



The private sector and climate change adaptation

International Finance Corporation investments under the Pilot Program for Climate Resilience

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The views expressed in this Working Paper are those of the author and do not necessarily represent those of the publishers. This Working Paper describes preliminary research and is published to elicit comments and to further debate. The research for this paper was conducted in the first six months of 2012 and reflects the evolution of projects at that time.

Executive summary

Developed country parties to the United Nations Framework Convention on Climate Change (UNFCCC) have committed to mobilising US\$100 billion per year by 2020 as climate change finance. Some have advocated that a significant portion of this amount should come from private finance, which could be leveraged via public sources. Meanwhile, the Green Climate Fund set up by the UNFCCC in December 2011 is considering the modalities, scale and scope of a proposed private sector facility.

Proposals for greater private sector involvement can broadly be divided into three categories: stimulation of autonomous climate proofing by private sector entities; co-financing of infrastructure development; and development of adaptation products and services. Donors often cite multilateral development bank (MDBs) mechanisms as examples of how public finance could be used to 'leverage' private finance for climate projects, with the World Bank's Climate Investment Funds (CIFs) as one example. MDBs involved in the implementation of the CIFs have celebrated their innovative approach in targeting private sector finance and argue that there is greater potential for private sector participation in the financing and delivery of projects.

The Pilot Program for Climate Resilience (PPCR) is a CIFs programme which is designed to promote the integration of climate risk and resilience into core development planning and implementation. It is the only dedicated adaptation fund that includes arrangements for the use of public finance for private sector investments. Its focus on 'transformational change' was seen as a shift away from technical solutions linked to specific projected climatic risks. However, critics argue that it involves a heavily donor-driven process that creates incentives 'to "climate-proof" existing investments, rather than find new ways to develop climate resilience'¹. It also fails to challenge "the basic trajectory of economic growth embodied in standard development practice".² The PPCR's results frameworks and the influence of donors and the MDBs are cited as obstacles to a more transformative approach.

This paper contributes to these debates by looking more closely at PPCR projects implemented under the World Bank's private sector lending arm, the International Finance Corporation (IFC). The initial objectives of the study were, firstly, to map current PPCR projects involving private sector actors and, secondly, to assess them in relation to: (a) criticisms about their failure to take a transformative approach, and (b) three issues identified as crucial by existing analysis on the use of private sector actors to finance or deliver development projects. These three issues are: rationale/additionality; developmental and environmental integrity impact; and country and citizen ownership.

The mapping found that only 9.2 per cent of all PPCR financing involved private sector actors, including projects to promote the use of climate-resilient seeds and building materials and weather index-linked insurance.³ A further review of 14 projects from eight countries found that there did not appear to be any projects that had yet moved to the implementation stage; it also found that there was no leveraging of additional finance from private sector entities for any of the projects. Given that creating markets for adaptation products and services is the largest category of projects in the PPCR pipeline, a more in-depth analysis of three projects within this category was subsequently carried out. These were two PPCR projects to build markets for climate-resilient seeds from Bangladesh and Nepal, and one project to promote weather index-linked insurance products in Zambia.

At the time this research was undertaken, the PPCR private sector projects were only at the early design stage. This meant that the study was not able to address the critical questions as initially envisaged, namely their financial and development additionality and their developmental and environmental integrity impact. Therefore, these issues will merit further study as PPCR projects move from design to implementation stage.

What the research did reveal in relation to the third critical issue (country and citizen ownership) is that, in the cases of Bangladesh and Nepal, private sector projects under the PPCR appear to have

been largely driven and designed by the implementing agency, the IFC. The IFC appears to have actively promoted among government departments the idea that PPCR resources earmarked for interventions in the agricultural sector should be used to finance private sector delivery. In addition, in Nepal and Bangladesh and, to a certain extent, in Zambia, the process of selecting the *type* of interventions was largely IFC-driven through a process parallel to the main PPCR programme development and/or national adaptation strategies.

Projects were designed after consultations with private companies and without the participation of target communities, civil society organisations and other stakeholder groups with an interest in the successful outcome of the PPCR programme (such as farmers associations, cooperatives or consumer groups). The risk in this selective consultation process is that valuable local knowledge, expertise and discussion of a variety of different approaches were all disregarded. This could ultimately threaten the success of the projects.

However, in Zambia, there appears to have been much greater participation of target communities and civil society groups in decisions over resource allocation within the national PPCR process and, overall, greater country ownership. One notable aspect of the *Zambian Strategic Programme on Climate Resilience (SPCR)* is the fact that it was incorporated into the country's own *National Climate Change Programme (NCCP)*, aimed at integrating climate change planning and budgeting across ministries, departments and sectors. The NCCP also envisages a strong role for civil society, with representation on its governing council. This may have been one factor in ensuring that decisions on resource allocation for PPCR investments reflected national priorities.

Overall, the findings of this study highlight important questions concerning the design, implementation and operation of projects financed from public climate funds using private sector actors. In summary, the analysis suggests that the integration of private sector projects into national planning processes and strategies is crucial. Country and community ownership of the project design process is a key to achieving this, as are accountability mechanisms that allow stakeholders to have oversight, to enhance the efficiency and effectiveness of resource allocation. This learning should be fed into discussions about the development of the private sector facility of the Green Climate Fund.

List of acronyms

ADB	Asian Development Bank
AfDB	African Development Bank
AGF	High-level Advisory Group on Climate Change Financing
CIF	Climate Investments Fund
CTF	Clean Technology Fund
DFID	UK Department for International Development
EBRD	European Bank for Reconstruction and Development
FIP	Forest Investment Program
IBRD	International Bank for Reconstruction and Development
ICF	International Climate Fund (of UK)
IDA	International Development Association
IDB	Inter-American Development Bank
IDS	Institute of Development Studies
IFC	International Finance Corporation
IIED	International Institute for Environment and Development
GCF	Green Climate Fund
IFC	International Finance Corporation
LAPA	Local Adaptation Plan of Action
MDB	Multilateral development bank
NAPAs	National Adaptation Action Plans
OECD	Organisation for Economic Cooperation and Development
PPCR	Pilot Program for Climate Resilience
PPP	Public-Private Partnership
REDD+	Reducing Emissions from Deforestation and Forest Degradation
SCF	Strategic Climate Fund
SHF	Small-holder farmer
SREP	Scaling Up Renewable Energy Program in Low-Income Countries
SPCR	Strategic Program for Climate Resilience

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1. Introduction

Parties to the United Nations Framework Convention on Climate Change (UNFCCC) have committed to limit global warming to two degrees Celsius – although many see this ‘safe’ limit as too conservative to avoid catastrophic climate change. The costs of achieving such a reduction, combined with those of supporting developing countries’ adaptation to the effects of warming, will be extremely high.⁴ Developed countries, operating under the principle of common but differentiated responsibilities (CBDR) enshrined in the UNFCCC, have committed to mobilising US\$100 billion per year by 2020 for climate change action ‘from a wide variety of sources, public and private, bilateral and multilateral, including alternative sources’.⁵

However, to date, the timetable and modalities for fulfilling this commitment remain unclear. Some developed countries take the view that a portion of the finance – ranging from a significant portion of it to the majority of it – will come from private investment, which will be ‘leveraged’ by the use of public finance.⁶ At the same time, multilateral development banks (MDBs) as well as national development finance institutions are put forward as the key delivery channels for climate finance, partly due to their ability to develop and deploy instruments aimed at mobilising private investment.⁷

Reflecting the approach of other donor countries, the UK has explicitly stated that one aim of its International Climate Fund (ICF) will be to mobilise private investment.⁸ Most recently, this growing emphasis on the role of the private sector in climate finance has been reflected in deliberations over the design of the new Green Climate Fund (GCF), established at the UNFCCC in December 2011. Some developed country representatives on the Transitional Committee tasked with reaching agreement on the GCF governance proposed the idea of a specific facility aimed at channelling public finance to private sector actors.⁹ One prominent example is the submission made by Germany, co-authored by Deutsche Bank and Allianz, outlining a range of mechanisms for ‘leveraging’ private capital.¹⁰

One of the key questions that the GCF board will discuss is the modalities, scale and scope of its proposed private sector facility. The experience of development assistance to date has highlighted significant issues such as: how the financial or other additionality (such as development benefits) of private investment is defined and evaluated; the extent to which country and community ownership can be taken into account in private sector projects; how to ensure adequate monitoring and social and environmental safeguards; and how to evaluate the overall developmental and (in the case of climate finance) environmental integrity impacts of private sector projects.

Research aims

Learning the lessons from existing efforts to mobilise private investment for development assistance, as well as from the (more limited) experience of existing climate finance, is crucial to inform the shape and scope of any future international climate finance architecture, including for the GCF.

The impetus for this research was prompted by questions from civil society over the evidence upon which the UK and other governments have based their assumptions regarding the transformative role of the private sector in climate finance. Adaptation is generally considered a public good and an area of intervention unlikely to offer the levels of return to attract large-scale private investment. Nonetheless, there is growing interest from donors and private sector actors in opportunities for private sector engagement in adaptation (either in financing or project delivery), with public policy and investment creating ‘enabling’ frameworks for such engagement.

This paper aims to contribute to this ‘hot’ debate through a closer analysis of projects involving private sector actors funded by the Pilot Program for Climate Resilience (PPCR). The PPCR is one of the World Bank-managed Climate Investment Funds (CIFs) and the only dedicated adaptation fund that includes arrangements for the use of public finance for private sector investments. By April 2012, the UK had given 52 per cent of the US\$866 million adaptation finance allocated to the PPCR fund.¹¹

Overall, as is discussed in more detail below, the CIFs have a strong emphasis on 'leveraging' private sector investment, and are heralded by developed countries and the MDBs as innovative and successful examples of how to increase private sector investment in climate goods.¹² The International Finance Corporation (IFC), the World Bank's private sector arm, is an implementing agency of many PPCR programmes.

The main objective of the research was to assess current projects involving private sector actors under the PPCR in relation to three critical issues identified from the experience of using private sector actors either to finance or deliver development projects. These three issues are: rationale/additionality; developmental and environmental integrity impact; and country and citizen ownership. Through an analysis of individual country strategic plans initiated under the PPCR, this study aims to throw light on: the institutional processes and actors driving PPCR engagement with private sector actors; the types of projects selected; and, as far as possible, how decisions have been reached concerning the allocation of resources. The current discussion around engaging private sector actors in climate action raises a series of questions and concerns highlighted by the experience of the development sector to date. The three key areas of concern are:

Rationale and additionality: What criteria and rationale should be used for allocating climate finance to the private sector over the range of other actors? Is this being done according to national priorities and taking into account wider developmental impacts, and by evaluating which bodies and instruments are best placed to deliver such outcomes? What is meant by 'additionality'? Does this merely mean generating additional financing from the private sector? Or should it include other criteria such as providing technical expertise, building government capacity or improving development outcomes? How can financial additionality be measured and how possible is it to assess whether or not the project would have occurred without public subsidy? How are the different forms of additionality to be measured and their impacts evaluated?¹³

Development and environmental integrity impacts: The key rationale for mitigation projects is to protect environmental integrity. For adaptation projects, however, the emphasis is on not just supporting countries or communities affected by the impacts of changing weather patterns but also building long-term resilience that results in developmental gains, including through low-carbon development.¹⁴

To what extent are the impacts and outcomes of enhancing environmental integrity *and* producing positive developmental outcomes integrated into the design and implementation of private sector projects? How are they measured and monitored? Similarly, how should any trade-offs between environmental integrity and developmental gains be assessed and integrated into decision-making for project selection?

Ownership and accountability: Another key issue in debates over mobilisation and allocation of climate finance is the importance of country ownership of strategic planning (e.g. in the development of National Adaptation Programmes of Action or NAPAs), and the need for meaningful participation in individual project design and implementation by target communities, civil society and other affected actors.¹⁵ To what extent are national priorities integrated into the design and implementation of private sector-financed or -delivered projects? To what extent is the participation of affected communities and civil society groups included in the design, implementation and monitoring of projects?

It is important to highlight that the ability of this research to answer the questions above is limited by a number of constraints. Firstly, at the time of the research, the private sector adaptation projects were at an early stage of design – as were the majority of PPCR projects. In most cases, the IFC had created a proposal for a specific investment project and identified its aims and key stakeholders, but the details of the investment were still being designed. Therefore, it was not possible to assess what type of investments will be made, on what terms, the financial instruments to be used and the beneficiary company.

Secondly, it is difficult to access full and transparent data on any investments made through the CIFs.¹⁶ Funds are channelled through the implementing MDBs, which in turn disburse them to individual CIF projects within each recipient country. The available data shows how much has been disbursed to the relevant implementing MDB but, at the project level, information on financial instruments and terms of financing is not disclosed. Furthermore, the final terms for private sector projects financed through the CIFs are not publicly available, for reasons of 'confidentiality'. The CIFs' own governing committees have recognised this lack of transparency regarding financing through the CIFs as problematic, and measures are being put in place to increase the disclosure of data.¹⁷ In the meantime, it will be difficult to evaluate the investments made and to learn lessons for future climate finance arrangements through the GCF.

Finally, this study is desk-based so the impacts on the ground of the projects in question have not been assessed. This is also partly because many projects are at an early stage of development and had not yet reached implementation stage at the time of the research. Once design finishes and implementation commences, field research may become a viable option to assess impacts on the ground.

Methodology and structure

This work was carried out in the first half of 2012. It involved desk-based research of available PPCR documentation and semi-structured interviews. The documentation reviewed includes: PPCR programmes and fund design (including country investment plans); financing arrangements, investment criteria and operational guidelines; and operational assessments and other forms of evaluation. Relevant literature from other research bodies, NGOs, recipient country governments and the MDBs was also reviewed.¹⁸ Interviews were conducted with: IFC staff, primarily from within country programmes; with civil society organisations from PPCR recipient countries (involved with the PPCR process either through national consultation processes or as formal partners in PPCR projects); and with specialists from think-tanks and other research institutions who have experience with climate finance in the selected case study countries.

A mapping exercise of 17 private sector projects under the PPCR was carried out (see Annex 1). Three case studies were then selected for more intensive research. Projects aimed at building markets for services and products aimed at enhancing agricultural resilience formed the largest proportion of the total, comprising five of the 17 projects. Two of these projects were selected for more in-depth analysis, one each in Bangladesh and Nepal. The second most common investments were for weather index-linked insurance, primarily aimed at small farmers (three of the 17 projects). Hence the third case study selected was a weather insurance project in Zambia. At the time of the research, the projects had not yet involved private sector financial institutions.

The **next section** of this paper reviews the current policy proposals by donor governments, private sector entities and research institutions aimed at facilitating private sector involvement climate adaptation. The **third section** provides an overview of the CIFs, outlining the CIFs' emphasis on engaging the private sector and some of the important arising from this focus. The **fourth section** provides an institutional assessment of the PPCR, and its private sector investments. The **fifth section** reviews evidence from two case studies, one from Nepal and one from Bangladesh, involving private sector projects in the field of agricultural resilience under PPCR programmes. The **sixth section** reviews evidence from weather index-linked insurance projects in Zambia. The **conclusion and questions for further research section** summarise the findings of the current research and outlines questions for future analysis.

2. Private finance and adaptation

Developed countries have committed to provide US\$100 billion of climate finance per year by 2020 but many consider this insufficient to meet the needs for climate action. For adaptation alone, the World Bank's 2010 *World Development Report* estimated that between US\$75 and US\$100 billion a year will be needed, while mitigation costs will be US\$140 to US\$175 billion a year, with 'associated financing needs' totalling another US\$265 to US\$565 billion.¹⁹ The modalities and forms for reaching the US\$100 billion target remain unclear. Many developed countries now envisage significant flows coming from the private sector, particularly for mitigation.

The policy proposals and initiatives supported and proposed by bilateral donors, who are now facing serious budget constraints, and by MDBs, seeking to maintain their own role in future climate financing arrangements, increasingly involve specific financial instruments that use public finance to 'leverage' additional investment from the private sector.²⁰ Donors and MDBs advocate that the CIFs offer good examples of how this can happen.²¹ Meanwhile, the MDBs, along with national development finance institutions, are positioning themselves as both implementers of climate projects and, in the case of the IFC, mobilisers of private sector finance. This context is important as the new GCF will include a 'private sector facility' that seeks to mobilise large amounts of private investment.

To date, public debates around the role of private finance have focused largely on investment in mitigation activities. This is unsurprising, given that adaptation usually deals with protecting public goods and should be funded through public finance. According to the World Bank, 'many adaptation measures are public goods—for example, the protection of coastal zones (a local public good) and the provision of timely climate information (a national public good)'.²² In addition, most adaptation activities do not generate commercial rates of return for private sector actors. Indeed, the countries and communities most vulnerable to climate change face a double burden when it comes to attracting investment: they are both geographically located in areas with little private investment, and their livelihoods and resilience depend on economic sectors and services not deemed profitable.²³

A study of international investment patterns and climate adaptation by the Stockholm Environment Institute notes that not only is foreign direct investment (FDI) concentrated in a small number of middle-income countries, but it is also centred on specific sectors: 'Within poor countries [FDI] tends to concentrate around natural resource projects in the mining and petroleum sectors. International statistics show that sectors cited as adaptation priorities in the National Adaptation Programmes of Action (NAPAs) of least developed countries – particularly water, agriculture and health – struggle to attract the kind of capital which might boost local livelihoods or reduce vulnerability'.²⁴

This view is supported by a recent survey of international climate finance flows from public and private sources by the Climate Policy Initiative. The survey finds that, of the US\$97 million current climate finance flows, only five per cent are adaptation investments.²⁵ Of this, 100 per cent of the funds come from multilateral, bilateral, national or philanthropic bodies and none come from the private sector. However, this has not prevented some donors and private sector entities from increasingly promoting the role of private sector investment in adaptation in a number of studies.²⁶ These studies complement proposals from multilateral actors, including the World Bank and the High-level Advisory Group on Climate Change Financing (AGF) and research institutions.²⁷ Developed countries have also consistently advocated for a role for the private sector within the UNFCCC, and private sector representatives are included as active observers on the GCF board.

At the risk of oversimplification, policy proposals and initiatives that outline how the private sector can contribute to climate change adaptation and how public finance could be used to catalyse this contribution can be broadly divided into three categories:

1. Stimulating autonomous climate-proofing by private sector entities

It is vital that investment portfolios and companies' operations and supply chains reduce their exposure to climate risk. The challenge is for governments to incentivise private sector actors, from institutional investors and multinational corporations to small enterprises, to mainstream climate adaptation into normal business activity. This could be through economic incentives such as redirecting subsidies/taxes to support environmentally sustainable activities, regulation of planning and building codes, education and information provision, and through capacity building.²⁸

2. Co-financing of infrastructure development

The Organisation for Economic Cooperation and Development (OECD) has made a case for carefully designed public-private partnerships (PPPs) that lock in contractual responsibility for adaptation benefits. The OECD argues that, with the right incentive structures and potential returns, PPPs could attract investment from institutional investors. Adaptation would only be one part of overlapping policy goals in infrastructure development, with projects potentially aimed at mitigation, resource management and economic development.²⁹

3. Adaptation products and services

There is a growing 'adaptation marketplace', where companies are developing new markets for products and services for businesses and consumers. Insurance against climate risk has received the most attention in this area. Faced with the challenge of reaching the most vulnerable, new micro-insurance products are being created, often aimed at smallholder farmers in developing countries. These include: weather index-linked insurance; climate information services; agricultural services such as climate-resistant seed varieties; irrigation systems and pesticides; water treatment products, such as desalination/purification, and wastewater filtration and reuse; and climate-resilient building materials.

It is argued that the public sector can contribute to building markets for these products through funding research, development and demonstration, and through pilot projects to provide the knowledge and infrastructure to allow larger investments by private sector entities.³⁰ In addition, it can help to 'de-risk' investment in such products through instruments such as loan guarantees. The challenge is in ensuring that these products reach the most vulnerable and in catalysing the demand necessary to create sustainable markets. Larger financial institutions will, in most cases, not provide finance to small-scale farmers to switch to new seed varieties, for instance.³¹ In addition, the development of local financial intermediaries, such as micro-finance institutions, could be stimulated through public finance.³²

3. The Climate Investment Funds (CIFs)

The Climate Investment Funds consist of the Clean Technology Fund (CTF) and the Strategic Climate Fund (SCF) into which the PPCR is incorporated. The CIFs are administered by an independent secretariat housed at the World Bank. The Bank also acts as trustee for the CIFs. As of February 2013, 14 developed country donors had pledged US\$6.5 billion to the funds.³³ By the end of June 2012, US\$267 million had been disbursed for projects in developing countries. The CIFs are channelled and implemented via partnerships with the five MDBs.³⁴ CIF projects often integrate into and are co-financed by existing MDB in-country programmes.

The **Clean Technology Fund** aims to finance the scaled-up demonstration, deployment and transfer of clean technologies by using minimal levels of concessional financing to catalyse investment opportunities that will reduce emissions in the long term. The CTF focuses on financing projects in middle-income and fast-growing developing countries. The **Strategic Climate Fund** comprises three lines of programming: the Forest Investment Program (FIP), the Pilot Program for Climate Resilience (PPCR), and the Scaling Up Renewable Energy Program in Low-Income Countries (SREP).

The **FIP** is a financing instrument aimed at assisting countries to reach their goals under Reducing Emissions from Deforestation and Forest Degradation (REDD+). It anticipates additional benefits in areas such as biodiversity conservation and protection of the rights of indigenous people. **SREP** was approved in May 2009 and launched at the Copenhagen climate summit in December 2009. It aims to catalyse scaled-up investment in renewable energy markets in low-income countries by enabling government support for market creation and private sector implementation.

The **PPCR** aspires to demonstrate how climate risk and resilience can be integrated into core development planning and implementation:

‘PPCR aims to help countries transform to a climate-resilient development path, consistent with poverty reduction and sustainable development goals. In its nature as a pilot program and supporting learning-by-doing, PPCR implementation ultimately aims to result in an *increased application of knowledge on integration of climate resilience into development*.’³⁵

PPCR funding includes two types of investment: technical assistance and finance. The technical assistance is to support developing countries to integrate climate resilience into national and sectoral development plans, resulting in a Strategic Program for Climate Resilience (SPCR). The PPCR and SPCR are described in more detail in Section 4 below.

Private sector projects under the CIFs

The CIFs are routinely touted by donors and the MDBs as examples of how public climate finance can be used to ‘leverage’ effectively large amounts of private finance for climate projects. At the World Bank’s annual meetings in 2010, the then President Robert Zoellick said that the CIFs have been able to leverage US\$10 dollars for every dollar of donor money, and he claimed that 30 per cent of the leveraged US\$50–60 billion was from private capital.³⁶

However, claims of significant leverage figures have been questioned by many observers. There are four major issues here. The first are debates over leveraging methodologies. A related, crucial issue is what is counted as leverage: the crux of this issue is that, in many cases, leveraged funds counted as additional include co-financing from MDBs and development institutions. This can lead in turn to issues of ‘double counting’, with different organisations claiming to have leveraged each other.³⁷ A recent report by the Overseas Development Institute (ODI) on climate financing methodologies argues that, in the case of the CTF, ‘there is no difference in understanding between co-financing and leveraging’.³⁸ Mirroring ongoing debates about whether the IFC’s financial investments are additional or not,³⁹ the question is how to demonstrate the counterfactual – would the private sector investment have been made without the public finance?⁴⁰ Internal evaluations by the World Bank’s Independent

Evaluation Group suggest that genuine financial additionality is both difficult to measure and to achieve. Other research has also disputed claims of additionality in CIF projects in Turkey's energy sector.⁴¹

Third, there is the question of how to demonstrate that the leveraging has contributed to enhanced sustainable development outcomes or to climate change mitigation and adaptation, given that current methods of measuring and evaluating the additionality of private sector investments do not explicitly consider development or environmental integrity impacts.⁴² The best project is not necessarily the one with the most private investment, but the one that also demonstrates transformative impact; reviews by the IFC's own evaluation arm cast doubt over the extent to which this is measurable and achievable.⁴³ In another case, the World Development Movement challenged the developmental impacts of CTF wind energy projects in Mexico,⁴⁴ stating that while a project may result in emissions reductions, it will not necessarily have concomitant developmental or environmental benefits.⁴⁵

Finally, without more complete project data and greater disclosure, leverage is extremely difficult to measure and evaluate effectively. The World Resources Institute has noted that lack of transparency has been an ongoing issue in CTF projects, with inconsistency in whether the financial modalities, terms of engagement with the private sector, and terms of financing of projects are disclosed.⁴⁶ This lack of transparency 'has the effect of undermining the CIFs' stated objective of helping the international community learn about how to finance clean technology'.⁴⁷ This problem is compounded by the increasing use of financial intermediaries in the financing of development projects by the IFC, including under the CIFs, which also results in significant difficulties in linking the investments made to proven developmental and environmental impacts.⁴⁸

MDB promotion of private sector investments

In November 2011, a group of implementing MDBs (the African Development Bank or AfDB, the Asian Development Bank or ADB, the Inter American Development Bank or IDB, the International Finance Corporation or IFC, and the European Bank for Reconstruction and Development or EBRD) were tasked by the CIF governing committees with preparing two briefings reviewing the CIFs' private sector operations.⁴⁹ The briefings celebrate some of the successes and the CIFs' innovative approach in targeting private sector finance, and argue that there is more potential for private-sector participation in the financing and delivery of projects. Although under the CTF, one third of endorsed financing has been for private sector investments, under the SCF, funding of such investments has been significantly lower, with allocations ranging between five and 15 per cent.

Currently, PPCR resources are allocated to countries, after which the allocation of funds between public and private investments is decided through the production of a national investment plan (SPCR – see below). To ensure a higher allocation for the private sector, the MDBs propose introducing a requirement that national investment plans have a minimum private sector allocation which 'could be a flat minimum amount or a percentage of the total CIF funding allocation in the country'.⁵⁰ The MDBs note that, although the CIF governing committees 'expect' private sector engagement, 'there is no guarantee that countries will even consider allocating funding to direct private sector support let alone decide to do so'.⁵¹

The MDBs also argue that national focal points in recipient governments 'almost always work for public agencies' and are less familiar with 'private sector instruments, investment structures and associated needs for financing'. This can lead to 'an incentive structure for the programming of international climate financing that discourages investment in projects and programmes that engage the private sector directly through MDBs'.⁵² The MDBs acknowledge the fact that it is challenging for low-income countries to attract scarce public funds for their adaptation programmes and attribute their reluctance to allocate funds to the private sector to the perception that this means diverting funds away from the public sector. They also accept that countries are reluctant to seek loans due to their existing debt levels. 'A viewpoint has often been expressed that CIF fund allocation is a sort of "zero

sum game”, whereby use of funds for private sector projects amounts to a loss by the public sector... Governments have been open about not accepting even highly concessional loans for public projects because they did not want to add to their debt burdens.⁵³

Finally, the MDBs point out that their public sector arms already have strong relationships with recipient governments and can advise them from the start on potential public sector projects, whereas recipient government have weaker relationships with the MDBs’ private sector arms, which consequently are less able to influence national allocation decisions.

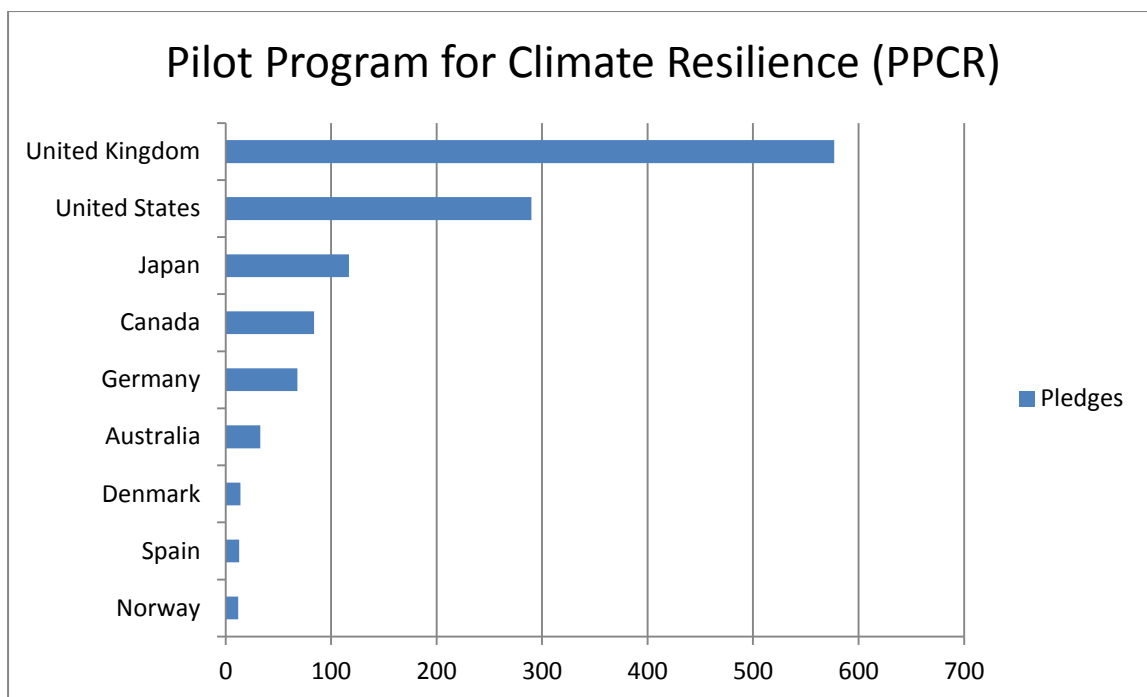
4. The Pilot Program for Climate Resilience (PPCR)

As outlined above, the PPCR is one of three programmes under the Strategic Climate Fund (SCF) housed at the World Bank. The PPCR was originally conceived of as the 'adaptation component' of the CIFs and was formally approved in 2008. Originally entitled the Adaptation Pilot Fund, it was renamed PPCR after criticisms that it would compete with the UNFCCC's Adaptation Fund. This also led the World Bank to frame the PPCR as 'complementary to existing sources of adaptation funding and supportive of the evolving operation of the Adaptation Fund'.⁵⁴ This tension reflects broader concerns raised by some developing countries and civil society groups that the CIFs are a creation of the MDBs, formed with only limited stakeholder consultation and functioning outside the UNFCCC.⁵⁵

Despite these concerns, the PPCR has received considerable donor support. As of April 2012, donors had pledged US\$1.21 billion to the fund, although only US\$807 million has been deposited. The UK is by far the largest donor to the PPCR, having pledged US\$577 million (see p. 17 for donor contributions to the PPCR). In 2009, nine countries (Bangladesh, Bolivia, Cambodia, Mozambique, Nepal, Niger, Tajikistan, Yemen and Zambia) and two regional groupings (six Caribbean island countries and three Pacific island countries) were invited to participate in the PPCR.

PPCR programming involves two distinct phases. In the first phase, the relevant MDBs, alongside representatives from recipient governments, lead a wide-ranging process of liaising with key stakeholders in order to build a 'common vision of climate resilience'. This process results in a **Strategic Program for Climate Resilience (SPCR)**, which outlines the range of capacity building, policy reforms and investments to be undertaken by the PPCR in the country. The second phase is the implementation of the SPCR. Financing of up to US\$60 million in grants and US\$50 million in loans can be provided for implementation. PPCR finance supports technical assistance programmes, as well as public and private investments, and is channelled through a range of financial modalities, including budgetary contributions to governments and investments in private sector entities. It should be noted that the use of loans for adaptation, however, has proved controversial among some civil society groups.⁵⁶

Some observers originally saw the PPCR's focus on 'transformational change' as a significant shift in adaptation financing, away from technical solutions linked to specific projected climatic conditions and impacts to an approach aimed at addressing broader factors that determine vulnerability to climate change by embedding adaptation in development.⁵⁷ However, others argued that the PPCR process was heavily donor-driven, with the emphasis on rolling out programmes quickly to demonstrate lessons learnt for future climate-financing mechanisms, with the result that the PPCR has created incentives 'to "climate-proof" existing investments, rather than find new ways to develop climate resilience'.⁵⁸ Another criticism is that 'PPCR funds can be legitimately channelled to existing development programmes in an attempt to manage any negative climate impacts on donor investments without challenging the basic trajectory of economic growth embodied in standard development practice'.⁵⁹



All figures are in USD million. Source: <http://www.climatefundsupdate.org/listing/pilot-program-for-climate-resilience>

Key concern: the results framework

The results frameworks used for PPCR projects offer insights into the drivers of project selection, in terms of the outcomes that incentivise implementing agencies and other partners, and how this could influence the potential adaptation impacts of an investment. The International Institute for Environment and Development (IIED) has analysed the results frameworks of the Adaptation Fund and the PPCR as examples of current practice of monitoring and evaluation frameworks for adaptation. IIED's main concern is that most adaptation results frameworks measure adaptation to *current* climate conditions, thereby incentivising results that do not address incremental changes in conditions, nor promote transformational projects that seek radical changes in livelihood and economic systems in response to longer-term changes in climate.⁶⁰

Given that changes in climate unfold over long time-scales, an integrated approach to adaptation should integrate projections for climatic change into short- and long-term development planning. UK NGOs Tearfund and CAFOD have also recognised that most adaptation projects suffer from short-termism. 'Plans that are designed to increase resilience against uncertainty should be reviewed regularly against annual, decadal and centennial climate change projections as these "distant and uncertain projections" will, by their very nature, change as time passes.'⁶¹ This means there is a need to be able to measure not just standard developmental indicators, such as numbers of people reached, but also to track their changing vulnerability over time.⁶² IIED finds that while the PPCR framework acknowledges the challenge of ensuring activities are organised according to different time-scales, it does not propose a means to address this.

A further concern is that in the PPCR framework, vulnerability assessments 'are referenced... as among the activities that should be pursued to indicate that climate resilience is integrated into development planning and practice'.⁶³ However, 'vulnerability indicators do not appear to be included explicitly under project-level indicators'.⁶⁴ In contrast, the 'integrated approach' to adaptation finance proposed by UK NGOs CAFOD and Tearfund 'means that adaptation should be harmonised "horizontally" across sectors, and linked "vertically" between hierarchical levels of administration, and should include the needs of vulnerable communities at the local level'.⁶⁵

Key concern: the influence of MDB and donor priorities

The PPCR must be understood within the context of broader critiques of the CIFs relating to the role of MDBs as implementing agencies and the priorities of donors in determining how and where aid funds flow. The CIFs have a strong emphasis on country ownership, with all programmes appointing 'focal points' in relevant ministries, and with programming guidelines emphasising a collaborative approach between governments and the MDBs. However, it has been argued that, in practice, the role of the MDBs as implementing agencies, combined with the lack of capacity or expertise in many recipient countries, has often meant that the MDBs have led the design, development and implementation of the programme.⁶⁶ Furthermore, CIF projects often complement or strengthen existing MDB programmes in countries, creating tensions between country ownership and MDB priorities.⁶⁷

The CIFs emphasise that the design of programmes should be a broad-based collaborative project between various stakeholders, 'from cross-sectoral government departments, non-government actors, including civil society groups and highly affected communities, and the private sector'.⁶⁸ Recent research by CAFOD and Tearfund looks at whether UK adaptation finance in Bangladesh, Nepal and Niger is supporting an integrated approach to adaptation planning (as defined by five basic principles or 'building blocks').⁶⁹ It argues that the PPCR, according to its aims, should support such an approach, which can be summarised as: building horizontal integration between Ministries, integrating adaptive strategies into poverty reduction strategies to avoid duplication by development agencies, and including mechanisms for civil society and affected community participation.⁷⁰

However, there has been criticism that the 'top-down' nature of the PPCR's design and implementation has impeded community ownership and participation. To date, internal evaluations of the CIFs, civil society studies and complaints from those in recipient countries show that the CIFs are struggling to adequately include perspectives from affected communities and other civic actors.⁷¹ As the Bretton Woods Project and others have argued, provisions in design documents pertaining to participation 'remain guidelines' and 'do not formally recognise or guarantee a place for affected communities within the local and national decision making structures of CIF projects... Participatory processes have remained ad-hoc and many have been marked by complaints of a limited depth of engagement'.⁷² In a study of Mozambique, the UK-based Institute of Development Studies (IDS) argues that local sources of knowledge and community initiatives have been largely ignored, and that the engagement 'generally focuses on the role of such participation in promoting consent and buy-in to a predefined programme'.⁷³

Recent research from CAFOD and Tearfund confirms many of the concerns raised above⁷⁴ and finds that, while UK bilateral finance has generally contributed to an integrated response in the three case study countries (Bangladesh, Nepal and Niger) by supporting adaptation plans through a coordinated approach across ministries, UK finance channelled via the PPCR has had less positive results. It also found that country officials felt frustrated by the apparent dominance of MDBs in shaping PPCR programmes, often putting their own priorities above national plans. 'Some developing countries may be starting to regret their engagement with the PPCR, as they find that national authorities are not able to shape PPCR projects and programmes or align them with national adaptation strategies and priorities'.⁷⁵ In addition, an over-emphasis on short-term, rapid results by donors and implementing MDBs has also meant that PPCR programmes in the three countries are often not integrated into national plans. The report argues that 'the expiry date hanging over the PPCR and other CIFs may in this sense have acted as a perverse incentive for short-termism. The MDBs are keen to demonstrate their effectiveness as implementing entities in comparison with other mechanisms so as to develop a strong case for their maximum involvement in implementing any future funding mechanism, such as the GCF'.⁷⁶

Donor emphasis on private sector operations has also been prominent at the PPCR sub-committee, the governing body of the fund. According to civil society observers, when SPCRs have been

presented at the sub-committee meetings, many developed countries have referred to the need for countries to demonstrate engagement with the private sector or adequately justify why there is not more private sector engagement in the SPCR.⁷⁷ Similarly one of the objectives of an internal UK Department for International Development (DFID) 'business case' for UK financing of the CIFs is to 'incentivise and leverage public *and private sector* finance at scale'.⁷⁸

The PPCR and the private sector

Strengthening the role of the private sector in adaptation programming is not a stated aim of the PPCR. The PPCR is able to support two types of investment in pursuit of its objectives:

- a) funding for technical assistance to enable developing countries to build upon existing national work to integrate climate resilience into national or sectoral development plans, strategies and financing
- b) additional financial resources to help fund a program of public *and private sector investments* identified in national or sectoral development plans or strategies addressing climate resilience.⁷⁹

As (b) suggests, PPCR funds can be directed towards private sector actors. However, in the early stages of the PPCR's formulation, a specific focus on directing funds to private sector investments was absent. The PPCR sub-committee appointed an 'expert group' to advise on the selection of potential PPCR projects. The Terms of Reference for the expert group made no mention of favouring private sector projects,⁸⁰ and participants have indicated that, at that stage of the PPCR's design, private sector operations were not a focus.⁸¹

Nevertheless, an early indicator of the power of the MDBs to influence decisions on PPCR implementation was evident when they elicited changes in the selection of recipient countries, despite the original recommendations of the expert group having closely followed the agreed selection criteria.⁸² Guidelines were then developed for PPCR programming and for the processes and actions to be taken by the MDBs and recipient country representatives when designing PPCR operations. As noted earlier, phase one of the PPCR involves widespread consultation and analysis with the aim of designing an SPCR, which is implemented in phase two. Actions in phase one can broadly be summarised as follows: firstly, building on existing assessments to identify climate risks to specific sectors in-country, and prioritising specific sectors for adaptation interventions; secondly, identifying relevant institutions for building climate resilience in-country; thirdly, embarking on a wide-ranging consultation process; and, finally, identifying the range of PPCR interventions that will take place across each sector.⁸³

One of the criteria for selection is that country recipients must have MDB operations in place, or be in discussion with MDBs about operations. This is because the CIFs use the MDBs as funding channels, and programmes begin with and are initially led by MDBs because this is perceived by donors to reduce fiduciary risk. Each country has a variety of MDBs as implementing agencies under the PPCR. For example, Zambia's programme is implemented by the World Bank, the AfDB and the IFC. Although the criteria are unclear, it appears that the MDBs with the most active programmes in relevant sectors in each country usually design and implement the PPCR programme.

However, the sequence for developing a PPCR programme reveals tensions between selecting priority areas for investment based on vulnerability and recipient country priorities, and projects that complement existing operations and priorities of MDB programmes in-country. Research by Tearfund and CAFOD illustrates how the selection of projects was skewed towards choosing existing MDB projects in order to achieve rapid short-term results.⁸⁴ Similarly, according to IDS research on the PPCR in Mozambique, priority areas 'had been chosen primarily because they were the locations of ongoing investments by the MDBs... It is hard to see any evidence of "country ownership" in this selection.'⁸⁵ There is also an incentive for the MDBs to show results, which could lead to the selection

of 'low-hanging fruit' when it comes to adaptation actions. The reality of the need to show results to donors, combined with a lack of capacity at the national level, can also mean that the MDBs become leaders of the PPCR process by default.

Lastly, it is inevitable that where the IFC is an implementing agency for PPCR projects, there will be a *de facto* drive towards private sector involvement in delivering a country's SPCR. It should thus be assessed whether, and in what ways, the IFC's mandate to engage with private sector actors supports or undermines the development and implementation of any particular SPCR and whether its activities are consistent with national priorities.

Private sector investments under the PPCR

By December 2011, US\$63 million of the US\$684 million of funding approved under the PPCR had been allocated to private sector projects, a total of 9.2 per cent of all allocated financing.⁸⁶ This figure, disclosed by the CIF administrative unit, is not disaggregated to show how much of this amount is for private sector activities and how much is for public sector interventions with a private sector delivery partner. However a June 2011 learning brief published by the CIF administrative unit states that, under the PPCR, 'engagement with the private sector has thus far been limited'.⁸⁷

There is no explicit PPCR objective to seek finance from the private sector or for PPCR activities to be delivered through private sector actors. However, PPCR programming documents stipulate that, when considering the selection of investments, MDBs and country partners should promote private sector-led activities to enhance national climate resilience. The SPCR should 'identify non-government interventions that need to be addressed in order to adapt to climate change (e.g. the provision of finance to allow private sector stakeholders, such as small businesses, to adopt new technologies or make necessary investments)'.⁸⁸ In addition:

'Public sector interventions may be needed to manage uncertainties, to catalyze the private sector to adapt, and to guide new investments... Once investment needs are identified, financing and incentives may be needed to enable private sector operators to undertake necessary investments.'⁸⁹

Examples of illustrative investments include 'concessional financing, to attract private sector investments that may not deliver the required rates of return on their own, but where blending highly concessional loans with conventional financing to the private sector can help buy-down the additional costs and risks of private sector investments that would bring significant contribution to increasing national climate resilience'.⁹⁰

There is also a range of different financial instruments available to the MDBs to finance private sector entities under the PPCR, as documented in the design documents.⁹¹ If the investment will generate public benefits beyond those to the private sector entity, grants can be provided. The PPCR can also offer loans, as well as guarantees and risk-sharing products. According to its programming documentation, these financial modalities are:

- a) Minimum concessionality – working on an individual basis with each client, MDBs will determine the minimum amount of concessional finance needed to reduce the barriers to increased investment by the client in a particular good or service
- b) Crowding in – through the use of concessional resources, the MDBs will 'crowd in' private sector investment and through careful pricing avoid displacing private sector activity
- c) Leverage – the MDBs will catalyse additional financing from the private sector for projects and programmes
- d) Sustainability – PPCR programmes will aim to maximise the probability of long-term financial sustainability once PPCR funds are no longer available.⁹²

What kind of private sector activities are currently being funded under the PPCR?

This paper reviewed SPCRs from eight countries: Bangladesh, Bolivia, Cambodia, Mozambique, Nepal, Niger, Tajikistan and Zambia,⁹³ in order to identify what type of private sector projects are being supported under the PPCR, and what level of financing has been requested. Fourteen funded projects were identified (see Annex 1) which aim to involve or finance private sector actors in SPCRs. At the time of this research, all the projects were in the design stage and had not yet moved to the implementation stage. There was no leveraging of additional finance from private sector entities for the investments.

Broadly speaking, the projects can be divided into three main categories:

1. **Stimulating autonomous ‘climate proofing’ by private sector entities.** There are a number of projects, often part of wider, public sector technical assistance projects for policy reform and generally implemented by the public sector arms of the MDBs, which aim to increase awareness of climate change risks and encourage adaptation action by private sector actors. However, there are also some IFC projects that include technical assistance projects for public and private sector clients. There are also projects run by the public sector arms of the MDBs seeking to improve infrastructure or other public goods in a way that will stimulate climate adaptation actions by the private sector.
2. **Co-financing of infrastructure development.** Two projects, in Nepal and Tajikistan, are aimed at increasing investment in climate-proofing hydropower infrastructure. The Tajikistan project is aimed at developing best practice models for future private sector investment, but will not involve co-financing by the private sector. The Nepal project aims to use PPCR resources to invest directly in privately operated hydropower infrastructure.
3. **Creating markets for adaptation products and services.** This is the largest group of private sector projects, nine of 14 projects surveyed, all implemented by the IFC. They largely involve agriculture, insurance and weather information services and include technical assistance and knowledge-building projects, as well as funding for feasibility studies aimed at creating the regulatory environment required for the success of adaptation products. On the demand side, projects aim at raising awareness of these services and products among potential customers, such as small-scale farmers, and increasing the capacity of local financial institutions to create credit-lines to allow them to invest in the products. On the supply side, the IFC is planning to invest directly in companies offering these products and services.

Because creating markets for adaptation products and services is the largest category of PPCR projects currently being planned, three case study projects were selected for in-depth analysis: two projects to build markets for climate-resilient seeds in Bangladesh and Nepal, and a project for the promotion of weather index-linked insurance products in Zambia.

5. Climate-resilient agriculture in Bangladesh and Nepal

The SPCR processes in Nepal and Bangladesh identify access to climate-resilient agricultural inputs as a key priority for intervention to ensure enhanced adaptation by vulnerable small-scale farmers.⁹⁴ Agriculture employs up to 70 per cent of the population in both countries, and weather-related impacts are seriously affecting productivity and livelihoods in the agricultural sector.⁹⁵ In both countries, the IFC is leading the project development to enhance productivity in agriculture in climate-vulnerable areas, with the following aims:

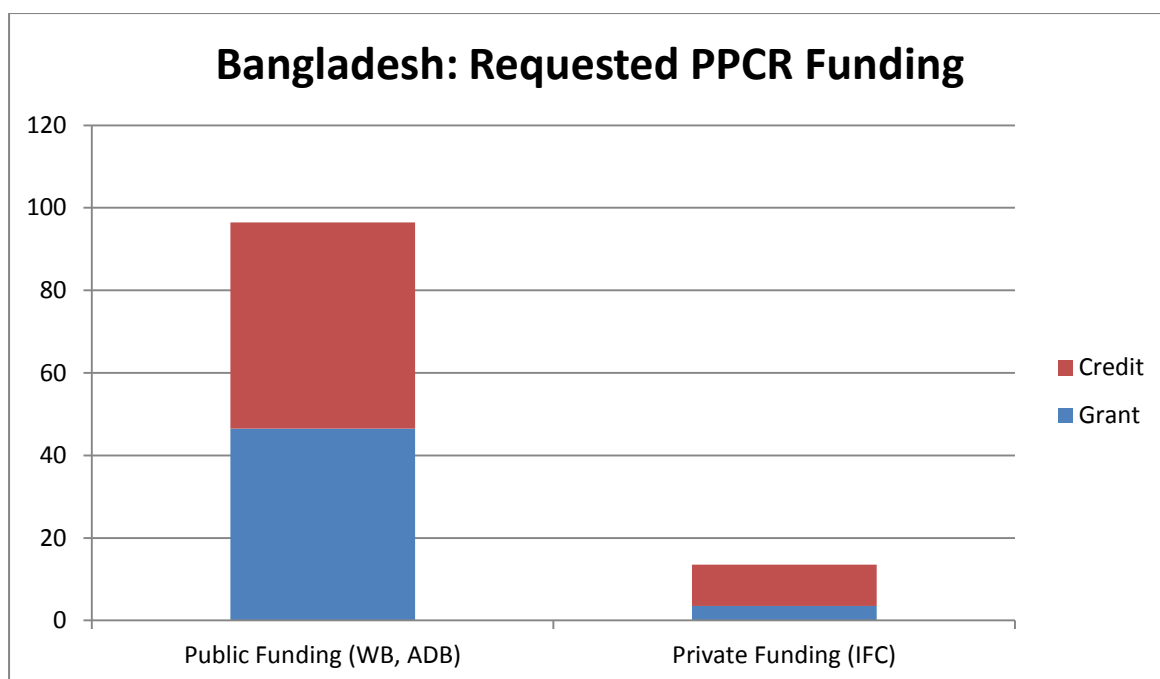
- Supporting private seed companies and relevant state agencies, such as agricultural research bodies, to increase the use of climate-resilient hybrid varieties;
- In collaboration with these bodies, building farmers' capacity to improve cropping patterns and other farming practices, to increase productivity;
- Promoting water-efficient technologies, including smallholders' access to low-cost irrigation techniques;
- Developing early warning systems for farmers in collaboration with relevant government agencies, telecommunication providers and other private sector firms;
- Facilitating access to credit across the agricultural supply chain to meet the investment requirements necessary for sustainable provision, and use, of new inputs.

The Bangladesh project also includes research into soil compositions and subsequent advice to farmers on purchasing new fertilisers and pesticides, as well as developing storage facilities for seeds in vulnerable communities.

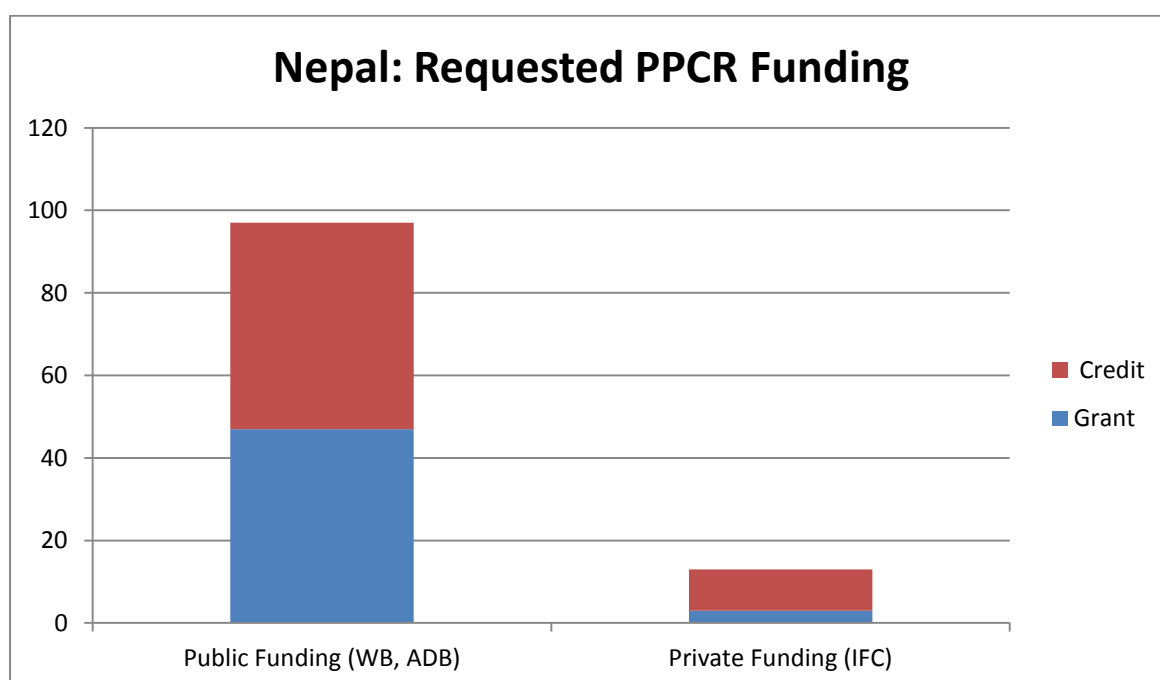
The requested PPCR finance for the projects is as follows:

- Bangladesh – US\$3.1 million grant and US\$10 million in loans
- Nepal – US\$2.35 million in grants and US\$4 million in loans

Both projects are at an early stage of design. Thus far, the only finance disbursed has been IFC-managed grants, on behalf of the recipient country governments, to procure relevant scoping and feasibility studies to aid in the projects' design.⁹⁶ The design phase will involve a consultant assessing market conditions and the potential sustainability of investments, as well as identifying partners, conducting cost-benefit analysis of projects, creating monitoring and evaluation frameworks, and developing appropriate financial mechanisms for disbursement of funds.⁹⁷ The IFC has indicated that investments are likely to be in seed companies and other agribusiness enterprises, and microfinance institutions, as well as other financial intermediaries who may be able to provide credit lines across the supply chain. These could include larger banks and may also include clearing houses for seeds and crops. In addition, already existing IFC clients in the agricultural sector may be involved.⁹⁸



NB. Figures are in US\$ millions. Grant vs credit allocations have not been broken down by project as this data was unavailable. Source: 'Strategic Program for Climate Resilience Bangladesh', Climate Investment Funds, PPCR/SC.7/5, October 25, 2010



NB. Figures are in US\$ millions. Grant vs credit allocations have not been broken down by project as this data was unavailable. Source: 'Strategic Program for Climate Resilience Nepal', Climate Investment Funds, PPCR/SC.8/7, June 6, 2011

When interviewed, IFC staff leading the project development indicated that potential investments are contingent on the design phase. When the design phase is completed, the IFC will formally request financing from the PPCR sub-committee. Although co-financing from the IFC has not been confirmed, it has indicated it will co-finance specific investments for both projects once their design is finalised. PPCR and IFC resources are expected to leverage new and additional investment from their clients.⁹⁹

Rationale and country ownership

As discussed, there is evidence that in some cases the priorities and current programmes of implementing MDBs, plus a donor-driven focus on delivering short-term results, have all influenced the outcomes of SPCRs. In both Nepal and Bangladesh, the IFC was registered as an implementing agency from the beginning of the programme and was involved in the joint missions to design the SPCRs. Civil society groups involved in consultation processes on the SPCR in Nepal expressed the view that there was insufficient consultation about whether allocating public finance to companies in the agriculture sector was the optimum use of resources in terms of building resilience among the most vulnerable groups.¹⁰⁰

In practice, what occurred was that the most vulnerable sectors and geographical areas were identified first, in this case agriculture, with the IFC next looking at how the private sector could best use PPCR resources within this sector, rather than discussing with SPCR partners whether public or private investments would be the most appropriate to deliver the desired adaptation outcomes. This process was the same in both Nepal and Bangladesh, as in both countries the IFC had already been designated as the implementing agency for agriculture projects.¹⁰¹

There are also noticeable and important distinctions between the priority interventions identified in country NAPAs and the PPCR project proposals. NAPAs are country-authored strategic plans developed under the UNFCCC framework which identify priority activities that respond to countries' urgent and immediate needs to adapt to climate change impacts – those for which further delay would increase vulnerability and/or costs at a later stage.¹⁰² In most PPCR countries, NAPAs had already been completed, and the SPCRs were supposed to 'build upon' them.¹⁰³

Bangladesh

The priority actions for Bangladesh's NAPA include three projects to increase agricultural resilience, including in the coastal regions where the IFC project is also focused.¹⁰⁴ The priority activities for the NAPA agricultural projects include introducing new farming practices to respond to changing weather conditions, the introduction of new seed varieties and extending credit lines to small-scale farmers. The implementing agencies for these projects include the Bangladesh Agricultural Research Council (BARC), Bangladesh Agricultural Research Institute (BARI), and the Bangladesh Rice Research Institute (BRRI). The IFC has indicated that these organisations could potentially play a role in the IFC project taking place under the SPCR, but there are no plans to finance them. Equally, the Bangladeshi NAPA makes no mention of involving private seed companies in the projects and there are no proposals to provide adaptation finance directly to private sector actors as part of the priority actions.

Research by Tearfund and CAFOD finds that 'in Bangladesh, the PPCR seeks to be supportive of the country's priority adaptation activities... In practice, however, the PPCR's major investment projects are aligned with the MDBs' existing priority activities.'¹⁰⁵ In Bangladesh, the IFC is already expanding investment in climate-resilient seeds and other agricultural products through partnerships with seed companies, which concurs with these findings.¹⁰⁶

IFC staff indicated that, despite Bangladesh being one of the first countries to have its SPCR approved by the PPCR sub-committee, there have been significant delays in getting the IFC projects off the ground: one of the main reasons was because the IFC had to convince the Ministry of Agriculture (MoA) to accept that the finance could not be used for its own programmes.¹⁰⁷ The IFC also indicated that the far smaller proportion of PPCR resources requested for private sector projects could be explained by this resistance (see page 23). IFC explained that the government staff in Bangladesh had a lack of knowledge and understanding of the role the private sector in adaptation, concurring with the views expressed by the MDBs in their recent briefings for the CIF committees.¹⁰⁸

Nepal

In Nepal, the NAPA and SPCR were being formulated at similar times, and the Ministry of Environment wanted the PPCR to finance various NAPA priorities. The Nepal NAPA prioritises agriculture and food security, and proposes a number of similar activities to the SPCR, such as transforming agricultural practices and developing stress-tolerant and high-yielding seed varieties.¹⁰⁹ However, while there is acknowledgement of the role the private sector plays in providing some of these services in the Nepal NAPA, there is also a strong emphasis on strengthening community-based agricultural organisations and providing the right enabling environment for community-based adaptation schemes.¹¹⁰

Research from IDS on Nepal's PPCR has identified that significant tensions emerged between government departments and the MDBs during the process regarding whether funds could be used to finance NAPA activities.¹¹¹ There was significant resistance from the MDBs to including NAPA activities under the SPCR, which often centred on debates over the mandate of the PPCR and sequencing issues. As one analysis notes: 'The fact that the government's preference for using PPCR money to fund the NAPA was not accepted... has resulted in the sense that government ownership is undermined.'¹¹² Tearfund and CAFOD argue: 'The lack of clarity over how the NAPA related to the PPCR, and the seeming inflexibility of the PPCR to accommodate and support the country's own adaptation strategy, have been a source of considerable frustration for the government.'¹¹³

Interviews with IFC staff for this study concur with these findings. The IFC indicated that it had to convince staff at the Ministry of Environment and Ministry of Agricultural Development that PPCR resources should be used to finance private sector actors directly, rather than be used for planned projects by these departments. The IFC also indicated that the far smaller proportion of PPCR resources requested for private sector projects (see page 23) could be explained by this resistance.¹¹⁴

Stakeholder participation

In each PPCR country, the identification of priority areas and investments are agreed during joint missions by MDBs and the recipient government, as well as through stakeholder consultations and community participation. However, civil society representatives from Nepal and Bangladesh noted that, to a large extent, the specifics of private sector investments were not discussed during consultation processes they participated in.¹¹⁵ Instead, consultations to determine what role the private sector could play in delivering the SPCR were conducted through parallel consultation processes with the private sector convened by IFC consultants.

The proposed results indicators for the Bangladesh and Nepal projects recall IIED's assessment of the weaknesses of the PPCR results framework, discussed above – although it should be noted that these indicators could be further developed in the next phases of the projects. In both Bangladesh and Nepal, the projects have two proposed key quantitative indicators: firstly, the number of farmers adopting stress-tolerant seed varieties; and, secondly, the total area of cropped land under adaptive varieties. There are no measures of contingent impacts of the project, such as the value of assets held by farmers, the effects on yield, or rises in costs of input. Furthermore, there are no other measures of wider vulnerability and no metrics to measure how changes in climate might alter development outcomes or an iterative process to capture changing vulnerabilities.

Nepal

The Nepalese NAPA convened working groups with civil society representatives and consulted widely with vulnerable communities.¹¹⁶ Members of the thematic working groups convened under the NAPA were also invited to assist in producing the SPCR in order to facilitate greater integration between the two processes.¹¹⁷ The SPCR thematic working groups were matched to the NAPA priority areas.¹¹⁸

The IFC working with the Federation of Nepali Chambers of Commerce and Industry (FNCCI) convened a new SPCR working group separate from the NAPA process. This was to look specifically

at how the PPCR could catalyse private sector investment in adaptation. Members of this working group were drawn exclusively from private sector actors or industry groups. A large task for this working group was to match priority areas and interventions identified in the NAPA to potential private sector interventions. The IFC-implemented SPCR projects in Nepal were determined on this basis.¹¹⁹

It must therefore be asked whether and to what extent the presence of the IFC as implementer of the SPCR supported or undermined the country's own adaptation priorities. The lack of participation by communities and other civic actors in the IFC-led working group is to some degree matched by how civil society groups experience the wider joint PPCR mission in Nepal.¹²⁰ While extensive consultations did take place, some NGOs and community organisations have complained that only certain organisations were invited to IFC and SPCR consultations, and that these were usually groups which received funding from donors and/or had established relations with government staff or the MDBs.¹²¹

The long history of using local knowledge in development planning in Nepal, as evidenced by the NAPA and LAPA (Local Adaptation Plan of Action) processes, does not always appear to have been respected in the PPCR process. Tearfund and CAFOD argue that, in the case of Nepal, 'the PPCR has, at best, operated at a distance from this genuinely participatory process'.¹²²

Bangladesh

In Bangladesh, the IFC as a PPCR implementing agency, along with other MDBs and the Ministry of Environment and Forests, undertook a joint mission to develop an SPCR and build upon the work of the country's NAPA. Four priority sectors were identified: agriculture and food security; climate-induced disasters; water resources management; and public health, migration and social protection. The majority of those consulted were from national and international development agencies, government departments and the private sector.¹²³ Many civil society groups complained that they were either not consulted or not informed of consultations, and therefore made minimal inputs.¹²⁴

After the priority areas were identified, the IFC employed a capital markets consultancy, Asian Tiger Capital Partners, to conduct consultations with the private sector and produce a report on how the IFC could invest in private sector entities in Bangladesh in order to build the country's climate resilience.¹²⁵ The mandate of this report was similar to that of the IFC-convened thematic working group in Nepal: SPCR priority sectors already identified were mapped onto potential investments by the private sector in these sectors. Similarly there was no wider consultation with potential users of products and services, affected communities, civil society groups and other civic actors.

Wider concerns: pathways to agricultural resilience

The role of the IFC in the PPCR could undermine alternative approaches to agricultural resilience that build on small-holder agriculture. While a more in-depth analysis is beyond the scope of this study, the IFC's leadership role in facilitating private sector involvement in the PPCR in countries such as Nepal and Bangladesh could prevent PPCR-funded adaptation planning from drawing on the full range of existing national and local knowledge on agricultural resilience. According to research by the Oakland Institute, the IFC tends to support expanding agribusiness rather than 'bottom-up' and small-scale agro-ecological approaches designed to build the resilience of small-holder agriculture (SHA)¹²⁶.

Five hundred million small farms in developing countries support almost two billion people or nearly one-third of humanity, providing 50 per cent of the world's food.¹²⁷ Despite this, small-holder farmers (SHF) are the most marginalised players in the global food system,¹²⁸ and many do not produce enough food to feed their families or to sell in local markets. More than half the hungry people in the world are small farmers, living on plots of two hectares or less,¹²⁹ while one third of all Africa's malnourished children live on small farms.¹³⁰

With this in mind, the IFC's involvement in the PPCR in Nepal and Bangladesh can be seen through the lens of a larger policy push by donor governments, many crop scientists, public agricultural research centres, multinational seed companies and philanthropic organisations for a so-called 'second Green Revolution'. This refers to the use of biotechnology, genetically modified or hybridised seed varieties and their associated fertilisers, pesticides and cropping systems, to increase productivity and resilience.¹³¹ One of the more prominent public initiatives with which the IFC is involved is the Alliance for a Green Revolution in Africa (AGRA), a large public partnership between philanthropic organisations and developed country donors, which aims to boost food security and resilience amongst SHFs through a high-technology, high-input mode of agriculture.¹³² Critics of this approach argue that tying SHFs to single crops, expensive inputs and volatile commodity markets increases vulnerability, dependency and debt, and threatens agro-biodiversity, soil fertility and water sources.¹³³

One widely discussed alternative to the IFC-supported 'green revolution' approach promoted by, among others, the UN Special Rapporteur on the Right to Food Olivier de Schutter,¹³⁴ is the use of agro-ecological methods in the design and management of sustainable agricultural ecosystems.¹³⁵ These methods, such as crop diversification, composting, the use of organic matter for water capture, and the harnessing of traditional crop varieties and traditional knowledge, have been shown to increase resilience and adaptation to climate change in many areas.¹³⁶ In addition, traditional, locally bred crop varieties are often cheaper, more accessible and more resilient than modern hybrids and can be captured and spread through investment in local seed systems.¹³⁷ Agro-ecological farming is said to increase the resilience of agricultural systems while reducing reliance on external inputs. For instance, a 2009 study initiated by the World Bank, the International Assessment of Agricultural Knowledge, Science and Technology for Development (IAASTD), argued that high-input, global-market oriented agriculture will fail to meet the world's food needs in the face of climate change and biodiversity loss, advocating rather a shift in investment towards organic, small-scale and locally produced food.¹³⁸

In Bangladesh and Nepal, many organisations have worked closely with farmers to develop agro-ecological solutions to climate impacts. In both countries, such organisations were largely ignored in the PPCR/SPCR process with regards to the development of agricultural resilience projects.¹³⁹ In Nepal, this includes groups such as the All Nepal Peasants' Federation and Local Initiatives for Biodiversity, Research and Development and, in Bangladesh, organisations such as the Bangladesh Resource Centre for Indigenous Knowledge, UBINIG, Bangladesh Krishok Federation and

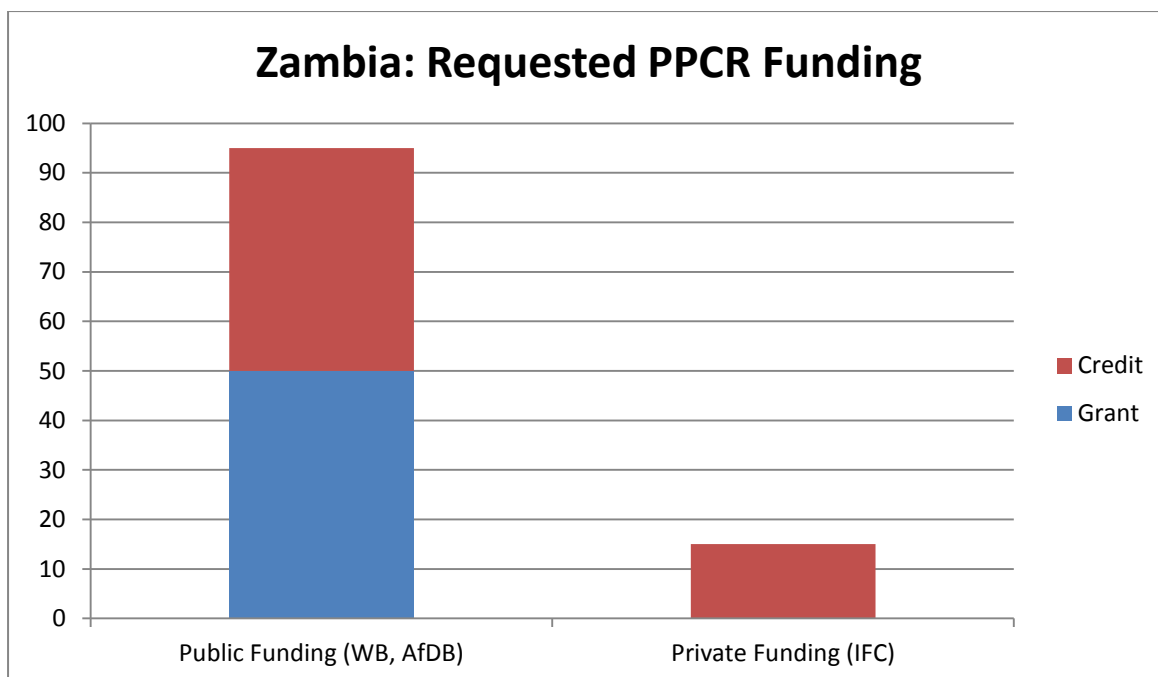
Wider concerns: microfinance and agricultural resilience

IFC projects in Nepal and Bangladesh are opening up credit lines to small farmers to allow them to invest in new inputs. Although such projects are still only at the design stage, interviews with IFC staff indicate that it is likely that microfinance will play a large role in this activity.¹⁴¹ The role of microfinance in climate adaptation has not received considerable attention, but some studies, including ones by IDS in 2008 and by OECD in 2010, argue that it could play an important role in adaptation for the most vulnerable and will automatically reduce climate vulnerability. According to these studies, microfinance can free up capital for investment in: livelihoods; improved access to irrigation; disaster relief and preparedness; education and training; and healthcare. It can also provide loans for physical assets such as housing and sanitation;¹⁴² help SHFs and small and micro businesses develop alternative livelihood opportunities; and spread risks.

However, others claim that early research evidence for such benefits was largely conducted by microfinance institutions themselves or their sponsors, and assert that microfinance has largely been used to cover basic consumption needs rather than fuelling enterprise. This creates a dependency on credit with very high interest rates and often leads to a loss of assets among the poor. The increased involvement of large financial institutions in microfinance demands higher returns, and keeps interest rates high. There are also doubts over claimed increases in productivity as (according to Bateman, 2011) there is a very high failure rate for the microenterprises set up with microfinance loans in most developing countries.¹⁴³

6. Weather index-linked insurance in Zambia

The SPCR process in Zambia has identified agriculture in the Barotse and Kafue sub-basins as a priority area for intervention. These regions are home to almost a third of Zambia's population. The majority are employed in small-holder agriculture, and are vulnerable to flooding and drought. The SPCR is primarily aimed at public sector interventions, but one of its components, Private Sector Support to Climate Resilience, is aimed at promoting private sector investment in the agricultural, water and energy sectors in the sub-basins.



NB. Figures are in US\$ millions. Source: 'Strategic Program for Climate Resilience Zambia', Climate Investment Funds, PPCR/SC.8/8, June 14, 2011

The private sector component has four sub-components, one of which comprises piloting a weather index-linked insurance product. This is justified by stating that 'despite the fact that up to 80 per cent of the Zambian population is dependent on agriculture for their livelihoods, access to agricultural insurance is limited within the country... Having a functional market for weather index-based insurance products in place is critical for building resilience in the face of climate change-related catastrophes.'¹⁴⁴

The project comprises two activities:

- To conduct a feasibility study of weather index-linked insurance in the agricultural sector in Zambia
- Based on the results of the feasibility study, to design and implement a commercially sustainable, index-based product for flood and drought micro-insurance.

The financing requested for the project is as follows:

- Feasibility study: US\$400,000 PPCR loan
- Insurance product design and implementation: US\$1.6 million PPCR loan, US\$1.6 million in co-financing from the IFC (indicative figure – unconfirmed) and US\$3.2 million co-financing from private sector partner.

The PPCR resources for the feasibility study were approved in January 2012. At the time of the research, the IFC was hiring consultants to complete this stage of the project and it is unclear what proportion of the PPCR loan for the design and implementation of the product would be used to finance directly a private insurance company, although it is envisioned that such financing will take place.¹⁴⁵ IFC staff also stated that, owing to the nascent status of the micro-insurance industry in Zambia, there is a strong possibility that the insurance product would initially rely on some form of government subsidy. The scoping stage of the project will determine the answer to these questions and clarify what financial arrangement will be used to fund the product (either a PPP or financing from another development agency, for example the United Nations Development Programme).¹⁴⁶

Rationale and country ownership

As outlined above, there is evidence that the leadership role played by the implementing MDBs has given rise to tensions during the development of the SPCR in Zambia. The IFC was registered as an implementing agency from the beginning of the programme and involved in joint missions to design the SPCR. Interviewees said that the very presence of the IFC had created the expectation among participating groups in the SPCR that there would be private sector projects, regardless of the findings of joint missions, existing country priorities or national consultation processes.¹⁴⁷

However, according to both IFC staff and civil society representatives, tensions between government officials and the MDBs witnessed in the PPCR processes in Bangladesh and Nepal were not evident to the same extent in Zambia. Zambia's SPCR is more in line with the PPCR's goal of mainstreaming adaptation into government development planning processes and was integrated into the development of the country's National Climate Change Programme (NCCP).¹⁴⁸

The NCCP integrates priorities from previous national development strategies, including the Sixth National Development Plan (SNDP),¹⁴⁹ and Zambia's NAPA. The NAPA prioritises various interventions in the agricultural sector but does not include insurance schemes for farmers as envisioned under the SPCR.¹⁵⁰ However, a weather-based insurance scheme is a planned intervention under the SNDP, specifically linked to climate change adaptation. Another key document in setting the priorities for the NCCP is the National Climate Change Response Strategy developed by the Ministry of Tourism, Environment and Natural Resources. This was developed around the same time as the SPCR and does include creating insurance schemes for small farmers as a planned intervention.¹⁵¹

The PPCR national focal point is the Ministry of Finance and National Planning. Running SPCRs through finance ministries is an aim of the PPCR, on the basis that this will ensure stronger and deeper integration of adaptation in national planning processes. Some interview respondents said that this has created conflict over the ownership of PPCR resources between the Zambian Ministry of Finance and National Planning and the Ministry of Tourism, Environment and Natural Resources, rather than between government authorities and the MDBs. This concurs with research from CAFOD and Tearfund which has identified 'a tension between a desire by environment ministries to coordinate country adaptation programmes... and PPCR efforts to promote and strengthen the capacity of other ministries with a mandate for cross-sectoral coordination, planning and budgeting, such as the finance and planning ministries'. Such tensions 'can be sparked or exacerbated by the role played by the multilateral development banks (MDBs) as the implementing agent of the PPCR' because 'the MDBs are more familiar with dealing with finance and planning ministries than with environment ministries'.¹⁵²

In the case of Zambia's SPCR, there is evidence that the selection of micro-insurance schemes is partly driven by country priorities. However, the design and proposed implementation of private sector investments, including stakeholder consultation over the potential projects, also appears to be operating parallel to other elements of the SPCR, in a process entirely led by the IFC,. For example, when selecting what types of private sector investment would be appropriate for activities in the sub-basins, the IFC launched a separate consultation from those occurring under the joint missions.¹⁵³ As in the case of Bangladesh and Nepal, the consultation took place exclusively with private sector companies and did not include potential users of adaptation products in vulnerable communities.

Finally, where various local and national public institutions and actors are collaborating in designing and implementing other SPCR projects (see below), management of the private sector component of the SPCR rests entirely with the IFC. The SPCR stipulates that the IFC will report 'regular results to the Secretariat of the Zambia National Climate Change Programme',¹⁵⁴ but there is little detail on how this will take place.

Participation in the selection of investments

Despite the above finding, the overall participation of civil society groups in the SPCR process in Zambia appears to have been more successful than in Nepal and Bangladesh. Civil society groups have argued that there has been institutional space in planning processes to allow them both to participate in consultations and to receive funding to run outreach and awareness programmes in local communities.¹⁵⁵ NGOs are also listed as potential implementers of some sections of public sector interventions, and have received funding to pursue outreach programmes to communities in PPCR projects. On the private sector projects, although the IFC did not meet with wider civil society groups when selecting projects, IFC staff have met and consulted with some of the NGOs more formally involved in the PPCR since then, and state that they hope to increase engagement as the projects progress.¹⁵⁶

To some extent, NGOs have been successful in ensuring increased community ownership over proposed PPCR-proposed projects. A public sector road and canal construction programme under the SPCR was redesigned after NGOs conveyed complaints from affected communities that elements of the plan would cause negative social and environmental impacts.¹⁵⁷ However, some NGO representatives felt that this level of engagement with potentially affected communities was not guaranteed under current planning processes and that they would need to work with the parliamentary environmental caucus to ensure such engagement becomes standard.¹⁵⁸ Others interviewed were circumspect about the overall potential for guaranteeing an adequate voice and good developmental outcomes for affected communities through their engagement with the PPCR process in Zambia. Most characterised their role in the SPCR as having to lobby continually for more community engagement, ownership and better developmental outcomes in the design and implementation of projects under the SPCR.¹⁵⁹

Civil society interviewees also stated that monitoring the financing, implementation and impacts of private sector projects under the PPCR will raise particular challenges, due to a less well-developed working relationship with the IFC and the private sector, and because government agencies will not play so much of an oversight role. They also expressed concern over a potential lack of transparency over the terms of financing and the potential use of financial intermediaries in these projects.¹⁶⁰ Where various local and national public institutions and actors are collaborating in designing and implementing other SPCR projects, management of the private sector component of the SPCR rests entirely with the IFC. The SPCR does stipulate that the IFC will report 'regular results to the Secretariat of the Zambia National Climate Change Programme',¹⁶¹ but there is little detail on how this will take place and there is no mention of any independent monitoring and evaluation of the projects' impacts.

Results framework and indicators

As previously discussed, the PPCR results framework is characterised by an inability to measure long-term outcomes and to account for ongoing and slow-onset changes in climatic conditions, and does not adequately assess vulnerability at the project level. The Zambian index-linked weather insurance project does include a results framework, but this is only indicative and will be further developed in the project design phase. The proposed indicator for the project is 'scope and degree of implementation of an Agricultural Weather Index-based Insurance plan, and accessibility of the insurance product to the most vulnerable groups'.¹⁶² The target for the insurance product is to reach 800 farmers. There are no measures of contingent impacts of the project, such as the value of assets held by farmers, or indebtedness. Furthermore, there are no other measures of wider vulnerability, and no metrics to measure how changes in climate might alter developmental outcomes.

[BOX]

Wider concerns

Weather index-linked insurance is, as its name suggests, a form of insurance that is linked to a weather index, such as rainfall, rather than to the impact of a weather event, such as crop failure. This decreases transaction costs, as insurers do not need to visit farms to determine premiums or pay-outs. Instead, as soon as a certain threshold in weather conditions is reached, the insurance pays out. This form of insurance thus relies on specific weather data that correlates meteorological conditions and crop yields in a given area. This also removes any incentives for farmers to fabricate crop failure to stimulate a pay-out, as has been observed in crop failure insurance schemes.¹⁶³

The financial sustainability of weather insurance

It must be asked whether the development of weather index-linked insurance is the best use of scant PPCR resources, given the potentially high costs of building a sustainable local market. By investing in this undeveloped market, the IFC faces major challenges. In recent years, weather index-linked insurance has become more prominent as a cost-effective means for those most vulnerable to climate change, especially SHFs, to manage weather risks.¹⁶⁴ A series of pilot projects has been launched with the public sector and multilateral agencies such as the IFC or NGOs leading their development.¹⁶⁵ This is for a variety of reasons: private insurers are unwilling to invest in research and development that they are unlikely to benefit from; there is a lack of weather stations and meteorological data to ensure insurance products are correctly priced; and there is a need for locally based organisations to help market the product to customers, who remain broadly unaware of the benefits.¹⁶⁶ Hence significant investment in knowledge infrastructure, policy reform and outreach to potential customers is needed by public agencies to make weather index-linked insurance commercially viable. In many cases, ongoing subsidies are also needed by governments.

In addition, the insurance pay-out is linked to an index, not an actual loss. The potential mismatch between the estimated loss, based on the index construction, and the actual loss is called basis risk. If the insurance product is offered to farmers with few other safety nets in case of losses, then 'underestimated damages that result in too low pay-outs can have enormous negative effects and easily lead to bankruptcy of households, intermediaries and public bodies'.¹⁶⁷ According to the Bretton Woods Project, 'No solution has yet been suggested apart from minimising the basis risk as much as technically possible and being careful only to create markets where the data available allows for a reasonably small basis risk'.¹⁶⁸

Customer participation

There are some further problems with such insurance products. Studies of weather insurance have demonstrated that the active participation of potential customers in the design of a successful product is essential, as it allows the farmers to stipulate what crops should be insured and how pay-outs should be structured and timed to best suit their own income streams.¹⁶⁹ Such participation is also crucial in communicating to the potential customers which risks are covered and which are not.¹⁷⁰ According to research from the University of Columbia, 'catastrophe can occur if the client does not know exactly what is not covered by the index, since the client may be unknowingly exposed to risks'.¹⁷¹ The fact that the involvement of SHFs and their representatives – i.e. the potential customers – in the design of the Zambian PPCR weather insurance product is limited to market assessments could seriously undermine the success of the eventual product.

Another problem with weather insurance is the cost of premiums for the vulnerable groups that such products are intended to protect. The initial costs of coverage may not be affordable to the most vulnerable farmers and, even if they are and contracts are well designed, premiums will inevitably rise as climate variability increases,¹⁷² casting doubts over the long-term sustainability of weather insurance.¹⁷³ Equally, insurance rates may respond to global market fluctuations, meaning greater

uncertainty for farmers.¹⁷⁴ Premiums may be kept at an affordable limit if the product is combined with other risk-reduction techniques, such as alterations in farming practices.

Weather index-linked projects envisioned under the SPCR can be regarded as emblematic of a technocratic, 'impacts-first' approach that regards adaptation as a response to specific climate change impacts. Such projects embody one of the risks identified by IIED in its assessment of the PPCR's results framework: despite aiming for transformational change that acknowledges deeper vulnerabilities, 'a technocratic and "impacts-based" ideology remains pervasive in the institutions managing the PPCR'.¹⁷⁵ Vulnerability to weather shocks is determined not just by the severity of the shock, but by the way economic and political activity is organised in a particular social context, including how that society manages its resources. As has been noted in one study of a weather insurance project in Ethiopia: 'just as vulnerability is socially constructed by the availability of resources and entitlements, and historical distributions of wealth and power, so adaptation must look to the underlying causes of vulnerability and resource allocation. As climate change adaptation, index insurance... may find its ideas of vulnerability too narrow.'¹⁷⁶

[END BOX]

7. Conclusion

There is a common perception that adaptation to climate change in developing countries is about the provision of public goods, and should and will be funded by public finance. However, there is a growing set of policy proposals and initiatives for the private sector to play an increased role in adaptation. Donor countries, private sector entities and research institutions argue that, with targeted use of public resources, the right enabling framework can be put in place to stimulate new activity by the private sector that will increase the resilience of vulnerable communities to climate change.

This paper has sought to understand how these policy approaches are being pursued in climate financing institutions, with particular reference to the role of the IFC as an implementing agency in the PPCR. The CIFs are routinely touted by donors and the MDBs as examples of how public climate finance can be used to 'leverage' effectively large amounts of private finance for climate projects, despite the problems associated with measuring leverage and both financial and development additionality.

The PPCR is the CIFs' dedicated adaptation fund, and aims to integrate climate resilience into existing development planning and practice. The PPCR's design has a strong emphasis on country ownership, and on investment plans being created after an inclusive stakeholder consultation. However, the role of the MDBs as implementing agencies, combined with the lack of capacity or expertise in many recipient countries, means that in many cases the MDBs have led the design, development and implementation of the programmes. Furthermore, the PPCR often augments existing MDB programmes in countries, and relies on existing MDB systems and capacities, creating a tension between country ownership and MDB priorities. To date, internal evaluations of the CIFs, civil society studies and complaints from those in recipient countries all reveal that the PPCR is struggling to adequately include perspectives from affected communities in the design and implementation of programmes.

The sequence for developing a PPCR programme reveals tensions between the stipulation that priority areas for investment should be selected based on vulnerability and country priorities, and the tendency to work within the operations and existing priorities of the MDBs. In particular, given its mandate, if the IFC is a designated implementing agency for a PPCR programme, there must be *de facto* a private sector focus for that country's SPCR, regardless of the findings of vulnerability assessments and wider stakeholder consultations. The private sector focus of the PPCR must also be understood within the broader political imperatives of its donors and operators.

The above is illustrated in the case of the interventions reviewed i.e. projects for creating markets for climate-resilient seeds and agricultural inputs in Nepal and Bangladesh, and for weather index-linked insurance products for small farmers in Zambia. The results from the three case studies illustrate how private sector projects under the PPCR have largely been driven and designed by the IFC. In both Bangladesh and Nepal, the IFC had to convince government departments that the PPCR resources earmarked for interventions in the agricultural sector should be used to finance private sector companies. Delays in project programming, as well as the relatively small amount of PPCR resources dedicated to projects, were attributed to this resistance on the part of national governments.

In both Nepal and Bangladesh, and to a lesser extent in Zambia, the process of selecting the type of interventions was also largely driven by the IFC through a process separate from parallel to the main PPCR programmes. Projects were designed after selective consultations carried out almost exclusively with private companies. There was a distinct lack of participation on the part of affected communities, civil society organisations and other interest groups, such as farmers associations, cooperatives, or consumer groups. These parallel processes meant that a large amount of potentially useful local knowledge, expertise and alternative approaches were disregarded.

At the same time, there were pronounced differences between the cases in Bangladesh and Nepal, and those in Zambia. In Zambia there was no evidence of tension over country ownership of plans comparable with the tension that did exist in Bangladesh and Nepal. There was also greater civil society participation in the design of the wider SPCR, with civil society groups able to influence resource allocation actively. Although the design of the IFC project in Zambia did take place in a parallel process (as in Bangladesh and Zambia), the active role played by civil society in the wider SPCR means there is a stronger likelihood of ongoing civil society participation.

One notable aspect of the Zambian SPCR, and a potential factor explaining its different outcomes, is that the SPCR was integrated into, and aimed to support, the country's National Climate Change Programme (NCCP). This is a nation-wide strategy and coordination body, aimed at integrating climate change planning and budgeting across ministries, departments and sectors. This may have allowed a more favourable situation for resource allocation, with decisions on PPCR investments more reflective of national priorities. The NCCP also envisions a strong role for civil society, with representation on its governing council, which has resulted in a stronger voice for civil society in the SPCR.

Owing to the limited scope of this study and the fact that PPCR private sector projects were in their inception, the research has not been able to address the issue of the financial or development additionality of these projects or their overall impacts. Such questions are pertinent for the current debate on the design of the Green Climate Fund and merit further study as PPCR projects move from design to implementation stage. Recommendations for a future research agenda are included below.

However, the findings do highlight important issues concerning the design of climate finance programmes using private sector actors. In particular, the analysis shows that the integration of such projects into national planning processes and strategies is particularly important. Country and community ownership of project design requires robust participatory design processes, rather than processes operating in parallel to national processes and/or involving only a narrow range of stakeholders. In addition, project design dictated by the priorities of implementing agencies appears to undermine not just their 'social licence to operate' but the efficiency and effectiveness of resource allocation and, arguably, the future success of the investments. Any future private sector facility of the Green Climate Fund must ensure that these issues are adequately addressed.

8. Questions for further research

The aim of this paper was to begin to answer three different questions: 1) What is the rationale and additionally of PPCR projects involving a private sector actor? 2) To what extent does community and country ownership takes place? 3) What are the project's development impacts and adaptation outcomes?

This study has begun to answer some of these questions, as summarised in the conclusion. However, it has also raised a number of other important issues that could benefit from more research and a deeper understanding.

Financial additionality

Further research could analyse projects similar in design to these three projects where implementation is already occurring. For instance, there are very similar IFC agriculture and weather index-based insurance projects where investments have already been made. It could:

- Seek to understand the amount of the investments; what financial instruments have been used and on what terms.
- Consider what types of private-sector delivery partners are being invested in. Are these local companies? Are they participants in wider national private sector development plans? Are they foreign companies? What is the rationale for the choice of delivery partner?
- What kind of financial additionality is being claimed? How is this evaluated?
- Conduct a more extensive analysis of the specific investment sector. How active is the private sector? Are investments being made without public sector assistance?
- Could similar results be achieved without the private sector investment, for instance by helping create the right enabling environment and building knowledge?

Developmental additionality

- Conduct a detailed social and environmental assessment of similarly designed projects further along in the project cycle, to understand properly whether such investments have increased climate change resilience among the target group, what their environmental impacts have been, and what social and development impacts these projects have had on the target group (and more widely)
- Results frameworks are extremely important in setting incentives for project design. What results frameworks are being used for these projects? What evidence base is being used etc?

Planning process for private sector projects

- Assess what other institutional processes exist for designing and implementing private sector development projects, and evaluate the evidence for their strengths and weaknesses.
- Consider how principles such as community and country ownership could inform the design of future international climate financing arrangements. What institutional and community-level processes need to be developed, adapted or strengthened in order to implement such principles effectively? What challenges does this raise in terms of national or local capacity, knowledge and the enabling environment?
- What sort of private sector investments might emerge from these arrangements, and how would these differ from the types of investment currently taking place under the CIFs and other climate financing mechanisms?

Annex 1: Mapping of PPCR private sector projects

As of June 2012

Recipient country	MDB	Project description	Requested PPCR investment (donor finance)	Expected MDB co-financing	Financing modality for private sector	Private sector co-financing	Status
Bangladesh	IFC	Promoting climate-resilient agriculture and food security	US\$3.1 million grant, US\$10 million concessional loan	To be disclosed	Unclear. Design of project contingent on scoping study	Not specified, but proposal does say it will 'mobilise private sector resources'	Proposal approved, preparatory grant and MDB supervisory costs approved
Tajikistan	EBRD	Improving climate resilience of hydropower sector	US\$10 million grant	US\$30 million loan from EBRD, US\$15 million loan from EIB, US\$15 million grant from EU Investment Fund for Central Asia	None. Finance used to pilot small-scale HPP projects to develop best practice for the private sector	None	Proposal approved, and MDB supervisory costs approved
Niger	IFC	Climate information and forecast project that will allow companies to develop insurance products and weather-warning services	US\$0.5 million in grants, US\$2 million in loans	To be confirmed	Appears to be a technical assistance (TA) project	None.	Proposal approved
Niger	IFC	Promotion of private sector involvement in boosting irrigation systems	US\$0.5 million in grants, US\$3 million in loans	To be confirmed	Unclear. Proposal says IFC could 'potentially cover incremental costs' of a PPP. The rest appears to be TA.	None confirmed	Proposal approved
Niger	IFC	Weather-based insurance mechanisms	US\$1 million in grants, US\$7 million in loans	To be confirmed	Will provide 'necessary risk support to insurance companies'. Not clear in what form	None confirmed	Proposal approved
Nepal	World	Weather-based	US\$16 million in	To be disclosed	Project aims to	None confirmed	Proposal

	Bank	insurance mechanisms	grants, US\$25 million in loans (but this includes another sub-component)		'strengthen ties with the private sector to eventually develop a public/private sector partnership'		approved, preparatory grant and MDB supervisory costs approved
Nepal	IFC	Promoting climate-resilient agriculture and food security	US\$2.35 million in grants, US\$4 million in loans	To be disclosed	IFC may partner with local financial institutions (FIs) to channel the funds as credits to farmers and supply chain members; may also consider providing a risk-sharing facility to the FIs	None confirmed	Proposal approved, preparatory grant and MDB supervisory costs approved
Nepal	IFC	Climate-proofing hydropower	US\$0.45 million in grants, US\$6 million in loans	To be disclosed	Appears to propose PPCR loans going to private sector hydropower companies	None confirmed	Proposal approved
Nepal	IFC	Climate-proof housing	US\$100,000 in grants	To be disclosed	Feasibility study to see potential for future investment in housing companies	None	Proposal approved
Cambodia	ADB	Climate-proofing of agricultural investment	US\$5 million in grants, US\$10 million in loans	US\$60 million from ADB and others (to be disclosed)	Very vague. Says 'modalities for private sector engagement will be determined during project design'	None confirmed	Proposal approved, preparatory grant and MDB supervisory costs approved
Zambia	IFC	Climate information through mobile telecommunications (SMS weather updates)	US\$15 million loan	US\$13.5 million from IFC	Will be developed with ESOKO, a company IFC already invests in, but is unclear if there will be financing direct to ESOKO, or whether IFC will invest	US\$3 million confirmed	Proposal approved
Zambia	IFC	Weather-based insurance mechanisms	Included in above figure	Included in above figure	IFC's Global Index Insurance Facility will develop an insurance	US\$3.2 million confirmed	Proposal approved

					product through an insurance company		
Zambia	IFC	Microfinance promotion	Included in above figure	Included in above figure	Very unclear whether IFC would invest in a local FI	US\$5.4 million	Proposal approved
Mozambique	IFC	Developing climate resilience in the agricultural and urban water sectors through credit lines from Mozambican banks	US\$5 million loan	To be confirmed	PPCR funding would be used in conjunction with IFC and the local bank co-financing, presumably all as an investment in the bank	To be confirmed	Proposal approved
Mozambique a)	IFC	Developing non-timber commercial businesses for people living in a reserve	US\$5 million loan	US\$5 million from IFC	Very unclear	US\$14 million from private sector partner, UK company Carbonex Capital	Proposal approved. Only one of Mozambique a), b) and c) will be funded
Mozambique b)	IFC	Sustainable timber-harvesting to ensure woodland remains forested	US\$5 million loan	US\$5 million from IFC	No specific information, but presumably PPCR finance, along with IFC and Global Environmental Fund finance, will be invested in the Mozambican timber company	US\$10 million from private sector partner, which it says is a Mozambican company, and the Global Environmental Fund based in US	Proposal approved. Only one of Mozambique a), b) and c) will be funded
Mozambique c)	IFC	Investments to enhance tourism in Gorongosa National Park, to fund expansion of national park forests	US\$5 million loan	US\$5 million from IFC	No specific information. It could be more of a TA project, as it says local government and conservation authorities will be heavily involved. Alternatively, it may be an investment in a tourism company	Proposal to find US\$10 million from private sector partner	Proposal approved. Only one of Mozambique a), b) and c) will be funded

¹ Ayers, J., Kaur, N. and Anderson, S. (2011) 'Negotiating climate resilience in Nepal'. *IDS Bulletin*, 42

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- ² Seballos, Kreft (2011) *Towards an understanding of the political economy of the PPCR*
- ³ It should be noted that the research took place in the first half of 2012 and thus that there may now be more evidence from PPCR projects to be taken into account.
- ⁴ World Bank (2010) *World Development Report: development and climate change*
- ⁵ UNFCCC (2010) *The Cancún agreements: outcome of the work of the Ad Hoc Working Group on Long-term Cooperative Action under the Convention*, <http://unfccc.int/resource/docs/2010/cop16/eng/07a01.pdf>
- ⁶ Third World Network (2011) *US pushes private investment for climate financing*; Brown, Jacobs (2011) *Leveraging private investment: the role of public sector climate finance*
- ⁷ United Nations (2010) *Report of the Secretary-General's High-Level Advisory Group on Climate Change Financing*, page 6
- ⁸ See, for example, UK Department for International Development (2011) *International Climate Fund (ICF) Implementation Plan 2011/2012 – 2014/2015*
- ⁹ See UNFCCC (2011) *Transitional Committee – Internal Reference Document 10*; Schalatek (2011) *No consensus on the design of the Green Climate Fund – ‘Sub-optimal’ outcome in the Transitional Committee*
- ¹⁰ UNFCCC (2011) *Transitional Committee – Internal Reference Document 4*
- ¹¹ Climate Funds Update (2013) *Pilot Program for Climate Resilience*, <http://www.climatefundsupdate.org/listing/pilot-program-for-climate-resilience>, accessed on 4 February, 2013
- ¹² UK Department for International Development (2011) *Business case for the CIFs*
- ¹³ For a longer discussion of leverage, additionality and the potential pitfalls of measurement, see Bretton Woods Project (2012) *‘Leveraging’ private sector finance: how does it work and what are the risks?*
- ¹⁴ See, for example, UK Department for International Development (2011) *Op.cit.* (see note 8)
- ¹⁵ See, for example, Tearfund & CAFOD (2012) *Quick off the blocks? UK adaptation finance and integrated planning*
- ¹⁶ Eurodad (2011) *Storm on the horizon? Also*, World Resources Institute (2010) *Getting to work: a review of the operations of the Clean Technology Fund*
- ¹⁷ See Bretton Woods Project (2011) *Climate Investment Funds Monitor 4*
- ¹⁸ Given the majority of civil society organisations interviewed in this paper are still involved in the PPCR process in the case study countries, including in direct dialogue with implementing organisations and other PPCR partners, the decision was taken not to refer to them by name. For the sake of consistency in the paper, this policy was applied to all interviewees.
- ¹⁹ World Bank (2010) *Op. cit.* (see note 4)
- ²⁰ UNFCCC (2011) Submissions by members of Transitional Committee, August 2011
- ²¹ See Bretton Woods Project (2011a) *World Bank manoeuvres to influence climate finance debates*; Bretton Woods Project (2011b) *A faulty model? What the Green Climate Fund can learn from the Climate Investment Funds*
- ²² World Bank (2010) *Op. cit.* (see note 4)
- ²³ Atteridge (2010) *Private sector finance and climate change adaptation*
- ²⁴ <http://cdkn.org/2011/12/what-does-private-finance-mean-for-adaptation-to-climate-change/>. See also, Atteridge (2011) *Will private finance support climate change adaptation in developing countries?*
- ²⁵ Climate Policy Initiative (2011) *The landscape of climate finance*
- ²⁶ For a small selection, see PricewaterhouseCoopers (2010) *Business leadership on climate change adaptation: encouraging engagement and action*; Deutsche Bank Climate Change Advisors (2011) *Investing in climate change 2011*; DFID (2007) *Adapting to climate change in developing countries – what role for the private sector?*
- ²⁷ For a small selection, see Global Environmental Facility, International Finance Corporation (2012) *Private sector engagement in climate change adaptation*; United Nations (2010) *Report of the Secretary-General's High-Level Advisory Group on Climate Change Financing*; UNEP Finance Initiative (2006) *Adaptation and vulnerability to climate change – the role of the finance sector*; Forstater, Huq, Zadek (2009) *The business of adaptation*; Atteridge (2010) *Op. cit.* (see note 23)
- ²⁸ World Bank (2010) *Op. cit.* (see note 4)
- ²⁹ See OECD expert meeting on ‘Mobilising private investment in low-carbon, climate-resilient infrastructure’ at http://www.oecd.org/document/16/0,3746,en_2649_34361_49637712_1_1_1_1,00.html
- ³⁰ PricewaterhouseCoopers (2010) *Op. cit.* (see note 26); Deutsche Bank Climate Change Advisors (2011) *Op. cit.* (see note 26)
- ³¹ World Bank (2010) *Op. cit.* (see note 4)
- ³² Global Environmental Facility, International Finance Corporation (2012) *Op. cit.* (see note 27)
- ³³ Climate Investment Funds: <https://www.climateinvestmentfunds.org/cif/funding-basics>, accessed 4 February 2013
- ³⁴ These are: the World Bank Group via its lending arms of the International Bank for Reconstruction and Development (IBRD, for middle-income countries), the International Development Association (IDA, for low-income countries), and the International Finance Corporation (IFC, for the private sector); the African Development Bank (AfDB); the Asian Development Bank (ADB); the European Bank for Reconstruction and Development (EBRD); and the Inter-American Development Bank (IDB).
- ³⁵ Climate Investment Funds (2009) *Programming and financing modalities for the SCF targeted programme, the Pilot Program for Climate Resilience (PPCR)*
- ³⁶ World Bank president Robert Zoellick's address to the annual meeting's plenary session: http://web.worldbank.org/WBSITE/EXTERNAL/NEWS/0,,contentMDK:22729727~pagePK:64257043~piPK:437376~theSitePK:4607,00.html?cid=3001_3
- ³⁷ Publish What You Fund (2012) *Towards climate finance transparency*

³⁸ Brown (2011) *Improving the effectiveness of climate finance: a survey of leveraging methodologies*

³⁹ Bretton Woods Project (2012) *Op. cit.* (see note 13)

⁴⁰ Brown (2011) *Op. cit.* (see note 38)

⁴¹ See Berne Declaration (2011) *Climate finance in Turkey: the contribution of the World Bank Clean Technology Fund to transforming the Turkish energy sector*

⁴² Brown (2011) *Op. cit.* (see note 38)

⁴³ Bretton Woods Project (2012) *Op. cit.* (see note 13)

⁴⁴ See World Development Movement (2011) *Power to the people? How World Bank financed wind farms fail communities in Mexico*

⁴⁵ Ibid

⁴⁶ Interview with Smita Nakooda, WRI, civil society observer to the CTF

⁴⁷ Bretton Woods Project (2011b) *Op. cit.* (see note 21)

⁴⁸ See Eurodad (2012) *Cashing in on climate change?* Also, Bretton Woods Project (2010) *Out of sight, out of mind? IFC investment through banks, private equity firms and other financial intermediaries*

⁴⁹ Climate Investment Funds (2011) *Lessons learned from private sector interventions through MDB intermediaries*; Climate Investment Funds (2012) *Proposal for additional tools and instruments to enhance private sector investments in the CIF*

⁵⁰ Climate Investment Funds (2012) *Op. cit.* (see note 49)

⁵¹ Climate Investment Funds (2011) *Op. cit.* (see note 49)

⁵² Ibid

⁵³ Ibid

⁵⁴ Climate Investment Funds (2008) *TOR for the expert group on the selection of countries to participate in the PPCR*

⁵⁵ Third World Network (2008) *No additionality, new conditionality: a critique of the World Bank's Climate Investment Funds*; Bretton Woods Project (2011b) *Op. cit.* (see note 21)

⁵⁶ See, for instance, World Development Movement (2011) *Climate loan sharks: how the UK is making developing countries pay twice for climate change*

⁵⁷ Ayers, Huq (2009) *Supporting adaptation through development: what role for ODA?*

⁵⁸ Ayers, J., Kaur, N. and Anderson, S. (2011) *Op. cit.* (see note 1)

⁵⁹ Seballos, Kreft (2011) *Op. cit.* (see note 2)

⁶⁰ IIED (2011) *Tracking adaptation and measuring development*

⁶¹ Tearfund (2011) *Adaptation united*. See also Tearfund & CAFOD (2012) *Op. cit.* (see note 15). See: <http://www.cafod.org.uk/Policy-and-Research/Environment-and-climate-change>

⁶² IIED (2011) *Op. cit.* (see note 60)

⁶³ Ibid

⁶⁴ Ibid

⁶⁵ Tearfund & CAFOD (2012) *Op. cit.* (see note 15)

⁶⁶ See Tearfund & CAFOD (2012) *Op. cit.* (see note 15). Also, Chambote, R., Shankland, A. (2011) *Prioritising PPCR Investments in Mozambique: the politics of 'country ownership' and stakeholder participation*; Ayers, J., Kaur, N. and Anderson, S. (2011) *Op. cit.* (see note 1); Oxfam (2011) *Climate change investment through the Pilot Programme for Climate Resilience in Tajikistan*. See also, the recent example of the Clean Technology Fund programme in the Philippines, documented in Bretton Woods Project (2012) *CIFs Monitor 5*

⁶⁷ Climate Investment Funds (2010a) *Looking ahead for lessons learned in the Climate Investment Funds – A report on emerging themes for learning*; Tearfund & CAFOD (2012) *Op. cit.* (see note 15)

⁶⁸ Climate Investment Funds (2009) *Op. cit.* (see note 35)

⁶⁹ See Tearfund & CAFOD (2012) *Op. cit.* (see note 15).

⁷⁰ Ibid.

⁷¹ See Tearfund & CAFOD (2012) *Op. cit.* (see note 15), and various editions of the CIFs Monitor at <http://www.brettonwoodsproject.org/cifs/index.shtml>

⁷² Bretton Woods Project (2011b) *Op. cit.* (see note 21)

⁷³ Chambote, R., Shankland, A. (2011) *Op. cit.* (see note 66)

⁷⁴ Tearfund & CAFOD (2012) *Op. cit.* (see note 15)

⁷⁵ Ibid

⁷⁶ Ibid

⁷⁷ Meeting notes from civil society observers of the PPCR, February 2011 and July 2010, and personal correspondence with civil society observers

⁷⁸ UK Department for International Development (2011) *Op. cit.* (see note 12)

⁷⁹ Climate Investment Funds (2011) *The Pilot Programme for Climate Resilience under the Strategic Climate Fund*

⁸⁰ See Climate Investment Funds (2008) *TOR for the expert group on the selection of countries to participate in the PPCR*

⁸¹ Interview with member of expert group

⁸² See Seballos, Kreft (2011) *Op. cit.* (see note 2)

⁸³ See Climate Investment Funds (2009) *Op. cit.* (see note 35)

⁸⁴ Tearfund & CAFOD (2012) *Op. cit.* (see note 15)

⁸⁵ Chambote, R., Shankland, A. (2011) *Op. cit.* (see note 66)

⁸⁶ Climate Investment Funds (2011) *Lessons learned from private sector interventions through MDB intermediaries*

⁸⁷ Climate Investment Funds (2011) *CIF PPCR: emerging perspectives and lessons learned from country level programming*

⁸⁸ Climate Investment Funds (2009) *Op. cit.* (see note 35)

⁸⁹ Ibid

⁹⁰ Ibid

⁹¹ Climate Investment Funds (2009) *PPCR financing modalities*

⁹² Ibid

⁹³ These countries are the largest of PPCR recipients, in terms of population and allocated PPCR resources. There are a number of Small Island Developing States (SIDS) also participating in the PPCR as part of the Caribbean and South Pacific regional programmes, but these programmes are much smaller and are dominated by the public sector arms of the MDBs, with no projects implemented by the IFC.

⁹⁴ Ibid

⁹⁵ Climate Investment Funds (2010b) *Strategic Programme for Climate Resilience Bangladesh*; Climate Investment Funds (2010c) *Strategic Programme for Climate Resilience Nepal*

⁹⁶ Interviews with IFC staff managing the projects. These were one representative from the Bangladesh office and one representative from the Nepal office, both interviewed in April 2012.

⁹⁷ Ibid

⁹⁸ Ibid

⁹⁹ Ibid

¹⁰⁰ Interview with civil society group in Nepal, April 2012

¹⁰¹ Interviews with civil society groups and IFC staff, April 2012

¹⁰² See http://unfccc.int/national_reports/napa/items/2719.php

¹⁰³ Further discussion of these differences can be found in Tearfund & CAFOD (2012) *Op. cit.* (see note 15)

¹⁰⁴ Ministry of Environment and Forest, Government of Bangladesh (2005) *National Adaptation Programme of Action*

¹⁰⁵ Tearfund & CAFOD (2012) *Op. cit.* (see note 15)

¹⁰⁶ See <http://ifcext.ifc.org/ifcext/southasia.nsf/content/SelectedPRBangladesh?OpenDocument&UNID=D2F67E1C03286BA2852578E20021E46D>

¹⁰⁷ Interviews with IFC staff, April 2012

¹⁰⁸ There may be other reasons, unrelated to the dynamics of specific climate projects, for why the Bangladeshi projects have been slow to start. For example, the government was embroiled in a conflict with the World Bank management over corruption in an unrelated project, which may have slowed other MDB projects. There have also been conflicts over whether the Bank or the government should exercise day-to-day management over climate funds. For more discussion, see Tearfund & CAFOD (2012) *Op. cit.* (see note 15)

¹⁰⁹ Ministry of Environment (2010) *National Adaptation Programme of Action*

¹¹⁰ Ibid

¹¹¹ See Ayers, J., Kaur, N. and Anderson, S. (2011) *Op. cit.* (see note 1)

¹¹² Ibid

¹¹³ Tearfund & CAFOD (2012) *Op. cit.* (see note 15)

¹¹⁴ Interview with IFC staff, April 2012

¹¹⁵ Interviews with five civil society representatives from Nepal, and three from Bangladesh, conducted in April 2012

¹¹⁶ Ministry of Environment (2010) *Op. cit.* (see note 109)

¹¹⁷ Climate Investment Funds (2010c) *Op. cit.* (see note 95)

¹¹⁸ Tearfund & CAFOD (2012) *Op. cit.* (see note 15)

¹¹⁹ IFC (2010) *Engaging the private sector in the Strategic Program for Climate Resilience in Nepal*

¹²⁰ Interviews with five civil society representatives from Nepal, May 2012

¹²¹ Ibid

¹²² Tearfund & CAFOD (2012) *Op. cit.* (see note 15)

¹²³ See joint mission documents, available at <http://www.climateinvestmentfunds.org/cifnet/?q=country-program-info/nepals-ppcr-programming> and <http://www.climateinvestmentfunds.org/cifnet/?q=country-program-info/bangladeshs-ppcr-programming>

¹²⁴ Tearfund & CAFOD (2012) *Op. cit.* (see note 15)

¹²⁵ Asian Tiger Capital Partners (2010) *A strategy to engage the private sector in climate change adaptation*

¹²⁶ Oakland Institute (2010) *(Mis)investment in agriculture*

¹²⁷ PROPAC, ROPPA & EAFF (2011) *Agricultural investment strengthening family farming and sustainable food systems in Africa*. Synthesis Report from the African Farmer Workshop, Mfou, Yaoundé, Cameroun, 4-5 May, 2011

¹²⁸ Christian Aid (2011) *Healthy harvests: the benefits of sustainable agriculture in Africa and Asia*

¹²⁹ International Assessment of Agricultural Knowledge, Science and Technology for Development (IAASTAD) (2008) *Global report: agriculture at a crossroads*, April 2008 page 2

¹³⁰ P Hazell *et al* (2007) *The future of small farms for poverty reduction and growth*, Washington DC: IFPRI, 2007, page 1

¹³¹ Oakland Institute (2009) *Voices from Africa: African farmers & environmentalists speak out against a new Green Revolution in Africa*

¹³² See <http://www.agra.org/>

¹³³ Critiques are wide-ranging, but for specific critiques of AGRA, see Daniel (2011) *Land grabbing and potential implications for world food security*; Dano (2007) *Unmasking the green revolution in Africa*; Oakland Institute (2009) *Op. cit.* (see note 131)

¹³⁴ See www.srfood.org

¹³⁵ ActionAid (2012) *Climate resilient sustainable agriculture*

¹³⁶ Rosset *et al* (2011) *The campesino-to-campesino agroecology movement of ANAP in Cuba: social process methodology in the construction of sustainable peasant agriculture and food sovereignty*; Ching (2011) *Mitigating and adapting to climate change through ecological agriculture*

¹³⁷ IIED (2011) *Adapting agriculture with traditional knowledge*; ActionAid (2008) *The time is now – lessons from farmers for adapting to climate change*

¹³⁸ IAATSD (2009) *Agriculture at a crossroads*

¹³⁹ Interviews with civil society groups in Nepal and Bangladesh, 2011. See also list of organisations consulted in SPCR joint missions at <http://www.climateinvestmentfunds.org/cifnet/?q=country-program-info/nepals-ppcr-programming>, and <http://www.climateinvestmentfunds.org/cifnet/?q=country-program-info/bangladeshs-ppcr-programming>.

¹⁴⁰ *Ibid*

¹⁴¹ Interviews with IFC staff, April 2012

¹⁴² Hammill, Matthew, McArthur (2008) *Microfinance and climate change adaptation*

¹⁴³ For a comprehensive review of the literature, see Bateman (2011) *Microfinance as development and poverty reduction policy: is it everything it's cracked up to be?*

¹⁴⁴ Climate Investment Funds (2011) *Zambia: Strategic Program for Climate Resilience*

¹⁴⁵ Interviews with four IFC staff responsible for IFC projects under the PPCR in Zambia, including weather insurance, conducted in April 2012

¹⁴⁶ *Ibid*

¹⁴⁷ Interviews with three civil society representatives from Zambia, conducted in April 2012

¹⁴⁸ Climate Investment Funds (2010d) *Op.cit.* (see note 144)

¹⁴⁹ Government of Zambia (2011) *Sixth National Development Plan 2011–2015*

¹⁵⁰ Ministry of Tourism, Environment and Natural Resources (2008) *National Adaptation Programme of Action*

¹⁵¹ Ministry of Tourism, Environment and Natural Resources (2010) *National Climate Change Response Strategy*

¹⁵² Tearfund & CAFOD (2012) *Op. cit.* (see note 15)

¹⁵³ Interviews with four IFC staff responsible for IFC projects under the PPCR in Zambia, including weather insurance, conducted in April 2012

¹⁵⁴ Climate Investment Funds (2011) *Op. cit.* (see note 144).

¹⁵⁵ Interviews with three civil society representatives from Zambia, conducted in April 2012

¹⁵⁶ Interviews with IFC staff, April 2012

¹⁵⁷ Interviews with three civil society representatives from Zambia, conducted in April 2012

¹⁵⁸ *Ibid*

¹⁵⁹ *Ibid*

¹⁶⁰ *Ibid*

¹⁶¹ Climate Investment Funds (2011) *Op. cit.* (see note 144).

¹⁶² Ibid.

¹⁶³ University of Columbia (2007) *Index insurance for climate risk management and poverty reduction*

¹⁶⁴ International Fund for Agricultural Development, World Food Programme (2010) *The potential for sale and scalability in weather index insurance*

¹⁶⁵ University of Columbia (2007) *Op. cit.* (see note 162)

¹⁶⁶ Ibid

¹⁶⁷ Bretton Woods Project (2009) *Helping farmers weather risks? Assessing the World Bank's work on weather insurance*

¹⁶⁸ Ibid

¹⁶⁹ Peterson (2012) *Developing climate adaptation: the intersection of climate research and development programmes in index insurance*; Collier, Skees (2008) *Agricultural insurance: background and context for climate adaptation*

¹⁷⁰ Barnett *et al* (2009) *Weather index insurance and climate change: opportunities and challenges in low-income countries*

¹⁷¹ University of Columbia (2007) *Op. cit.* (see note 162)

¹⁷² Ibid

¹⁷³ Peterson (2012) *Op. cit.* (see note 168); Collier, Skees (2008) *Op. cit.* (see note 168); Bretton Woods Project (2009) *Op. cit.* (see note 166)

¹⁷⁴ Peterson (2012) *Op. cit.* (see note 168)

¹⁷⁵ See Ayers, J., Kaur, N. and Anderson, S. (2011) *Op. cit.* (see note 1)

¹⁷⁶ Peterson (2012) *Op. cit.* (see note 168)