



Climate compatible development in the 'Land of a Thousand Hills': Lessons from Rwanda

By **Debbie Caldwell, CIDT Associate; Jillian Dyszynski, CIDT Associate; Rachel Roland, CIDT**

About this Working Paper

This working paper documents Rwanda's lessons related to national-level climate change planning, captured as part of the "Lesson Learning from National Climate Compatible Development (CCD) Planning" study. Rwanda, Ethiopia, Kenya and Mozambique participated in the study, which aimed to capture and share institutional memory and experiences related to climate compatible development, and reflect on recommendations to support future decisions. The study was funded by CDKN and facilitated by the Centre for International Development and Training (CIDT) at the University of Wolverhampton.

Rwanda's national learning study was undertaken from July 2013 to February 2014, through a literature review and semi-structured interview and questionnaire process involving over 30 stakeholders. A stakeholder's workshop was held in Kigali, Rwanda, in February 2014 to validate the key lessons and results. Discussions explored key drivers, challenges, opportunities and lessons that could be shared within Rwanda and with other interested countries. The working paper highlights some of the results of this process across Rwanda's priority thematic areas: governance and institutional arrangements; legislation, policies and strategies; mainstreaming, planning and budgeting; financing; and knowledge generation. This brief also summarises recommendations from the study to inform future work.

Many thanks to Sarah Love, Alphonsine Ntabana, Mairi Dupar, Lisa McNamara, Ari Huhtala and Simbisai Zhanje for useful and constructive reviews. This paper would not have been possible without the valuable input from stakeholders in Rwanda, and the Rwanda Environment Management Authority's leadership of the learning process in Rwanda.

About the authors

Debbie Caldwell is a CIDT Associate and provided long-term programmatic and resource mobilization support to Rwanda's Environment and Climate Change Fund (FONERWA). As a former CIDT Associate Jillian Dyszynski was instrumental in operationalising FONERWA, but now works as Country Operations Specialist for the Green Climate Fund Secretariat. Rachel Roland is the Deputy Head of CIDT and Principal International Development Specialist at the University of Wolverhampton. Rachel is the Project Manager for the Lesson Learning study.

Climate compatible development in the 'Land of a Thousand Hills': Lessons from Rwanda

By Debbie Caldwell, CIDT Associate; Jillian Dyszynski, CIDT Associate; Rachel Roland, CIDT



© istockphoto/Robert_Ford

Hilltop village overlooking Lake Ruhondo, Central Highlands, Rwanda

Contents

Introduction	2
Governance and institutional arrangements	2
Laws, policies and strategies	3
Financing climate compatible development transformations	6
Driving change through knowledge management	7
Recommendations and implications	8
Endnotes	9

Key messages

- In the last decade, Rwanda has emerged as a leader in Africa for its efforts to integrate considerations of climate resilience and green growth into planning and finance.
- Strong alliances between the Ministry of Natural Resources – through the Rwanda Environment Management Authority – and the Ministry of Finance and Economic Planning have enabled many achievements in climate compatible development to date.
- Rwanda has a number of innovative solutions to share with the region, including establishing a demand-based Environment and Climate Change Fund (FONERWA) and introducing tools for mainstreaming environment and climate change issues into budgeting and planning systems at both national and subnational levels.
- After two years of operation, FONERWA has made considerable progress, including mobilising approximately US\$44 million in capitalisation commitments, receiving over 1,000 eligible proposals, holding seven public calls for proposals and partnering with the Rwanda Development Bank to provide a credit line to qualifying private sector applicants.

Introduction

As the most densely populated country in Africa, with a terrain that is prone to severe soil erosion, Rwanda has always had to deal with issues related to its land and environment.¹ During the last decade, Rwanda has actively pursued sustainability objectives as part of its national development agenda. In line with this, the Government of Rwanda, along with three other countries (Ethiopia, Kenya and Mozambique) elected to participate in a study called 'Lesson Learning from National Climate Compatible Development Planning', with the support of CDKN. The study objective was to capture and share best practices emerging from national-level climate change planning. Rwanda's experience has shown that much can be accomplished with few resources in a challenging post-conflict development context. Key lessons include the value of legal backing for climate compatible development policies, the need for strategies to be translated into clearly costed action plans, and the establishment and early success of Rwanda's Environment and Climate Change Fund (FONERWA). Rwanda has also benefitted significantly from specific guidance tools that help mainstream climate considerations into development planning and budgeting.

We are not making a choice between environment and prosperity. We are rather looking at how do we combine both because one supports the other.

– His Excellency President Paul Kagame, speaking at the 2015 World Economic Forum in Davos, Switzerland

Environmental degradation and climate change have been recognised at the highest political level as major barriers to achieving Rwanda's medium- and long-term development goals. Yet these risks have also become a driver for change.

Governance and institutional arrangements

Rationalising institutions and mandates

Before 1994, Rwanda's environmental initiatives were addressed by different pieces of legislation and managed by different departments, with very few dedicated staff and insufficient budgets. This inefficiency, combined with the evident increase in unseasonal rains, flooding, landslides and drought, prompted the Government to establish the Ministry of Natural Resources (MINIRENA) in 2003 under

its new Constitution. The Rwanda Environment Management Authority (REMA) was subsequently established in 2006 and the Rwanda Natural Resources Authority in 2011, with a view to achieving more sustainable and integrated management of natural resources, as well as better national-level technical support for subnational agencies.²

Institutional innovations

Recognising that the implementation of environment and climate change strategic plans requires broader partnership and institutional responsibility (especially between donors and the Government), Rwanda adopted several innovative institutional arrangements to improve the coordination of environment and climate priorities as cross-cutting development issues. These include the Sector Wide Approach (SWAp) Secretariat in MINIRENA, as well as the Natural Resources Sector Working Group and the Environment and Climate Change Sub-Sector Working Group, which serve as multi-stakeholder forums to discuss environment and climate-related issues. Coordination was further improved by creating Single Project Implementation Units to coordinate projects across government ministries and institutions. These achieve economies of scale and reduce the transaction costs of project design and implementation, streamline reporting and provide efficiencies across donor projects.

Challenges and opportunities

Despite the above innovations, there is still a lack of ownership and coordination of environment- and climate-related activities across sectors. This stems from low institutional capacity, coupled with financial constraints. Both national and subnational agencies still struggle with nascent institutional arrangements for environment and climate issues, and they have limited capacity to implement national policies and plans. Opportunities to address this include:

- expanding and institutionalising the REMA internship programme that places talented young graduates with relevant experience as environment and climate focal points in key ministries and districts
- reinforcing links between the Ministry of Local Government and technical ministries to strengthen district capacity for planning and implementing climate compatible development activities
- creating a 'Green Economy Steering Committee' to improve the coordination and implementation of strategic national objectives for climate compatible development; this concept is now under consideration by REMA and the Ministry of Finance and Economic Planning.

In a short period of time, Rwanda has demonstrated that a lot can be accomplished with minimal resources and strong national commitment.

– Director General at REMA, Dr Rose Mukankomeje, in an interview for the 'Lesson Learning from National Climate Compatible Development Planning' project

Laws, policies and strategies

Creating an enabling environment for climate compatible development

Environment and climate legislation created a critical enabling environment for developing and implementing progressive institutional arrangements, policies and strategies. For example, the passage of the Environment Law in 2005 strengthened the legal authority of the Government to limit and control construction, agricultural and pastoral activities around water bodies, and the 2005 Land Law designated lakes and swamps as state land. This enabled the Government to address the root causes of a major energy crisis in 2004 which had arisen due to a combination of drought, poor management and overuse of the Rugezi-Burera-Ruhondo watershed (specifically an irrigation scheme that was draining the Rugezi wetland and a lack of erosion control measures around agricultural activities on steep slopes; this led to a rapid draw down of water levels in Burera Lake, critical to the functioning

of Rwanda's two largest hydropower stations, acute supply shortages and soaring costs of accessing electricity). Enactment of the legal framework was crucial to ensure that subsequent watershed restoration works were not compromised at a later date by human activities encroaching on wetland ecosystems.

The establishment of the Ministry of Natural Resources under the 2003 National Constitution and its three sectoral agencies – REMA, the Rwanda Natural Resources Authority and the Meteorology Agency – provided the institutional framework to integrate climate change as a cross-cutting issue into planning, implementation and monitoring across all sectors.

Although the Government recognised the strategic importance of environment and climate issues, a dedicated extra-budgetary fund was needed to mobilise resources additional to the country's consolidated budget in order to implement activities. While the 2005 Environment Law provides for the establishment of such a fund, it took seven years of debates before the FONERWA Law establishing a fund for both environment and climate change was passed in 2012. Challenges to the Law's passage were overcome in large part by strong strategic partnerships between REMA and the Ministry of Finance and Economic Planning.

Rwanda's green economy vision

Most of the country's climate-related policy milestones and strategic frameworks were developed in the last five years and are embedded in Rwanda's national development frameworks. In the case of Vision 2020 – Rwanda's long-term development strategy – its 2012 revision was informed in part by the increasing burden of climate-related impacts (e.g. droughts, floods and landslides). Similarly, Rwanda's latest Economic Development and Poverty Reduction Strategy 2013–2018 (EDPRS II)³ also seeks to enhance cross-sectoral collaboration and coordination on environment and climate issues, prioritising 'green economy' transformations such as a green city pilot to test and promote new approaches that respond to Rwanda's rapid pace of urbanisation.

Climate resilience and green growth strategy

EDPRS II's green economy objectives were directly informed by Rwanda's Green Growth and Climate Resilience Strategy,⁴ adopted in 2011. Strategy development was informed by intensive cross-sectoral consultations and driven by ownership at the highest level (i.e. the Office of the President). However, financing and putting this strategy into practice is proving challenging due to its cross-cutting nature and because the responsibility for implementing its 14 programmes of action is shared among diverse sectors, often with competing interests. This has complicated issues of ownership, monitoring and coordination. Furthermore, the strategy lacks a clear, costed implementation plan that would enable the effective allocation of resources to priority projects.

Champions of progress

Political will and active Government champions are the main drivers behind Rwanda's climate compatible development strategies, from the Office of the President to each subsequent level of management. However, there are several challenges to the successful implementation of the Green Growth and Climate Resilience Strategy and green economy concepts of EDPRS II, including the difficulties that sector and district planners face in translating high-level objectives into practical, costed activities. An opportunity to address this includes work being undertaken by the African Development Bank to cost the Strategy. Further capacity-building support is also underway by FONERWA to strengthen policy implementation.

Mainstreaming, planning and budgeting

Public expenditure on the environment and natural resource sector under the Ministry of Natural Resources is low compared to other sectors such as the Ministry of Infrastructure, Ministry of Agriculture and Animal Resources, Ministry of Education, Ministry of Trade and Industry and the Ministry of Local Government. This means that in order to finance climate compatible development, the sector must engage others to mainstream climate-related priorities into their budgets. The Government has made significant progress on this front.⁵ Key achievements for mainstreaming environment and climate change issues in Rwanda include:

- developing sector-specific mainstreaming guidelines for planning and budgeting climate adaptation and mitigation⁶
- capacity building through an internship programme for sector and district focal points
- education programmes for schools and police under REMA's Environmental Education for Sustainable Development programme
- piloting 'climate-proofed'⁷ settlements piloted under MINIRENA/REMA's Poverty Environment Initiative
- mainstreaming climate compatible development results into performance contracts (otherwise known as *Imihigo*, which means to vow to deliver in Kinyarwanda) and District Development Plans.

Despite extensive work and achievements to date, awareness of climate change and related strategies remains patchy outside of the highest levels, particularly in districts, and both financial and human capacity are overstretched. As a result, there is limited take-up in sector and district budgeting and planning for nationally-endorsed climate compatible development activities – let alone implementation. To address this, REMA and FONERWA are supporting the Ministry of Local Government to integrate climate compatible development into district plans and budgets as part of a national exercise to revise District Development Plans being led by the Local Administrative Entities Development Agency.

Visibly positive results of demonstration projects such as climate-proofed villages have also helped to build awareness attracting attention of district mayors and planners, who then prioritise the inclusion and scale-up of activities into development plans and budgets.

Direct consultation with local communities is critical since they are on the front lines of climate change. Therefore, the most sustainable adaptation and mitigation plans and actions are community driven and owned.

– Alphonse Mutabazi, REMA

Budget mainstreaming innovations

The Budget Call Circular is a primary tool used to guide Rwanda's overall budgeting process. The Circular is sent by the Ministry of Finance and Economic Planning to all ministries and districts to budget for the upcoming fiscal year. From fiscal year 2012–2013 onwards, all budget agencies were required to submit an annex reflecting environment and climate change priorities within their budget submissions, in line with Budget Call Circular requirements. This policy was endorsed by the Ministry of Finance and Economic Planning following a successful pilot using the annex for three sectors' budgets as part of the United Nations Environment Programme/United Nations Development Programme (UNEP/UNDP) Poverty Environment Initiative work. This transformed the environment and climate change objectives proposed in strategy documents into programmed activities with dedicated budgets and implementation schedules.

While Budget Call Circular mainstreaming was successful, it also uncovered significant knowledge and capacity gaps for climate-related planning and budgeting within sectors. Nevertheless, a clear lesson is that continued support from Ministry of Finance and Economic Planning will remain instrumental to the mainstreaming and integration of climate issues into the planning and budgeting processes. This includes the willingness of the Ministry to listen and understand the need for contingency resources in the event of climate-related disasters. This was demonstrated by provision of contingency resources by the Ministry to support recovery from the 2012 flooding events.

Fiscal incentives for climate compatible development

Environmental fiscal reforms can be a powerful instrument for financing climate compatible development. They offer multiple benefits including: i) addressing environmental issues, ii) reducing

poverty and iii) raising revenue. In Rwanda they are provided for in the Investment Code (2005) and other laws for customs, value-added tax, income and consumption, and include taxation, charges, tax exemptions and other incentives such as a Renewable Energy Feed-in Tariff for hydropower plants and provision of power purchase agreements. Despite these fiscal incentives, attracting private investment in climate compatible development is challenging due to high transport costs, a small domestic market, limited access to affordable financing, inadequate infrastructure, ambiguous tax rules and a lack of skills in the workforce.

Financing climate compatible development transformations

Financing landscape

Funding for the implementation of climate-related activities in Rwanda is mobilised from four principle sources, including: i) internal public investment resources, ii) external development partner resources, iii) international climate finance which is increasingly channelled through FONERWA and iv) non-public sector resources (e.g. non-governmental organisations and the private sector). Despite these diverse sources, a recurrent challenge is that certain agencies (e.g. districts, the Ministry of Natural Resources, and the Ministry for Disaster Management and Refugee Affairs) receive relatively low levels of support, highlighting the need for additional external finance.

Trends indicate that overseas development assistance to Rwanda for environment and climate-related activities is rising. Trends also indicate that these funds are increasingly project-based, with 36% of investments being off-budget and 71% of overseas development assistance provided through programmes, projects or basket funds. Further mainstreaming efforts to tap into district and ministries' budget requests, as well as encouraging private sector and green investments, are important steps towards sustainably financing climate compatible development in Rwanda.

FONERWA: Rwanda's Environment and Climate Change Fund

As a response to low public resource allocations directly available for environment and climate sector, the Government of Rwanda established FONERWA or Rwanda's Green Fund⁸ in 2012. FONERWA is the vehicle through which additional environment and climate change finance is channelled, programmed, disbursed and monitored in Rwanda. The FONERWA Law formed the primary basis for the design of the Fund, which can be accessed by government agencies, districts, civil society organisations and the private sector.

Rwanda needs to find internal financial solutions for climate funding; to build good relationships and adapt to changing financing landscapes.

– Peter Katanisa, Ministry of Natural Resources

In 2012, the UK International Climate Fund provided initial seed capitalisation of GBP 22.5 million (US\$34 million) to FONERWA. Domestic counterpart funding was critical to securing this bilateral support and to date the government has contributed US\$3.7 million. FONERWA has also partnered with the Rwanda Development Bank to establish a concessional lending facility for eligible private-sector applicants. The partnership is groundbreaking in the Rwandan context, as national financial institutions consider environment and climate investments to be high-risk in nature, offering limited financing options. Moreover, high lending rates across the Rwandan banking sector deter investment and private sector growth; concessional rates offered through the Rwanda Development Bank can therefore play a key role in leveraging private-sector investment in climate compatible development. Key strengths of FONERWA include the national orientation and ownership of the fund, and its ability to pool and attract additional resources. Potential weaknesses include its heavy reliance on donor resources for capitalisation. After two years of operation, FONERWA reported the following achievements and lessons (see Box 1):

- seven public calls for proposals
- over 1,000 eligible project concept notes submitted
- 723 stakeholders trained in proposal development
- approximately US\$44 million in capitalisation commitments
- US\$20.4 million in leveraged external finance
- partnership with the Rwanda Development Bank to provide a credit line to qualifying private-sector applicants.

Driving change through knowledge management

Building an influential evidence base

Rwanda has strategically developed a strong and growing evidence base to support climate compatible development. Building blocks include regular public outreach (e.g. via television and radio), research studies, state-of-the-environment and United Nations Framework Convention on Climate Change reporting, data-gathering infrastructure and systems, and demonstration projects.

A number of influential studies and reports have also helped inform policy decisions. The 2009 *Economics of Climate Change in Rwanda*⁹ provided headline costs on the potential impact of climate change on the gross domestic product and was instrumental in encouraging policy makers to prioritise climate change issues. The commissioned Public Environment Expenditure Reviews (2009, 2013),¹⁰ among other work, also helped to capture high-level interest and support, by recognising that climate change in Rwanda is not just an environment issue, but also an economic development one. This high-level awareness helped catalyse the development of the Green Growth and Climate Resilience Strategy and establishment of FONERWA.

Knowledge-sharing

In line with the Strategy's recommendations, plans are underway to establish an Environment and Climate Change Innovation Centre in Rwanda to interpret and share climate information and pilot promising 'green' technologies that are likely to provide large-scale environmental and economic benefits. Despite recent improvements in data collection, most of the data related to environment and climate change remains scattered, leading to calls for a more centralised database for easy access by users from both public and private sectors. Establishing the knowledge-sharing centre is an opportunity to address this. The centre is intended to become a centre for excellence in climate science in Rwanda.

Box 1. Key success factors in designing and operationalising FONERWA

- a strong fund design basis, preferably with legislative backing (i.e. FONERWA Law)
- sufficient time for the design and operationalisation process (3 or more years)
- multi-stakeholder inclusive design process, and buy-in of fund structure
- integration with national policy, planning and budgeting processes
- some level of 'match funding' by the government to secure bilateral capitalisation and demonstrate ownership
- phased approach to financial instruments (grants, loans and guarantees)
- multi-stakeholder governance structure
- high standards of fiduciary management, aligned with Government of Rwanda best practices and systems, including environment and social safeguards (read more about Rwanda's fiduciary standards on CDKN's website <http://cdkn.org/2015/05/fiduciary-standards-and-access-to-climate-finance/>)
- continuous capacity building and outreach (especially subnationally)
- appropriate institutional arrangements that meet the criteria of international climate funds.

The power of demonstration

A large body of influential work exists in terms of climate compatible development projects and programmes in Rwanda. These range from the 'Poverty Environment Initiative' and the 'Least Developed Countries Fund' project focussed on community-based climate adaptation in flood-prone areas of Nyabihu to the Government's flagship 'Vision 2020 Umurenge Program', the 'Rwanda Integrated Water Security Program', the 'Landscape Approach to Forest Restoration and Conservation Project', the 'Gender Climate Change and Agriculture Support Programme', 'the Decentralisation and Environment Management Project' and the 'Integrated Development Programme', among many others. Box 2 describes a Poverty Environment Initiative project example in Rubaya, which has resulted in a Ministry of Local Government request that all districts have at least one green and climate-resilient village demonstration project.

Box 2. The green and climate-resilient village of reference in Rubaya, Northern Rwanda

To showcase how environment, climate and poverty issues are interlinked in Rwanda, and that practical solutions are possible for sustainable development, a demonstration 'green and climate-resilient village' was established in Rubaya in Northern Rwanda. Beneficiaries included 43 families (196 people), and site selection was based on high levels of vulnerability due to poverty. Areas of intervention included distribution of high-breed Friesian cows and biogas digesters for cooking, implementation of land consolidation and erosion control, installation of water reservoirs and rainwater harvesting systems, as well as promotion of sustainable farming and zero-grazing livestock practices and communal settlements for more efficient provision of services.

Source: REMA, 2012¹¹

Recommendations and implications

Other decision-makers and development practitioners can learn from the Rwandan experience, which includes the following lessons:

- Backing of environment and climate legislation creates a critical political enabling environment for the development and implementation of progressive institutional arrangements, policies and strategies for climate compatible development.
- Strong alliances among ministries of finance and economic planning and environment ministries and agencies improves mainstreaming of climate considerations into planning and budgeting, as well as the establishment of national climate funds.
- Well-publicised, high-impact demonstration projects provide powerful examples for scaling up tangible climate compatible development activities locally and nationally.
- Integrating climate action into the economy requires a coordinated and systematic approach to capacity building, planning and resource mobilisation both within and across sectors.
- Effective mechanisms are needed to ensure good communication and flow of information on climate issues between national-level technical ministries/agencies and institutions and organisations at district and sub-district levels.
- Capacity for planning, budgeting, mainstreaming and developing proposals around climate compatible development at national and subnational levels is a persistent challenge, and requires targeted approaches.

Recommended reading

Kagame, P. (His Excellency) (2009) Address to the African Ministers of Finance and Environment Conference in Kigali, Republic of Rwanda, 21 May 2009.

Endnotes

- 1 Elias Baingana, former Director General of Budget, Ministry of Finance.
- 2 Note that environment and climate change priorities fall under REMA, whereas land, forestry, water resources management and mining initiatives are executed under the mandate of the Rwanda Natural Resources Authority.
- 3 MINECOFIN (2013) *Economic Development and Poverty Reduction Strategy (EDPRS)*. Kigali, Republic of Rwanda: Ministry of Finance and Economic Planning (MINECOFIN). <https://www.imf.org/external/pubs/ft/scr/2013/cr13360.pdf>
- 4 Government of Rwanda (2011) *Green growth and climate resilience: national strategy for climate change and low carbon growth*. Kigali, Republic of Rwanda: Government of Rwanda.
- 5 Mainstreaming in this context is defined as the informed inclusion of relevant environment- and climate-related concerns into the decisions of institutions that drive national, local and sectoral development policy, rules, plans, investment and implementation.
- 6 REMA (2011) *Guidelines for mainstreaming climate change adaptation and mitigation in the environment and natural resources sector. Prepared by CRA Consulting*. Kigali, Republic of Rwanda: Rwanda Environment and Management Authority (REMA). [www.rema.gov.rw/rema_doc/IMCE_Doc/Guidelines Env-NR.pdf](http://www.rema.gov.rw/rema_doc/IMCE_Doc/Guidelines%20Env-NR.pdf)
- 7 Climate proofing is defined as actions taken to protect infrastructure, systems and processes against projected climate impacts for a period into the future. These villages integrate a number of green technologies including biogas digesters and water harvesting technology integrated with dairy farming and homestead gardening.
- 8 See the FONERWA website: www.fonerwa.org.
- 9 REMA and SEI (2009) *Economics of climate change in Rwanda*. Kigali, Republic of Rwanda and Stockholm: Rwanda Environment and Management Authority (REMA) and Stockholm Environment Institute (SEI).
- 10 These are published on the website of the Poverty-Environment Initiative (PEI) of the United Nations Development Programme (UNDP) and the United Nations Environment Programme (UNEP); see, for example, http://www.unpei.org/sites/default/files/e_library_documents/Rwanda_PEER_2013.pdf
- 11 REMA (2012) *PEI: Rubaya, Village of reference. Kigali: Rwanda Environment and Management Authority*. https://www.youtube.com/watch?v=j6RN6_FaUBY (accessed 1 June 2015).

About CDKN

The Climate and Development Knowledge Network (CDKN) aims to help decision-makers in developing countries design and deliver climate compatible development. We do this by providing demand-led research and technical assistance, and channelling the best available knowledge on climate change and development to support policy processes at the country level.

About CIDT

The Centre for International Development and Training (CIDT) is a self-financing, non-profit making centre within the University of Wolverhampton. The multidisciplinary CIDT team specialise in delivering across key practice areas including: managing for development results, climate, forests and green growth, education and participatory governance and citizenship.

About REMA

The Rwanda Environment Management Authority oversees and coordinates the implementation of Rwanda's national environmental policy and legislation. REMA works with the public, private and civil society sectors to achieve its objectives. A Climate Change and International Obligations department has been established within REMA to provide dedicated technical assistance to climate-related policy and mainstreaming. REMA operates under the Ministry of Natural Resources.



<http://www.minirena.gov.rw>



<http://rema.gov.rw>



<http://wlv.ac.uk/cidt>

Funded by:



Ministry of Foreign Affairs of the Netherlands



Climate & Development Knowledge Network

www.cdkn.org

[e: enquiries@cdkn.org](mailto:enquiries@cdkn.org)

[t: +44 \(0\) 207 212 4111](tel:+442072124111)

This document is an output from a project commissioned through the Climate and Development Knowledge Network (CDKN). CDKN is a programme funded by the UK Department for International Development (DFID) and the Netherlands Directorate-General for International Cooperation (DGIS) for the benefit of developing countries. The views expressed and information contained in it are not necessarily those of or endorsed by DFID, DGIS or the entities managing the delivery of the Climate and Development Knowledge Network, which can accept no responsibility or liability for such views, completeness or accuracy of the information or for any reliance placed on them. This publication has been prepared for general guidance on matters of interest only, and does not constitute professional advice. You should not act upon the information contained in this publication without obtaining specific professional advice. No representation or warranty (express or implied) is given as to the accuracy or completeness of the information contained in this publication, and, to the extent permitted by law, the entities managing the delivery of CDKN, HR Wallingford and Metroeconomica do not accept or assume any liability, responsibility or duty of care for any consequences of you or anyone else acting, or refraining to act, in reliance on the information contained in this publication or for any decision based on it. Management of the delivery of CDKN is undertaken by PricewaterhouseCoopers LLP, and an alliance of organisations including Fundación Futuro Latinoamericano, LEAD Pakistan, the Overseas Development Institute, and SouthSouthNorth.