

Private Sector Development Synthesis Note

Private Sector Adaptation to Climate Change and Development Agency Support

This Note explores the role of the private sector in adaptation, and how development agencies are providing support. The private sector is important as firstly, it is a key driver of job creation and economic growth, and risks to it are risks to wider well-being and poverty reduction. Secondly, climate change will expand existing markets and create new markets for adaptation-relevant products and services, such as drought resistant crops and extreme weather insurance. Private sector activity in such markets can potentially both create new jobs and increase incomes, and at the same time reduce the wider negative impacts (and harness the positive impacts) of climate change.

The private sector does, however, face a number of challenges and this Note highlights some of the ways forward. Resources on the topic are limited and dispersed, and this Note aims to bring them together and point to further resources. It is based on publicly available information; comments or additions are welcome.

1. The impact of climate change

[The IPCC's Fifth Assessment Report \(2013\)](#) notes that warming of the world's climate system is unequivocal; greenhouse gas (GHG) emissions have contributed to warming, probably in the range 0.5-1.3°C from 1951–2010. The IPCC highlights four potential future scenarios: a mitigation scenario, two stabilisation scenarios and a very high GHG emissions scenario - giving a range of temperature change projections from 0.3-4.8 °C by 2100. [Peters et al \(2012\)](#), however, note that we are on track to higher emission scenarios, which suggests a rise of over 2°C. As the [UK government \(2012\)](#) states, it *"is the world's poorest who will be hit hardest by the impacts of climate change. They are the most vulnerable and least able to adapt, yet they have contributed the least to its causes."*

The [IPCC's Fourth Assessment Report \(2007\)](#) highlights numerous expected climate change impacts, with most increasingly intense with higher temperatures. Heat waves, heavy precipitation events and intense tropical cyclone activity will become more common. More areas will be affected by drought. Sea levels are projected to rise 26-82cm by 2100, with warming above an unknown threshold leading the Greenland Ice Sheet to melt in a millennium or more, resulting in a sea level rise of up to 7m (IPCC, 2013). Millions more people are likely to be flooded annually due to sea-level rise by the 2080s. Densely-populated and low-lying areas are especially at risk, such as in the mega-deltas of Asia and Africa and small islands. Global food production potential is projected to increase with rises of 1-3°C, but to decrease above this. However, large variations are expected between regions, and crop productivity is projected to decrease for any temperature increase at lower latitudes.

Estimates of the costs of adaptation in developing countries vary. The [World Bank \(2010\)](#) finds that the cost of adapting to a 2°C warmer world by 2050 is in the range of \$70 - \$100 billion

annually between 2010 and 2050. The highest costs for East Asia and the Pacific are in infrastructure and coastal zones; for Sub-Saharan Africa, water supply and flood protection and agriculture; for Latin America and the Caribbean, water supply and flood protection and coastal zones; and for South Asia, infrastructure and agriculture. While governments have important roles in protecting infrastructure, setting guidelines and providing social protection, the costs of adaptation cannot be entirely met by the public sector.

2. Impact on and role of the private sector

Climate change poses not only a direct threat to individuals and communities, but also threatens the private sector, a key contributor to job creation, economic growth and poverty reduction. **Direct climate-related risks to the private sector affect core business operations.** For instance, extreme weather will increasingly cause business interruption and damage to physical assets. Temperature change will impact on staff health, and crop and livestock productivity. Water scarcity will pose challenges for river transport, industrial cooling and hydro-electricity. Sectors which will be particularly affected include agriculture, infrastructure operators and tourism.

Indirect climate-related risks occur through other market changes, with sectors particularly affected including food retail, finance and insurance. Supply chains will be disrupted with, for instance, challenges to agricultural production and increased competition for some resources. Market demand will also change as customers respond to climate change. **These risks are becoming increasingly serious for firms.** The Global Environment Facility (GEF) (2012) notes, for instance, that the number of enterprises already affected by extreme weather events is growing, highlighting examples of droughts in wheat-growing regions leading to dramatic price rises and food riots, and floods in Thailand severely disrupting global manufacturing.

Pauw (2015) finds that private adaptation interventions complement public adaptation activities. Yet the ten adaptation finance criteria of UNFCCC are not met, which demonstrates that the diplomatic conceptualisation of financing adaptation does not yet match with the private sector reality. Agrawala et al (2011) found that companies are generally aware of the risks, but few have conducted risk assessments and even fewer have assessed adaptation options. A 2015 report by the Climate Change Support Team (CCST) of the UN Secretary General found more recently that 'many organisations ... are altering their long-term business models in response to the commercial opportunities and challenges posed by climate change'. The report outlines progress in the new green bond market, adoption of internal carbon prices, innovations in insurance, and a move away from carbon-intensive activities.

Climate change will create markets for private enterprises with new adaptation-relevant products and services, and expand demand for existing products or services, in what Oxfam USA (2009) calls the new 'adaptation marketplace'. In agriculture, for example, climate and drought resilient seeds, and drip irrigation technologies, will become more important. In ICTs, weather forecasts and crop information services will see higher demand. Disaster risk management needs will lead to increased demand for insurance and resilient building materials. Publicly-funded infrastructure projects will be needed, such as in coastal zone protection and flood prevention. Demand will increase for climate change information, and adaptation and risk management consulting services.

3. Challenges to private sector adaptation

Private sector adaptation does, however, face challenges. Many enterprises know too little about the projected impacts. UNGC et al (2011) notes that it is difficult for companies to factor scientific data, usually about long-term trends over large areas, into local decision-making. The complex nature of climate change means that projected impacts are also liable to revision. Additionally, for many developing countries, **the markets for adaptation and disaster risk management consultancy services are still developing.** In particular SMEs with small budgets, and enterprises in remote rural areas, are unlikely to have access to specialist advice. The specific challenges and opportunities for small businesses in adapting to climate change are explored in detail in [Dougherty-Choux et al, 2015](#).

Firms may also lack incentives. PWC (2010) notes that many adaptation measures require investment now, while the benefits may not be realised for years. UNGC et al (2011) highlight that much of the investment in adaptation, such as improved flood defences, has a public good element, discouraging investment by individual firms. Companies are also not experienced in quantifying how ecosystems contribute to their businesses, and often undervalue natural resources and the ecosystem services they depend on - leading to underinvestment in adaptive activities.

The policy and regulatory environment that firms operate in also can also be a problem. PWC (2010) notes that there can be a lack of clear policy direction from government, leading many businesses to prefer to 'wait and see'. National Adaptation Programme of Actions (NAPAs) may be developed by governments with little private sector involvement. Private sector activity may also be limited in key sectors. GEF (2012) notes, for instance, that in most countries, weather and storm warnings have historically been public functions, and that alternative business models have emerged only recently. UNGC et al (2011) notes the problem of policies that do not allocate natural resources like water to ensure adequate access for all users. They also suggest that uncertainty about climate impacts may make it more difficult to secure financing for adaptation investments with a long return horizon, or based on pre-emptive risk management. This is especially so for SMEs, which already face limited access to credit.

4. Development agency approaches to supporting the private sector for adaptation

The UNFCCC has enshrined the principle that developed countries should transfer funds to developing countries to support adaptation, and the OECD records statistics on aid to climate change adaptation [here](#). In the 2009 Copenhagen Accord, developed countries pledged to provide \$30 billion in additional fast-start finance (FSF) from 2010 to 2012 and mobilise \$100 billion a year from public and private sources by 2020. **The [World Resource Institute \(2013\)](#) found, however, that adaptation FSF was only 18% of total FSF.**

A number of inter-linked approaches are increasingly being used by agencies, often within the same programme.

- A 2015 study of the evidence base on private sector engagement in financing climate change adaptation found that private sector adaptation finance by Multilateral Development Banks (MDBs) in 2013–14 equalled US\$270 million, which made a total of \$1.5 billion of MDB investment more climate-resilient. Private sector adaptation finance is highly leveraged: the total project value of these MDB investments with adaptation

components was \$5.5 billion. Infrastructure, water and agribusiness projects dominate the portfolio. Over 80% was delivered in middle-income countries. Donor co-financing has played a modest role. The study concludes that MDBs can improve their origination effectiveness, for example by continuing to mainstream climate change across banking teams and monitor adaptation finance (Vivid Economics / EBRD, 2015).

- **A number of agencies provide relatively direct support to the livelihoods of the poor by increasing resilience** through, for instance, support to income diversification, improving resource availability, or promoting climate resistant practices. Community-based adaptation (CBA) additionally focuses on empowering communities to take action. For instance, between 2009 and 2013 UNDP Bangladesh's programme [Community Based Adaptation to Climate Change](#) established mangrove plantations on 6,100 hectares of coastal lands, which are particularly able to survive in salty water and trap sediment, helping protect against storm and coastal erosion. Communities were supported in carving ditches and dykes behind the plantations, and diversify livelihoods by cultivating fish, fruit and vegetables. Training in plantation techniques and management and cash-for-work programmes resulted in livelihood diversification for over 85,000 people. IIED has also organised a number of [conferences](#) on CBA, while guidance for practitioners is available [here](#).
- **An emerging trend in private sector development, and the approach used in a number of adaptation interventions, is partnership with private sector actors.** For instance, Cafédirect and GIZ's [Adaptation for Smallholders to Climate Change partnership](#) ran from 2007-2010 in Kenya, Peru, Mexico and Nicaragua to strengthen the adaptive capacity of smallholder coffee and tea organisations in Cafédirect's supply chain. In Kenya, dependence on tea monoculture was reduced, through double-digging plots and planting multi-storey gardens with 2,290 farmers. GIZ, Sida and European coffee businesses have supported the [Coffee and Climate Initiative](#). Oxfam America, Swiss Re and others supported the [Horn of Africa Risk Transfer for Adaptation](#), which provided farmers with affordable drought insurance, based on a weather index; farmers paid premiums through labour on community projects. By 2011 over 13,000 households had been enrolled and the first insurance payments made. Building on the success, Oxfam America and the WFP launched the [R4 Rural Resilience Initiative](#) to expand the model, with USAID support.
- **Supporting the transfer or development of climate resilient technologies or practices, while building on local knowledge, has been key to a number of initiatives noted, and is the focus of a number of funds.** For example, the [Africa Enterprise Challenge Fund Renewable Energy and Adaptation to Climate Technologies funding window](#) has supported the introduction of zero-till planters fitted with Bio-active exhaust emission kits. These allow crop harvesting in extremely low rainfall conditions, and convert tractor exhaust fumes into fertiliser.
- **Agencies have also supported specific markets for adaptation products and services.** Fry (2013) notes that such projects constitute the largest category of IFC-implemented projects in the PPCR pipeline, and largely involve agriculture, insurance and weather information services, and include technical assistance, knowledge-building and feasibility studies to create the required regulatory environment. Other examples include [BMZ's Umbrella programme for the promotion of MSMEs in India](#), which is working on building a self-sustaining business development service sector, including adaptation consultancy services.

The Netherlands Ministry of Foreign Affairs has focused on building up markets using satellite technology information. In 2009, it supported EARS Earth Environment Monitoring to develop FESA Micro-Insurance, an insurance system using satellite data to develop an index of agricultural drought and excessive precipitation. This supported numerous micro-insurance provider projects across Africa, with 23,000 farmers insured as of March 2013. Its [Geodata for Agriculture and Water Facility](#) supports the build-up of service chains linking satellite data, which it provides, to tailored agricultural services for food producers.

5. Potential ways forward

The CCST 2015 report cited above also notes that 'low-carbon investment levels are currently below those needed to avoid breaching the 2°C threshold this century, and adaptation funding gaps are anticipated ... Policymakers need to increase the demand for low-carbon, climate resilient investment.' More generally, and despite the noted examples, there is limited experience in supporting private sector adaptation, suggesting **the importance of sharing experiences and best practice**. Fora include the [DCED Green Growth Working Group](#), [Green Growth Knowledge Platform](#), the [Adaptation Futures Conferences](#), and the [AdaptationCommunity.net community of practice](#).

The [UN Green Climate Fund](#) proposed in 2014 that it will aim for a 50:50 balance between funding for mitigation and adaptation. **Adaptation concerns could also be mainstreamed through climate-proofing broader private sector development programmes**, for instance, as [AFD, 2011](#) notes, through evaluating programme climate vulnerabilities and integrating climate risk analyses into project design and selection processes. Ranger (2013) examines this more in a DFID topic guide, '[Adaptation: Decision making under uncertainty](#)'.

More market-oriented ways of supporting the private sector could be further considered. Prabhakar (in Fujikura and Kawanishi, 2011) highlights that, at least in the African context, many interventions have focused on strengthening community livelihoods. Though these have supported the poor and have often learned about their needs in participatory ways, Prabhakar notes that they have often been small-scale. More broadly, projects may be overly focusing on direct delivery to beneficiaries, with their sustainability and overall market impacts unclear.

Building on current work to further support private sector capacity in new and existing adaptation-relevant markets, such as adaptation consultancy work and weather / climate forecasting and communication, could be valuable. Infrastructure assistance has been important, but further support could focus on the capacity of the sectors carrying out infrastructure work, such as engineering, construction and water management.

The market-wide nature of challenges, such as lack of knowledge on climate change impacts and limited supporting markets, suggest that [market systems approaches](#) could be particularly relevant. Business environment challenges also suggest the value in support for regulatory environments that stimulate private sector engagement by encouraging or requiring adaptation and for a larger private sector role in their development.

Click here for the DCED's Green Growth Knowledge Page, with a range of useful resources on the theme: www.enterprise-development.org/implementing-psd/green-growth