has been successful in creating these synergies have been mixed at best. On the one hand, NKCAP has been seen as a showcase example for the inclusion of forestry projects in the global carbon market to help develop know-how and enable learning-by-doing (May et al., 2004). On the other hand, even though the project was verified independently, NKCAP has received much criticism for not including sufficient local stakeholders, its carbon accounting and the way in which it treated so-called 'leakage'. It has been said to exemplify the top-down nature of such forestry projects where problems of engaging with local indigenous populations result from insufficient local representation and poor communication between project developers and local communities (May et al., 2004). A recent Greenpeace report argued that the project has not yet delivered the emissions reduction forecast at its inception although emissions were reduced by as much as 90% from 1997 to 2009. The project was also accused of not dealing with the problem of leakage sufficiently and for not preventing indemnified loggers from moving to a forest adjacent to the one protected (Densham et al., 2009). Interestingly, Greenpeace's assertions were countered by The Nature Conservancy which stated that 'the Noel Kempff Climate Action Project was a pioneer project that tested and refined the science of forest carbon accounting and monitoring' and that 'projects like these are critical stepping stones that can help inform development of national-level programs and build up the capacity and expertise that countries will need to protect their forests on a national scale' (Hoekstra, 2009). Nevertheless, the contested nature of forestry projects does challenge whether 'maximizing synergies' between climate change and sustainable development goals is realistic, as many trade-offs can be seen. (Bäckstrand & Lövbrand, 2006).

Partnerships for adaptation in developing countries

We observed a considerable number of tripartite partnerships involving corporate partners aimed at mitigation; however the situation was quite different for adaptation, which, only now, seems to be emerging. This was not surprising given that adaptation only became an integral part of global climate policy after the publication of the IPCC Third Assessment Report in 2001. Moreover, adaptation is multi-faceted and is open to different interpretations. (Nitkin, Foster & Medalye, 2009). On the face of it, there appear to be few financial incentives for business to become involved. (Klein, Schipper & Dessai, 2005). A brief overview of the limited number of adaptation partnerships we identified shows that they are unequivocally linked to poverty issues. This reflects the view that adaptation is both a development and environmental issue (Eriksen & O'Brien, 2007).

Several tripartite partnerships for adaptation have materialized recently. These can be divided into three types, based on the way they embed resilience to climate change in their policy: (1) physical and institutional infrastructure investments (e.g. coastal protection, flood defense and disaster relief), (2) insurance schemes, and (3) research and development (e.g. health and agricultural research) (Fankhauser et al., 2008). The third type, – R&D partnerships – is particularly difficult to identify, as these projects are not necessarily linked to the issue of climate change adaptation explicitly. One example of this is the International Maize and Wheat Improvement Center (CIMMYT) which participates in several partnerships for improving agricultural methods. These include the Drought Tolerant Maize for Africa Initiative that is instrumental for adaptation strategies. So are the partnerships for medical research that tackle tropical diseases that appear to spread more widely with climate change (Fankhauser et al., 2008). We also found a number of examples of tripartite partnerships specifically designed for furthering climate change adaptation for the other two types of partnerships viz. infrastructural investments and insurance schemes.

Asian Cities Climate Change Resilience Network (ACCCRN)

One adaptation partnership that concentrates on physical and institutional infrastructure investments is the Asian Cities Climate Change Resilience Network (ACCCRN). ACCCRN was set up by the Rockefeller Foundation at the start of 2009 and works with several consulting firms, NGOs and local governments to develop climate resilience strategies for cities in Vietnam, Indonesia, India and Thailand. It is involved in projects dealing with the direct effects of climate change like those concentrating on the vulnerability of ecosystems that provide cities with food and water, as well as those that deal with the indirect effects of city infrastructures like sewage and transportation that are not resilient to these direct effects (ISET, 2009). At present, ACCCRN is still formulating the resilience strategies for pilot projects in 10 cities, but it intends to start implementing them and replicating this process in more cities in this region as soon as possible. In partnerships like these, internationally operating for-profit consultant companies and non-profit groups coordinate and facilitate the projects, and work with local-level governmental bodies and NGOs who are seen as experts. Key stakeholders also play an important role (ISET, 2009). ACCCRN concentrates on reducing the vulnerability of urban areas to climate change by creating local networks and sharing knowledge. The main question is whether it will, over time, achieve its objective of moving beyond policy formulation towards implementing concrete measures.

Munich Climate Insurance Initiative (MCII)

Another recent form of corporate involvement in adaptation partnerships can be found in insurance schemes to help developing countries cope with climate change risks (Burton & Dickinson, 2009; Nelson, 2009). The Munich Climate Insurance Initiative (MCII) is an example of this type of partnership. It was set up by German re-insurer Munich Re in 2005, and is hosted by the United Nations University Institute for Environment and Human Security (UNU-EHS). This body now comprises insurers, climate research institutes, NGOs and international organizations. MCII has predominantly advocated the inclusion of insurance mechanisms in a post-Kyoto framework. It submitted proposals at several UNFCCC conferences to emphasize that insurance activities form part of a broader adaptation strategy and that only short-term disaster events should be insured, not long-term phenomena like sea-level rise and desertification. Another of their proposals was that climate risk management mechanisms should include prevention measures to reduce climate risk as well as insurance (MCII, 2009).

In essence, proposals like these public-private insurance schemes have multiple objectives (Burton & Dickinson, 2009). They claim to be a mechanism to balance the global injustice caused by industrialized countries and from which developing countries suffer most. They promote adaptation by stimulating risk reduction and increase the scope of the insurance market to developing countries. These partnerships help fill the resource gap as public actors are unlikely to come up with sufficient funding for adaptation without corporate involvement and also help to create new insurance products (e.g. micro-insurance) and open up new markets. This aspect is subject to much criticism (Burton & Dickinson, 2009). Like ACCCRN, MCII also hopes to move beyond advocacy and become involved in the implementation of concrete policy measures. Both examples illustrate the relative novelty of climate change adaptation in the policy debate, where discussions about the appropriate mechanisms to deal with this problem are just materializing.

Conclusions

Our exploration into this issue has shown that the number of tripartite partnerships for climate change in developing countries is still fairly limited. Most of them focus on mitigation and target aspects like rural electrification, sustainable transport and the transfer of best practices in energy efficiency. Some mitigation projects in the area of carbon sequestration through afforestation, reforestation and the prevention of deforestation also benefit adaptation, although not always explicitly. Identifying climate adaptation partnerships in which companies were involved was much more difficult. They appear to be just emerging as part of the gradual shift in policy attention towards adaptation. The protracted nature of the international negotiations on a successor to the Kyoto Protocol creates an uncertainty that affects the CDM and complicates their materialization and further development. Moreover, the financial incentives for corporate engagement in adaptation projects appear very limited in contrast to the incentives for mitigation projects where there is a clear link to the global carbon market and a more generic desire to reduce emissions and increase energy efficiency can be seen.

Nevertheless, this position paper merely provided an overview of the current state of climate-development partnerships. From a dynamic perspective, it can be expected that the role of partnerships in this area will increase substantially in coming years because poverty has become one of the main issues at the yearly intergovernmental climate meetings where a successor of the Kyoto protocol is being negotiated. Then again, it is still rather unclear what the role and impact of partnerships will be in coming years. To assess how these partnerships will evolve, the partnership evaluation model can be used (Van Tulder, 2010). This model assesses the partnerships in terms of their input, throughput, output, outcome, which represent different stages in the process of partnership formation, implementation and dynamism. Besides the model differentiates between efficiency and effectiveness as two important evaluative dimensions.

In terms of input, a focus on mitigation for further study on the climate-development nexus would seem most appropriate as it is in this context that corporate interests may merge best with those of public and nonprofit partners, (cf. REEEP's focus on improving access to electricity in remote areas). The current stalemate in the climate negotiations also means that those areas where most activities can be found are likely to be in fairly 'straightforward' projects on energy efficiency, renewable energy and, as is particularly relevant for developing countries, (rural) electrification. While the more visible global partnerships we examined often aimed to link up with CDM funding, this appeared less for smaller-scale initiatives. This meant that we could study (renewable) energy-related partnerships without being hampered by difficulties at intergovernmental level. It has been suggested that interest in realizing progress 'on the ground' is greater due to frustration about climate policy development post-Copenhagen.

Proposition 1: Due to the stalemate in intergovernmental climate negotiations, companies will remain most active in climate-development partnerships for mitigation.

Nevertheless, in terms of throughput, that is, the dynamism and implementation of partnerships, the findings show that most companies are fairly low profile in the partnerships. They can be found in the list of members, but when looking at specific projects and implementation it is clear that the (non) governmental partners are most involved. The corollary is that these large companies support partnerships in developing countries from their corporate headquarters in industrialized countries, with no visible inclusion of local subsidiaries/firms. When it comes to specific projects on the ground, this is likely to yield a different picture. The extent to which the provision of funding (e.g. by corporate partners, international organizations, or industrialized donor countries) shapes the type of participation and the inclusion of local partners, deserves further attention. This also applies to the business models adopted for specific partnerships in the context of (renewable) energy and rural electrification, as the approach followed in industrialized countries may not be that appropriate in a different context. The findings suggest that companies are particularly interested when partnerships serve the broader purpose of developing business models for operating in developing countries they are not yet familiar with.

Proposition 2: The role of companies in climate-development partnerships will increase when these partnerships enable them to create or learn from business models that will improve their market position in growth markets in developing countries.

Regarding the output and outcome dimensions of climate-development partnerships. The success of energy-related partnerships can be directly related to the considerable attention paid to the energy-poverty link in achieving the Millennium Development Goals (e.g. ARE, n.d.; World Bank, 2002). According to a World Bank discussion paper (2006, p. 1), "the MDGs cannot be met without higher quality and larger quantity of energy services than current approaches provide". In this context, energy is seen as being directly linked to increased income and productivity, and indirectly to improved health, education, quality of life (of women and children in particular) and human development more generally. It is also instrumental in reducing negative environmental impact, vulnerability and isolation. Obviously, if energy

poverty were to be addressed via the traditional fossil-fuel based approach (an aspect mentioned in connection with the World Bank), the implications would be very different and much less positive than if it were done via renewable energy routes (ARE, n.d.).

Proposition 3: Energy companies that have as main aim to improve their market position in growth markets in developing countries will not refrain from pushing for the inclusion of fossil-fuel based solutions in climate-development partnerships.

Hence, the main objective of the funders of these energy-related partnerships (corporate partners, international organizations, or industrialized donor countries) need not necessarily be the climate-development nexus. The empirical evidence of the initiatives we studied in this paper seems to suggest that companies' participation relates to public relations and/or to potentially tapping new markets. Linkages with other sustainable development issues like poverty alleviation, biodiversity, security or health appear to be merely secondary co-benefits. For example, most forestry projects primarily aspire to extend the carbon market to developing countries, while mitigation partnerships such as REEEP and EPA try to open up new markets for renewable energy and energy efficiency practices. Partnerships like these face a potential trade-off between maximizing market potential and reputation benefits on the one hand and the broader climate/development objectives on the other. As things stand there is no indication that there will be a fundamental shift in balance regarding this trade-off, and climate-development partnerships will thus most likely continue to put up with considerable tension between creating maximum output in terms of achieving objectives most optimal for the corporate participants and maximizing societal impact. An underlying factor partly explaining this tension is that participants in partnerships feel considerable pressure to come up with tangible deliverables and once engaged in the partnerships seem to focus much more on efficiency than on effectiveness.

Proposition 4: A corporate focus in climate-development partnerships on creating tangible deliverables and efficiency will stand in the way of providing societal outcomes with a high degree of effectiveness.

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Tables

Table 1 Climate-development trade-offs

Prevent climate change (environmental impact)	← →	Eradicate poverty (socio-economic impact)
Integrate climate in development (mainstreaming)	← →	Integrate development in climate (development dividend)
Low-cost emissions reductions (efficiency)	← →	Sustainable development benefits (effectiveness)
Intergenerational equity (long-term)	← →	Intragenerational equity (short-term)
Mitigation (liability)	← →	Adaptation (responsibility)

Table 2 Climate-development Partnerships

	Partnership	Starting year	Main partners	Goal
Mitigation	Renewable Energy and Energy Efficiency Partnership	2002	OECD country governments, i.e. UK/Norway with wide variety of private firms and international organizations	Increase investments in renewable energy, energy efficiency measures, and access to sustainable energy services for the poor
	Energy Poverty Action	2005	British Columbia Hydro, Eskom, Vattenfall, WEC, DBSA & WBCSD	Implementation of rural energy services in developing countries
	Partnership on Sustainable Low Carbon Transport	2009	UN-DESA; Asian/Inter American/African Development Bank, Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ)	Carbon impact of transportation with a focus on developing countries
	UN Partnership for Clean Fuels and Vehicles	2002	Wide variety of governments, international organizations, private firms & NGOs	Assist developing countries in reducing vehicular air pollution through the promotion of lead-free, low sulphur fuels and cleaner vehicle standards and technologies
	World Economic Forum Davos Climate Alliance	2004	PricewaterhouseCoopers, SGS, Swisscom, Swiss International Airlines, Swiss RE & World Economic Forum	Rise awareness about climate change among decision makers and motivate private sector to approach climate change in a constructive way
	Methane to Markets Partnership	2004	Wide variety of governments, private firms & NGOs	Accelerate deployment of methane emission-reducing technologies and practices, stimulate economic growth and energy security in Partner countries, improve local environmental quality, and lead the fight against global warming
	Clinton Climate Initiative	2006	Different partners depending on project; examples include cities, real estate firms, and NGOs	Create and advance solutions to the core issues driving climate change
	HSBC Climate Partnerships	2007	HSBC, the Climate Group, Earthwatch Institute, Smithsonia Tropical Research Institute (STRI) & WWF	Five-year program to inspire action on climate change, focusing on various issues, such as cities, forests and rivers and waterways
	Asia-Pacific Partnership on Climate Change	2005	Australia, Canada, China, India, Japan, Korea & the United States represented by government agencies and private sector firms	Cooperate in an effort to address increased energy needs and the associated issues of air pollution, energy security, and climate change.
	Global Gas Flaring Reduction Partnership	2002	Governments of Algeria, Angola, Chad, Ecuador, Norway & US; World Bank; Sonatrach, BP, Chevron, Shell, Total	Reduce flaring of natural gas as a result of drilling for oil

	Collaborative Labelling and Compliance Standards Programme	1999	Sponsoring, country, implementing partners & affiliates, including governments, firms environmental groups	Developing standards and labels for energy efficiency for appliances, equipment and lighting
	e8 Network	1992	Member companies -American Electric Power, Duke Energy, EDF, Eletrobas, Enel, Hydro Quebec, Rushydro, Kansai, RWE & Tepco – with other utilities, international organizations and NGOs	Promote sustainable energy development in developing countries and co-operate on electricity sector issues
	World Economic Forum SlimCity initiative	2008	Arup, CH2M Hill, Cisco, Duke Energy, Fluor Corporation, General Electric, Hertz, Siemens & GDF Suez with public sector officials of cities	Increase energy and resource efficiency as well as reduce emissions at the urban level
	Energy for all	2008	Key stakeholders from business, finance, government, and NGOs; including Asian Development Bank, e8, REEEP, ReEx Capital Asia, SNV, WBCSD, TERI, and others	Provide energy access to 100 million people in Asia and the Pacific Region by 2015
Mitigation-Adaptation	BioCarbon Fund	2004	World bank, ECD country governments, Tokyo Electric Power, Sumitomo Chemical & Suntory	Invest in projects that sequester or conserve carbon, enhance adaptation and create local employment
	Noel Kempff climate action project	1996	Nature Conservancy, FAN Bolivia, BP, American Electric Power, America, PacificCorp & Bolivian government	Reduce emissions, enhance biodiversity, decrease soil erosion, and create sustainable benefits for local communities
	Climate, Community and Biodiversity Alliance	2005	International NGOs and research institutes, e.g. Care, The Nature Conservancy, Rainforest Alliance, Center for Environmental Leadership in Business of Conservation international, Wildlife Conservation Society	Develop voluntary standards to help design and identify land management activities that simultaneously minimize climate change, support sustainable development and conserve biodiversity
	Community Development Carbon Fund	2003	Government of Austria, Brussels Canada, Italy, Luxembourg, Netherlands, Spain, Wallonia; BASF, Daiwa Securities SMBC Principal Investments, EdP, Endesa, Fuji Photo Film Co. Ltd., Göteborg Energi AB, Hidroeléctrica del Cantábrico, IBRD as Trustee of the Danish Carbon Fund, Idemitsu Kosan, KfW, Nippon Oil Corporation, Okinawa Electric Power Co., Rautaruukki, Gas Natural, Statkraft Carbon Invest AS, Statoil ASA, Swiss Re	Provide carbon finance to projects in the poorer areas of the developing world
Adaptation	The Drought Tolerant Maize for Africa Initiative	2008	International Maize and Wheat Improvement Center, Swiss Agency for Development and Cooperation (SDC), German Federal Ministry for Economic Cooperation and Development (BMZ), International Fund for Agricultural Development (IFAD), United States Agency for International Development (USAID), Eiselen Foundation	Expand efforts to reach a greater number of poor farmers in sub-Saharan Africa with maize varieties that have increased levels of drought tolerance

	Asian Cities Climate Change Resilience Network	2009	Rockefeller Foundation, Institute for Social Environmental Transition, Arup, ProVention, & ICLEI	Formulate and implement resilience strategies for cities in developing countries
	Munich Climate Insurance Initiative	2005	Munich RE & UNU-EHS	Develop insurance-related solutions to help manage the impacts of climate change
	Center for Health and The Global Environment	1996	American Medical Student Association, Birch Aquarium at Scripps, Blue Ocean Institute, Boston Public Health Commission, Chef's Collaborative. Diversitas, Harvard Green Campus Initiative, Harvard University Center for the Environment, IUCN, Longwood campus Energy Reduction Program, New England Aquarium, http://www.neaq.org/index.flash4.html New England Science Center Collaborative, South Carolina Aquarium, Stone Barns Center for Food & Agriculture, Students for Environmental Awareness in Medicine, United Nations Convention on Biological Diversity, UNDP, UNEP, WHO	Promote a wider understanding of the human health consequences of global environmental change