GCCA+

THE GLOBAL CLIMATE CHANGE ALLIANCE PLUS INITIATIVE

Funded by the European Union

Innovative and effective approaches to climate change adaptation and other Paris Agreement priorities

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Innovative and effective approaches to climate change adaptation and other Paris Agreement priorities

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Drought-resistant crops, such as this corn growing on the island of La Digue, Seychelles, are one way to build resilience against climate change. The Seychelles, like other Small Island Developing States in the Indian Ocean, are especially vulnerable to extreme weather conditions.

Ecosystem restoration undertaken by the GCCA+ in Timor-Leste.

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FOREWORD DIRECTOR-GENERAL DG DEVCO

The GCCA+: sharing knowledge for enhanced dialogue and cooperation on climate change.

Climate change is one of the global threats of the 21st century. This is particularly true for the most vulnerable communities of the world: it threatens access to food and clean water, increases exposure to natural disasters, pushes billions into diseases, worsens instability and is one of the root causes of population displacement. Climate change exacerbates poverty and can undermine all the development efforts achieved in the last decades.

The EU has been a front runner in the fight against climate change and at the time when this publication goes into print, the Global Climate Change Alliance Plus (GCCA+) will be 10 years old. In 2008, the European Union launched this alliance with developing countries that were most vulnerable to climate change, and the choice of targeting Small Island Developing States (SIDS) and Least Developed Countries (LDCs) was pioneering. The Alliance offered an opportunity for dialogue and concrete cooperation.

The EU has tirelessly taken the lead to make the case for climate change worldwide. When global leaders signed the Paris Agreement in 2015 at the UN Framework Convention on Climate Change (UNFCCC) – they sent a clear message: climate change can be catastrophic, and only shared and ambitious global efforts would succeed in keeping global temperature rise in this century below 2 degrees Celsius above pre-industrial levels. As the president of the European Commission, Jean Claude Juncker, stated at the signing event: "Today, the European Union has turned climate ambition into climate action".

While the Paris Agreement symbolises a historic turning point, the following UNFCCC conferences reminded us of the important technical milestones that remain to be agreed for its successful implementation.

The EU will continue supporting national strategies in order to promote sustainable development and resilience, reduce climate risk and contribute to emission reduction. This action goes in line with the Sustainable Development Goals (SDGs).

Climate change has been identified as a key concern by the EU. Together with its Member States it has therefore become the world's biggest provider of climate finance. Between 2014 and 2020, at least 20% of the EU budget – around €180 billion – will be earmarked for climate change-related actions, of which €14 billion will be dedicated to support sustainable development and poverty reduction in developing countries.

For the Global Climate Change Alliance Plus (GCCA+), in particular, financial commitments amount to €737.5 million for the period 2007–2020.

EU support works better when is closer to realities. The GCCA+ is one of the EU's mechanisms for this, responding to global challenges while developing region-specific programmes. We can proudly call ourselves one of the most significant climate initiatives in the world with over 70 projects of national, regional and worldwide scope in Africa, Asia, the Caribbean and the Pacific.

This Journal illustrates our action on the ground, lessons learned and how local communities improved their livelihoods by addressing climate change emergencies.

In that spirit, I invite you to read this publication and encourage you to contribute with ideas and solutions.

STEFANO MANSERVISI
Director General

Hilda Mbaruku Ayoub from Kizerui village growing black pepper in the East Usambara mountains; GCCA+ project in Tanzania.

TABLE OF CONTENTS

ACKNOWLEDGEMENTS 5

FOREWORD FOREWORD DIRECTOR GENERAL DG DEVCO 7

TABLE OF CONTENTS 8

LIST OF BOXES 10

LIST OF DIAGRAMS 10

ACRONYMS TABLE 11

1 EXECUTIVE SUMMARY 12

2 LINKING (I)NDCs TO OTHER POLICY PROCESSES 14

2.1 UNDERSTANDING AND IMPLEMENTING (I)NDCs 14

2.2 CHALLENGES AHEAD 16

2.3 SUPPORTING (I)NDC IMPLEMENTATION 18

CASE STUDY: CLIMATE RESILIENCE AND GREEN ECONOMY IN ETHIOPIA 20

3 INCREASING THE SOCIAL BENEFITS OF CLIMATE CHANGE POLICIES AND INTERVENTIONS 23

3.1 IDENTIFYING SUCCESS FACTORS 23

3.2 ADDRESSING BARRIERS 26

3.3 SCALING UP SOCIAL BENEFITS 28

CASE STUDY: ENHANCING THE RESILIENCE OF RURAL HOUSEHOLDS IN BHUTAN 30

4 LINKING GENDER, POVERTY AND CLIMATE CHANGE MAINSTREAMING 33
4.1 GENDER AND CLIMATE CHANGE: THE GCCA+ EXPERIENCE 33
4.2 OVERCOMING GENDER BARRIERS 34
4.3 BENEFITS OF GENDER-RESPONSIVE CLIMATE ACTION 35
4.4 STRENGTHENING THE GENDER FOCUS IN CLIMATE CHANGE INITIATIVES 37
CASE STUDY: MORE WATER, LESS WALKING 40

5 MANAGING CLIMATE RISKS 44
5.1 A RESILIENCE FUNDING GAP 44
5.2 RISK-INFORMED, ROBUST DECISION MAKING 47
5.3 TOWARDS PRACTICAL, PARTICIPATORY ADAPTATION STRATEGIES 49
5.4 SUPPORTING BETTER RISK MANAGEMENT 50
CASE STUDY: HELPING TIMOR-LESTE COMMUNITIES TO CREATE THEIR OWN FUTURE 52

6 SUMMING UP GCCA+ FINDINGS 55

7 AGENDA FOR 2017–2020 57
7.1 SUPPORTING IMPLEMENTATION OF THE PARIS AGREEMENT 58
7.2 CONTRIBUTING TO THE SUSTAINABLE DEVELOPMENT AGENDA 58
7.3 BUILDING STRONGER PARTNERSHIPS 59
7.4 BOOSTING KNOWLEDGE MANAGEMENT AND OUTREACH 59

REFERENCES 60

LIST OF BOXES

Box 1–1: What is the GCCA+? 12

Box 2–1: Integrating climate change adaptation into development planning 17

Box 2–2: Involving local governments in climate action using performance-based grants 19

Box 3–1: A holistic approach for increasing adaptive capacities of agricultural communities 24

Box 3–2: Developing certified qualifications in climate resilience and sustainable energy 25

Box 3–3: Barriers to scaling up and the delivery of social benefits 27

Box 4–1: Ensuring women's active participation in climate change interventions 34

Box 4–2: Benefits from gender-responsive climate action 36

Box 4–3: (I)NDC analysis from a gender perspective 37

Box 4–4: Combining gender mainstreaming and gender-specific interventions 38

Box 5–1: Most common adaptation strategies in subsistence-oriented communities 46

Box 5–2: A practical approach to designing evidence-based adaptation strategies 48

Box 5–3: A multi-benefit approach: supporting livelihoods and ecosystem integrity 51

LIST OF FIGURES

Figure 2–1: Frameworks informing the adaptation component of the communicated intended nationally determined contributions ((I)NDCs) 15

ACRONYMS TABLE

ACP	Africa, Caribbean and the Pacific
CDM	Clean Development Mechanism
COMESA	Common Market for Eastern and Southern Africa
COP	Conference of the Parties (to the UNFCCC)
CRGE	Climate-Resilient and Green Economy
DG DEVCO	European Commission Directorate-General for International Cooperation and Development
DG ECHO	European Commission Directorate-General for European Civil Protection and Humanitarian Aid Operations
DRR	Disaster Risk Reduction
EDF	European Development Fund
EIB	European Investment Bank
GCCA(+)	Global Climate Change Alliance (Plus)
GCF	Green Climate Fund
GEN	Global EcoVillage Network
GLE	Global Learning Event
(I)NDC	(Intended) Nationally Determined Contribution
LDCs	Least Developed Countries
LEDS	Low Emission Development Strategies
LoCAL	Local Climate Adaptive Living Facility
MRV	Measurement, Reporting and Verification
NAMA	Nationally Appropriate Mitigation Actions
NAP	National Adaptation Plan
NAPA	National Adaptation Programmes of Action
SIDS	Small Island Developing States
TVET	Technical and Vocational Education and Training
UN	United Nations
UNCDF	United Nations Capital Development Fund
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
UNISDR	United Nations International Strategy for Disaster Risk Reduction
VSL	Village Savings and Loan

1 EXECUTIVE SUMMARY

The Global Climate Change Alliance Plus (GCCA+) flagship initiative has accumulated a considerable body of practical experience, and identified a number of good practices and over-arching lessons in climate change topics such as (i) (Intended) Nationally Determined Contribution, (I)NDCs implementation; (ii) the generation of social benefits by climate change actions; (iii) linking gender, poverty and climate change; and (iv) disaster risk reduction and managing climate risk. The success factors mentioned in this journal are drawn from an assessment of past and ongoing GCCA+ interventions, as well as thematic group discussions held during the 2016 GCCA+ Global Learning Event (GLE2016).

Box 1–1 What is the GCCA+?

The new EU Global Climate Change Alliance Plus (GCCA+) flagship initiative was established in 2014 as the successor to the GCCA, under the thematic Global Public Goods and Challenges (GPGC) programme of the Development Cooperation Instrument (DCI). It continues to support those countries that are most vulnerable to climate change – mainly the groups of Least Developed Countries (LDCs) and Small Island Developing States (SIDS), building on the work undertaken in its first phase (2008–2013) by feeding back lessons learned and through a more targeted approach in line with countries' needs.

This 'Plus' phase of the GCCA programme is characterised by new features and strategic orientations based on changed development challenges, especially the UN Framework Convention on Climate Change (UNFCCC) COP21 Paris agreement (entered into force on 4 November 2016) and the Sendai framework for DDR. Its priorities, governance structure and operational support to address current and expected climate change needs have been adjusted to contribute towards the achievement of the UN's Sustainable Development Goals of the 2030 Agenda (in particular goal 13 relating to climate change) and the process ahead relating to the implementation of Nationally Determined Contributions (NDCs) in line with the Paris Agreement.

The GCCA+ flagship initiative is focusing on **three major priority areas**, namely:

i. Mainstreaming climate change into poverty reduction and development efforts;

ii. Increasing resilience to climate-related stresses and shocks (promoting disaster risk reduction/DRR); and

iii. Supporting the formulation and implementation of concrete and integrated sectoral-based climate change adaptation and mitigation strategies.

The GCCA+ operates on a **two-pillar approach**:

i. **Policy dialogue**; and

ii. **Technical and financial support** to the implementation of national climate change adaptation plans (NAPs) and mitigation policies, but with a stronger emphasis than in the previous phase on the binding role of knowledge management and communication.

Source: *GCCA+ Orientation Package* (Global Climate Change Alliance +, 2017).

The GCCA+ and GLE2016 yielded a wealth of findings and recommendations that will support GCCA+ implementation over the next few years, and these can be used as important benchmarks for other climate change initiatives. The following topics deserve particular attention and consideration: (i) enhancing aid effectiveness; (ii) linking projects, programmes and policy development; (iii) supporting climate change policy development and governance; (iv) improving access to climate science, data and technology; (v) building institutional and individual adaptive capacities; (vi) strengthening knowledge management; and (vii) engaging new stakeholders and fostering partnerships.

The experience of GCCA+ projects, programmes and other initiatives points to a set of common challenges and barriers that countries are facing when addressing the climate change topics analysed in this publication. The main challenges include: increasing the awareness and ownership of (I)NDCs; embedding (or mainstreaming) (I)NDCs into countries' current policies; insufficient awareness and competences to develop gender-responsive projects; gender inequality in access to technology and climate information; and scaling up of successful climate change projects.

Considering the synergies between adaptation, mitigation and development, GCCA+ current and future actions contribute directly to the achievement of sustainable development goals (SDGs). Most of these involve climate action, but others include SDG 1 – An end to poverty; SDG 2 – Zero hunger; SDG 5 – Gender equality; SDG 7 – Affordable and clean energy; SDG 14 – Life below water; SDG 15 – Life on land; and SDG 17 – Partnership for the goals.

The GCCA+ initiative has been successfully collecting best adaptation and mitigation practices, reviewing recent and updated climate change response strategies and examples, and taking stock of this experience. This will be used to improve the effectiveness, efficiency, sustainability and impact of GCCA+ activities in the coming years. One of the specific 2016 GCCA+ objectives has been to continue fostering technical and strategic partnerships among stakeholders. The numerous debates and exchanges that took place during the GLE2016 between the 198 conference delegates, representing all GCCA+ stakeholder groups, testify to the success of this endeavour.

Beyond this successful conference result, GCCA+ will sustain efforts to stimulate partnerships and build cooperation at a regional level, across countries and regions and between EU actors, in the context of a vibrant GCCA+ community. During the upcoming 2017–2020 implementation period, activities will particularly focus on: (i) Supporting the implementation of two major developments in the international cooperation landscape, namely the Paris Agreement on climate change and the UN 2030 Agenda for Sustainable Development; and (ii) Strengthening partnerships and boosting knowledge management and outreach, which are two hallmarks of the initiative.

Watercress farms on the island of Mauritius. The farmers who work these beds say rainfall is becoming unpredictable and that the dry season lasts for longer – and when the watercress beds are dry, there is no work.

2 LINKING (I)NDCS TO OTHER POLICY PROCESSES

2.1 UNDERSTANDING AND IMPLEMENTING (I)NDCS

The groundbreaking entry into force of the Paris Agreement[1] on 4 November 2016 implies a new climate change regime launched by COP21 in 2015. Governments now share a political obligation to keep their promise of limiting the global temperature increase well below 2°C. (I)NDCs, which represent individual countries' commitment to global climate action, must be translated into concrete actions by all Parties, with adequate implementation support for developing countries and, in particular, LDCs and SIDS.

The challenge will be for countries to link (I)NDC implementation with existing climate change processes such as national adaptation programmes of action (NAPAs), national adaptation plans (NAPs) and national communications, and also with their national and sector development strategies and with various agendas launched in 2015. These include the 2030 Agenda for Sustainable Development, the Addis Ababa International Conference on Financing for Development and the Sendai Framework for Action on Disaster Risk Reduction. Figure 2–1 illustrates the frameworks, policies and strategies that are relevant to the adaptation component of (I)NDCs; the mitigation component is similarly linked to a large number of frameworks, including policies and strategies on energy, transport, urban planning, agriculture, forestry and others.

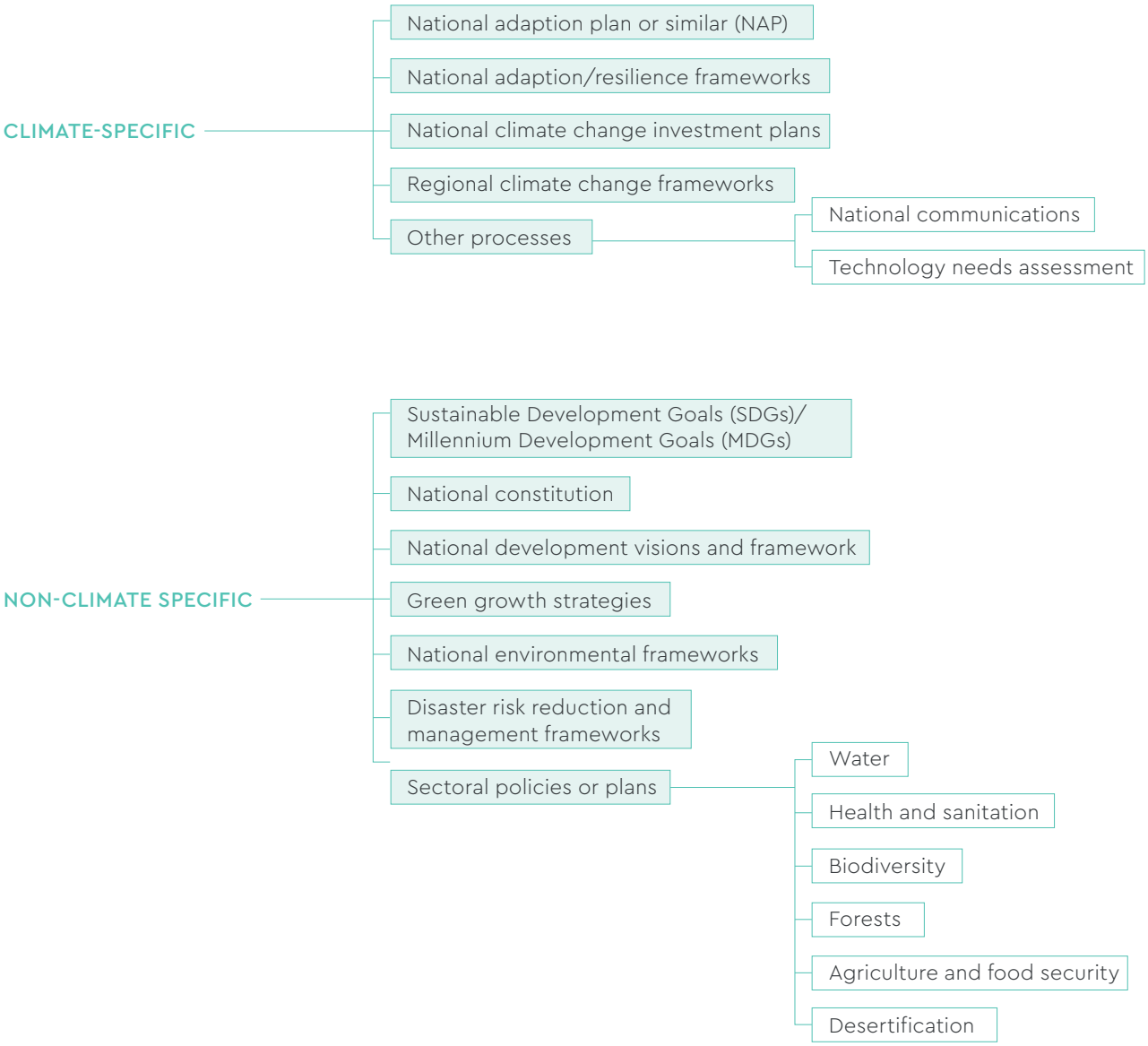
The UNFCCC Secretariat's synthesis report on the aggregate effect of the INDCs (UNFCCC, 2016) identifies the following trends:

- Countries are shifting climate action from project/programme action to economy-wide policies.
- Low-emission and climate-resilient development is being integrated in national climate change policy and political agendas.
- Multilateral cooperation on climate change is set to increase.

In practice, however, many countries are still trying to understand the implications of the Paris Agreement and (I)NDCs for their development, and to determine how they will implement their (I)NDC. This is a new process, for which no blueprint is available. Individual countries will have to define the most suitable approach based on their political history and traditions, their national circumstances and capabilities – building on earlier achievements such as the preparation and implementation of Clean Development Mechanism (CDM) projects, NAMAs, NAP(A)s, etc. but also finding new ways of addressing the challenge of economy-wide action.

1 A summary of key elements of the Paris Agreement is available on the European Commission website, http://ec.europa.eu/clima/policies/international/negotiations/paris/index_en.htm.

FIGURE 2-1: FRAMEWORKS INFORMING THE ADAPTATION COMPONENT OF THE COMMUNICATED INTENDED NATIONALLY DETERMINED CONTRIBUTIONS ((I)NDCs)



Source: United Nations Framework Convention on Climate Change (UNFCCC), *Aggregate Effect of the Intended Nationally Determined Contributions: An Update* (UNFCCC, May 2016).

2.2 CHALLENGES AHEAD

The experience of GCCA(+) projects and programmes and other initiatives points to a set of common challenges and barriers that countries are facing with (I)NDC planning and implementation and their connection with other policy processes. Key challenges include:

- **Increasing (I)NDC awareness and ownership** across various government departments and levels, parliaments, national civil societies and private sector stakeholders. This involves reaching out to all stakeholders, including local actors. Adequate participation at grassroots level is essential to get things done and address cultural barriers to the adoption of new practices and techniques; this implies overcoming the tendency to discount local communities as partners that can add value to planning processes. At all levels, demonstrating the contribution that adaptation and mitigation measures can make to the achievement of other policy objectives can help defeat the notion that 'there are more urgent priorities than addressing climate change'.

- **Embedding (or mainstreaming) (I)NDCs** into national and subnational development strategies, with planning processes managed by multiple departments and entities at each level. This requires a multidisciplinary, cross-sectoral approach to planning and a change of paradigm from the poorly coordinated project-based approach that still prevails in many countries – as illustrated, for example, by the experience of Mali (see Box 2–1).

- **Translating high-level targets set in the (I)NDCs into actionable roadmaps**, investment plans and bankable projects that can attract financial support while ensuring tangible implementation. Assessing financial and technical needs to implement (I)NDCs and defining a roadmap is a challenging, complicated and lengthy process, requiring the strengthening of institutional

Farm workers on the island of La Digue, Seychelles, tend to a crop of corn. Like other Small Island Developing States in the Indian Ocean, the Seychelles are especially vulnerable to extreme weather. Planting drought-resistant crops is a significant way to build resilience against climate change.

capacities and the development of new types of expertise.

- **Prioritising and organising deliverables**, including structural ones such as the updating of the legal and regulatory framework and the adoption of robust institutional arrangements. In Mali, for example, the slow process of decentralisation (and its corollary, the lack of funding available at the local level) and the weak information flow reaching local communities have been identified as structural barriers to (I)NDC implementation.
- **Mobilising finance** from the national budget, private investors and international sources of support including the Green Climate Fund (GCF). Insufficient access to funding and low levels of private investment are also critical issues, in particular for scaling up successful approaches. Lack of awareness of financing options and processes, poor governance mechanisms and management capabilities, insufficient incentives for domestic and foreign investment and poor coordination of donor interventions all contribute to the problem. Another challenge is ensuring that available funding reaches the local level.
- **Managing data and information** to enable and facilitate (I)NDC implementation, results monitoring and the identification and dissemination of good practices. The lack of reliable data, the absence of consistent frameworks for compiling existing data on climate and climate action, the lack of practical guidelines and capacity gaps in the field of data collection and management, and the uncertainties still surrounding requirements for measurement, reporting and verification (MRV) under the Paris Agreement all act as obstacles to (I)NDC implementation.[2]

Box 2–1 Integrating climate change adaptation into development planning

In Mali, interventions funded by Germany are supporting the mainstreaming of climate change adaptation into development planning at both national and local levels. This is notably an attempt to address the multiplication of donor-funded climate change projects, often with very similar content, that fail, however, to achieve the expected sustainability and economy-wide impact because of lack of coordination and anchoring in national and local planning processes. It is expected that mainstreaming will provide a more coherent framework for the implementation of adaptation measures, including the adaptation component of Mali's (I)NDC.

At the national level, support is provided for the integration of the national climate change policy and strategy (developed with GCCA support), in particular their adaptation component, into national development planning and sector policies. This is accompanied by a wide range of supportive measures, including capacity building for policy makers and administrators, support for the NAP process, the establishment of databases and a monitoring system for adaptation, support for applications to national and international funding sources and for private sector investment in mitigation and adaptation technologies, and the integration of adaptation to climate change into the environmental-impact assessment procedure.

At the local and regional (subnational) levels, the mainstreaming process starts with vulnerability analysis to identify and select the most vulnerable areas. Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ's) validated 'Climate Proofing' tool is then used to support the integration of adaptation into local development plans. The process starts with sensitisation regarding the anticipated effects of climate change and possible adaptation measures; it continues with the participatory selection and prioritisation of measures. Support is then made available to implement the most important measures. In this case, too, the process is accompanied by capacity building for local and regional decision makers and administrative bodies.

Source: AEDD and GIZ (2016) 'Innovative instruments and measures for adaptation to climate change in Mali'. Presentation made at the GLE 2016.

2 COP22 in Marrakech formally launched the discussion around the operational processes of the Paris Agreement that remain to be defined, notably for implementing the 'enhanced transparency framework for action and support' – including modalities, procedures and guidelines for tracking progress in the achievement of (I)NDCs and adaptation actions, and on financial, technology-transfer and capacity-building support provided to developing countries.

2.3 SUPPORTING (I)NDC IMPLEMENTATION

The investigation on the background, challenges, barriers and lessons learned regarding NDC implementation, conducted prior to and during the GCCA+ GLE2016, provides insights into what is needed to make (I)NDCs more robust and more coherent with national objectives and circumstances, boost their delivery, and support SIDS and LDCs in this endeavour.

First of all, **linking (I)NDC implementation with other planning processes**, and more generally mainstreaming climate change into existing strategies (such as national economic growth and development plans and related sector strategies) based on demonstrated synergies with other policy objectives, is key for success. Ethiopia's Climate Resilient Green Economy (CRGE) strategy is an example of good practice in this regard (see the case study at the end of this section). Bhutan, Chad, Lesotho and Uganda are other examples of countries that have linked their (I)NDCs to national development policies and processes. Integrating climate change adaptation and mitigation into development planning is essential to increasing the adaptive capacity and resilience of ecological, economic and social systems, as well as generating opportunities for a transition to low-carbon, greener economies.

By promoting alignment with country-development strategies and the use of national institutions and government systems, the continued **move from project to programmatic approaches** and budget support can foster this essential mainstreaming process while enhancing GCCA+ impact and sustainability.

To achieve a more integrated approach, improved **governance of climate change** must be supported, while recognising the broad diversity of contexts and approaches for (I)NDC implementation. This can notably be achieved by:

- Helping partner countries set up **cross-government platforms** for managing the response to climate change – thus enhancing climate action coordination and prioritisation, information sharing and data-management capabilities.
- **Engaging** national and local governments, civil society and the private sector in decision-making processes and in the implementation and monitoring of actions. Box 2–2 illustrates a tested approach for involving local governments in climate action.
- Facilitating **policy dialogues** at national and regional level to help create coherent policy and regulatory frameworks that support economy-wide action and coordination.

Continued support for **capacity building** is another priority. There are needs **in multiple areas**, including climate science, MRV, the costing of measures, economic analysis in support of the prioritisation of options, access to and tracking of climate finance, adaptation and mitigation technologies, etc. Participation in UNFCCC processes and (I)NDC mainstreaming into coherent and coordinated policy frameworks and strategies also require capacity building **across all levels**, from the national to the local and down to the community level. There is also an important challenge in ensuring that built capacities remain permanent for the recipient institutions, i.e. securing permanence of trained and skilled staff for the long-term perspective.

Facilitating the **sharing of lessons learned** can significantly contribute to capacity building. This can be supported by developing or strengthening frameworks for tracking and measuring progress, evaluating results, disseminating and scaling up best practices and successful adaptation and mitigation technologies.

Strengthening LDC and SIDS' **ability to access climate finance** for (I)NDC implementation is also essential. Possible approaches include:

- Making ministries of finance more aware of opportunities associated with climate finance and possible sources of funding in support of climate action.
- Strengthening budgetary systems and processes, including mechanisms for the transfer of resources from the national to the local level (see Box 2–1).
- Building capacities for accreditation to the GCF and the Adaptation Fund and for the preparation of bankable project proposals to these funds and other sources of climate finance.
- Promoting, piloting and testing scalable mechanisms to demonstrate technical and financial viability and attract funding to enhance action, including from development banks and the private sector.
- Strengthening the ability of partner countries to monitor, report and evaluate results.
- Creating an enabling framework for private-sector investment in adaptation and mitigation actions, through awareness-raising activities, engagement in planning processes, the adoption of clear policy and regulatory frameworks, and the provision of adequate economic incentives.

Box 2–2 Involving local governments in climate action using performance-based grants

The Local Climate Adaptive Living Facility (LoCAL) of the United Nations Capital Development Fund (UNCDF) (http://www.local-uncdf.org/), which is co-financed by the GCCA, has developed an innovative approach to supporting local-level investment in climate change adaptation.

At the heart of this initiative is the finding that the local authorities of LDCs are in a central position to identify the climate change adaptation responses that best meet local needs, and typically have the mandate to undertake the small- to medium-sized adaptation investments needed for building climate resilience – but frequently lack the resources to do so.

To address this problem, LoCAL has developed a country-based mechanism to:

- Increase awareness and response to climate change at the local level.
- Integrate climate change adaptation into local governments' planning and budgeting systems in a participatory and gender-sensitive manner.
- Increase the amount of finance available to local governments for climate change adaptation.

LoCAL combines performance-based climate resilience grants (PBCRGs), which ensure programming and verification of climate change expenditures at the local level, with technical and capacity-building support. It uses the demonstration effect to trigger further flows for local adaptation, including national fiscal transfers and global climate finance for local authorities, through their central governments. Indeed, one specificity of the initiative is that it makes use of national fiscal transfer systems from central to local government (and in the process contributes to making them stronger and more transparent).

Since 2011, LoCAL has provided US$7 million in grants to 60 local governments, reaching a population of over 4.5 million across 11 countries in Asia and Africa. Two-thirds of the investment supported so far has been in the water, transport and agricultural sectors, with the rest dedicated to education, disaster prevention and preparedness, cooperation with civil society, health, forestry, energy and general environmental protection. Once the pilot phase has been completed, the objective is national-level scaling up, targeting over 350 million people in these 12 countries alone.

LoCAL aims at becoming a standard and internationally recognised country-based mechanism to channel climate adaptation finance and increase resilience at the local level. It could notably support the implementation of the adaptation component of (I)NDCs in a way that is fully integrated with local development planning processes.

Source: United Nations Capital Development Fund (UNCDF), 'Financing Local Adaptation through Performance-Based Grants' (presentation, GCCA+ Global Learning Event, Brussels, Belgium, 12–14 September, 2016).

CASE STUDY

CLIMATE RESILIENCE AND GREEN ECONOMY IN ETHIOPIA

FACT FILE	
PROJECT NAME	Climate Resilient Green Economy (CRGE)
REGION	Africa
COUNTRY	Ethiopia
GCCA+ PRIORITY AREA	Adaptation, low-carbon development
SECTOR	Agriculture, energy, forestry and climate finance
WEBSITE	www.ethcrge.info/crge.php

The Climate Resilient Green Economy (CRGE) is the government of Ethiopia's vision for the nation's development as part of the Government of Ethiopia Growth and Transformational Plan (GTP II). Based on the CRGE, Ethiopia has submitted its Intended Nationally Determined Contribution (INDC) to the UNFCCC prior to COP21. The INDC limits net GHG emissions in 2030 to 145 Mt CO2e or lower, where appropriate finance and incentives are made available. This would constitute a 255 MtCO2e reduction from the projected 'business-as-usual' (BAU) emissions in 2030 or a 64% reduction.

PROJECT OBJECTIVES

The government of Ethiopia's CRGE project has a threefold line of approach, to grow the economy at a sustainable average of 11% per annum in real terms; to protect that growth from the adverse effects of climate change and build resilience to it; and lastly to limit the emissions for this envisaged development trajectory and achieve a 64% reduction by 2030 from what is deemed business as usual (BAU).

FACTS AND FIGURES

As well as other available data from the Ethiopian government relating to the planned trajectory of the country's economy, the most important facts and figures related to the project, e.g. statistics, numbers of people trained, studies conducted, etc., are:

- Five sectoral Climate Resilience Strategies (CR Strategies) developed (Agriculture, Forests, Water, Irrigation and Energy).
- The CRGE Strategy complements the current Growth Transformation Plan (GTP), which aims to set Ethiopia on a path to become a middle-income country by 2025 by doubling the GDP per capita from US$351 to US$698 by 2015.
- and that reached its target to double the GDP per capita from US$351 to US$698 by2015.

KEY ACHIEVEMENTS TO DATE

Since the CRGE has been set up, Ethiopia has submitted its Intended Nationally Determined Contribution (INDC) to the UNFCCC. The CR Strategies show the significant potential upside gains from 'green growth' in Ethiopia, in terms of food security, energy security and driving better development outcomes.

Of course, implementing the CR Strategies has a host of benefits, including improvements to public health through better air and water quality, while at the same time promoting rural economic development by increasing soil fertility and food security.

These positive outcomes translate directly to positive returns on investments thus directly promote economic growth and create additional high-value-added jobs

LESSONS LEARNED

Amongst the most key lessons learned during the project implementation is the fact that flexibility of mind and of action are of utmost importance to running the CRGE successfully. The strategies and plan-

ning tools developed on an ad hoc basis have become tried and tested approaches, and focus on vulnerability and adaptation at the sector level.

The remaining gaps in the planning work and in long-term implementation planning around the CRGE that clearly link to GTP implementation. Specifically, the gaps are the analytical and strategy work, such as the CR strategies for some key sectors, including industry, trade, urban development, transport and health.

The relevance of the CRGE strategy documents to the GTP and a comprehensive macro analysis that is in line with the GTP II planning cycle and objectives can now further guide sector planning.

The baselines and metrics for CRGE implementation progress – with metrics related to planning, finance and implementation – at macro and sectoral/regional levels have proven to be a good way forward.

M&E systems will have to track progress of the CRGE over time at both the macro and sector/regional levels so that the stocktaking of existing initiatives and support in and around the CRGE.

After a learning curve, the CRGE have begun to understand where the knowledge gaps are, but also systematic technical-assistance needs. The climate diplomacy strategy should now support the effective implementation of CRGE.

THE WAY FORWARD

As Ethiopia moves towards greater economic complexity, beyond agriculture and into industrial manufacturing-based value creation, an important focus will be on mobilising finance from a diversified pool of funding.

The CRGE Facility is relatively young, and its operational modalities to date have been project focused and mainly based on development partner grant funding. The future role and mechanisms of the CRGE Facility to play a critical role in resource mobilisation and improved programming of resources should be supported, so as to enable future growth.

The Climate Resilient Green Economy (CRGE) Strategy contains Ethiopia's vision and strategy to achieve a middle-income country status by 2025 while developing a green economy.

Dr Tewolde Berhan Gebre Egziabher, Advisor to the Minister of Environmental Protection and Forests (former Director General of the Environmental Protection Authority), states that 'Ethiopia's effort to translate Africa's common position on climate change to a domestically actionable plan is through a climate-resilient green economy path of development. Ethiopia has chosen a development path which will transform the country to a middle-income status and will at the same time reduce its carbon emissions until the economy becomes carbon neutral by 2025.'

MAIN PARTNERS

Ministry of Environment, Forest and Climate Change (MEFCC)

Climate Resilisence and Green Economy Facility (CRGE Facility)

Ministry of Finance and Economic Coooperation (MoFEC)

Ministry of Agriculture and Natural Resource Management

'Given that the city of Addis Ababa will have an electric light rail transit system in the next few years, the success of the e-taxis as a mode of transportation may result in a fully "electric" commuting experience in the city, which will highly contribute to the government's ambition of building a climate-resilient green economy.'

Zewge Alemu, Director of Business Development, dVentus Technologies

3 INCREASING THE SOCIAL BENEFITS OF CLIMATE CHANGE POLICIES AND INTERVENTIONS

3.1 IDENTIFYING SUCCESS FACTORS

Climate change impacts whole societies, but its impacts and predicted future consequences do not and will not affect everyone equally. Despite growing awareness and increasing policy activity aimed at addressing climate change, a significant proportion of vulnerable populations, particularly in LDCs and SIDS, remains at risk. In implementing the Paris Agreement, it is thus essential to strive to increase the social benefits of climate interventions. Social benefits (distinct from private benefits which only accrue to a limited number of individuals) cover the total benefits to society from climate change policies and interventions, including development benefits and an increase in the overall resilience of ecosystems and human systems. Enhancing them demands specific approaches, with a focus on:

- Reaching the most vulnerable; and
- Scaling up successful approaches and interventions.

The GCCA(+) has accumulated a considerable body of practical experience, and identified a number of good practices and over-arching lessons seen as making important contributions to success, including increasing the generation of social benefits. The success factors mentioned below are drawn from an assessment of past and ongoing GCCA(+) interventions, as well as thematic group discussions held during GLE2016.

A first and fundamental finding is the effectiveness of **comprehensive, integrated approaches** to climate change adaptation and mitigation, backed by good coordination mechanisms. Given the multi-faceted and cross-cutting nature of climate change, taking a wide-ranging, strategic perspective for the design and implementation of policies and interventions is of critical importance. This involves employing multi-disciplinary teams and promoting multi-sector approaches. Box 3–1 describes how a holistic approach, aimed at improving knowledge as well as institutional-, economic- and ecosystem-adaptive capacities, supports sustainable adaptation to climate change in Uganda.

In recent years, due to changes in the weather, black pepper has been successfully grown at higher altitudes in the East Usambara mountains; GCCA+ project in Tanzania.

Box 3–1 A holistic approach for increasing adaptive capacities of agricultural communities

In **Uganda**, the region known as the 'central cattle corridor', which includes the districts of Nakasongola, Nakaseke, Luweero, Kiboga, Mubende and Sembabule, is particularly vulnerable to drought and climate variability. With the support of the GCCA and the Belgian Technical Cooperation, a project has been implemented to strengthen the knowledge and adaptive capacity of agricultural communities, improve access to water for livestock and crops, and improve the resilience of agricultural production systems.

At the start of the project, community participatory climate change risk-assessment and prioritisation was conducted to guide intervention areas. The assessment showed that dry spells, poor soil fertility, soil erosion, crop pests and water scarcity were the highest-ranked risks identified by the targeted communities. Project activities were therefore specifically focused on addressing these risks, which helped secure ownership and the uptake of proposed measures: a survey has shown that the number of farmers practising adaptation options has doubled or trebled in the participating districts – with over 90% of concerned parties reporting benefits accruing from adaptation.

An integrated approach was adopted to simultaneously strengthen the various components of adaptive capacity, including knowledge, institutional capacity, economic capacity (through support for livelihoods) and ecosystem capacity. It consisted on the one hand of setting up climate-sensitive farmer field schools that emphasise participation, raising awareness and training across levels and topics alongside peer-to-peer-learning. At the same time, the villages strengthen their finances through savings and loan schemes. To date, 756 farmer field schools serving 22,000 households have been set up to test and apply climate change adaptation measures. With their help, 12,000 coffee farmers have received appropriate information and technical advice for making coffee production more resilient. In addition, the project has supported climate-resilient livelihood diversification (e.g. mushroom production, poultry and pig breeding, kitchen gardens, etc.). Participating households have seen their income increase by US$800 per year on average. This has in turn improved food security and allowed investment in new adaptation measures. One hundred and thirty-two village savings and loans associations have also been set up; 40% of the savings they have collected have been invested in adaptation.

In the institutional area, the farmer field schools and savings groups constitute stronger rural institutional structures and arrangements that now promote participatory, collective decision-making. This has contributed to increasing community-adaptive capacity and enhancing informal safety nets.

On the ecological front, a community-based integrated watershed management approach has been implemented. To protect ecosystem services and key natural resources, 521 hectares of bio-energy plantation and 615 hectares of improved drought-tolerant crop and pasture varieties have been established. This has enabled the sustainable development of 100 small-scale water tanks (30–35m^3), four community irrigation systems (6,000m^3) and 15 community valley tanks (10,000m^3).

Overall, the project has shown that learning how to adapt in a systematic manner can positively influence the resilience and adaptive capacity of local communities; that increasing income and livelihood opportunities also reduces vulnerability; and that integrated watershed management provides sustainable ways of improving the climate resilience of land and water systems.

Investment in **capacity building** is another success factor. Capacity development efforts are needed at different levels and for a wide range of actors, including central government, subnational and local government, decentralised technical services, community associations and civil society organisations. To be really effective, climate change-related training must be institutionalised. Box 3–2 illustrates the benefits of developing formal training and certified qualifications to support the sustainable acquisition of the skills required for designing and implementing climate action.

Box 3–2 Developing certified qualifications in climate resilience and sustainable energy

In the Pacific region, climate change adaptation and disaster risk management are essential to support the resilience of communities. Implementing sustainable and climate-resilient energy systems is also part of regional priorities. To support action in these fields, capacities must be developed in areas such as risk and vulnerability assessment; the planning, implementation and monitoring of adaptation activities; disaster preparedness, response and recovery; as well as renewable energy and energy efficiency. Related skills and qualifications must be available not only at the central government level, but also at the community level.

So far, however, there are no formal qualifications in areas linked to climate resilience other than at postgraduate level, which is not appropriate for the majority of stakeholders. Much of the training associated with climate change adaptation has been linked with development projects and has been delivered – generally by non-resident international experts – on an *ad hoc*, informal basis. This approach is unsustainable in various regards, notably by failing to create certified qualifications and by doing little to create national and regional capacity to deliver training.

The PacTVET project, a component of the broader regional Adapting to Climate Change and Sustainable Energy (ACSE) programme financed by the tenth EDF, is addressing this by developing formal, quality-assured technical and vocational education and training (TVET) qualifications in climate change adaptation, disaster risk reduction and also sustainable energy. They will be recognised throughout the Pacific region through the setting up of a regional accreditation mechanism that will become self-sustaining after the end of the project.

To ensure the relevance of qualifications to needs, the project works closely with industry bodies such as the Sustainable Energy Industries Association of Pacific Islands and the Pacific Regional Federation for Resilience Professionals. Regional Industry Standards Advisory Committees have been established and engaged to develop the regional qualifications.

The project will also seek to integrate traditional and local knowledge into skill sets by accounting for culturally and locally appropriate knowledge on both 'soft' and 'hard' measures to protect homes and community infrastructure, and improve energy, water and food security. Integrating local knowledge will not only provide adaptation pathways that are locally and culturally appropriate, but will also provide a greater opportunity for communities to take ownership over adaptation activities.

Source: S. Hemstock et al. 'Innovative and Effective Approaches to Climate Change Adaptation and Other Post-COP 21 Agreement Priorities via Formal TVET Education' (presentation, GCCA+ Global Learning Event market place, Brussels, Belgium, 12–14 September, 2016

Women in Quelicai, who prior to this initiative had been excluded from community dialogues, take part in a participatory session of the Community Climate Vulnerability Analysis, facilitated by the GCCA team.

Genuine participation and ownership is another often-cited factor contributing to sustainable outcomes. 'Non-Party' stakeholders (i.e. those other than the central governments that represent Parties to the UNFCCC), including cities, other subnational authorities, civil society organisations, the private sector and others, have a role to play in the design, delivery and monitoring of effective climate change solutions. The challenge is to secure effective and broad-based participation: too often, so-called 'participatory approaches' are reduced to a few perfunctory steps that fail to include all actors or identify all relevant vulnerabilities, needs and interests in heterogeneous societies and communities. Ownership requires addressing the wide range of socio-economic circumstances and specific needs of different groups. Bottom-up approaches, the indispensable complement to top-down activities initiated by central governments, require the involvement of local authorities, community-based organisations and community leaders. Box 3–1 shows how an approach based on effective community-level participation delivers a variety of social benefits in Uganda.

Interventions that support and are **aligned to clear national policies and strategies** tend to be more successful (notably as a result of better ownership) and have more potential for scaling up. A growing number of countries now have national-level climate change policies and strategies (which may be more or less integrated into general development strategies). However, challenges remain for planning and implementation at subnational levels. The existence of a climate policy advocacy group can be an asset.

Effective approaches that address the challenge of climate change often demand a **change in attitudes**, moving away from 'business as usual' to adopt new ways of doing things. Increasing awareness can contribute to change. Showing visible impact (e.g. in terms of enhanced, more diversified and resilient livelihood opportunities) can be pivotal. Also, the importance of political commitment cannot be ignored.

Low-cost and cost-effective approaches, and those that prove to be **financially and economically sustainable**, are also seen as particularly important from the perspective of scaling up. Interventions that provide maximum adaptation and other benefits at the lowest cost, and those that increase income and livelihood, have the largest potential for replication. The case study at the end of this chapter describes how the GCCA+ supports the delivery of multiple benefits through budget support to climate change adaptation in Bhutan's renewable natural resources sector, with a clear potential for scaling up. The example in Box 3–1 also shows the advantages of supporting livelihood diversification.

These success factors should be kept in mind at the time of elaborating policies and designing interventions to address climate change, and cultivated by adequate measures.

3.2 ADDRESSING BARRIERS

GCCA(+) practical experience in implementing a wide range of projects and programmes, combined with the experience shared by GLE2016 participants, has also helped to identify some of the barriers to achieving the objectives and expected social benefits of climate change interventions, and to deploying them on a larger scale. They can be broadly classified into three categories: policy-related and institutional barriers; resistance to change; and financial barriers. Box 3–3 provides illustrations of how these barriers materialise in GCCA+ partner countries.

Box 3–3 Barriers to scaling up and the delivery of social benefits

POLICY-RELATED AND INSTITUTIONAL BARRIERS

- In Uganda, the national climate change policy (NCCP) clearly identifies the following priorities that act as institutional barriers to scaling up adaptation and mitigation actions: supporting appropriate awareness raising, information exchange, capacity building and technology transfer in addressing climate change; and mainstreaming climate change issues into planning, decision making and investments in all sectors and trans-sectoral themes. Weak rural institutional structures and limited capacity at national and district levels to implement and monitor climate-related interventions also hinder the identification, assessment and management of adaptation strategies.

- In Bhutan, limited technical capacity on climate change (especially in areas such as climate change modelling and crop modelling) is aggravated by poor climate change information management (the country currently lacks a Data Centre, which would provide an overview of the impacts of climate change on the Renewable Natural Resources sector. The GCCA+ programme intends to support the set up of such a centre). Weak cross-sectoral coordination for climate change adaptation also acts as a brake on the delivery of social benefits. The programme is supporting the development of a Data Centre.

RESISTANCE TO CHANGE

- In Mauritius, the *Paille en canne* project seeks to increase the use of biomass as a source of energy for powering sugar-cane factories – and thereby reduce coal consumption and the associated air pollution and greenhouse gas emissions. However, the local agricultural department is reluctant to support a shift from traditional work practices, as there are uncertainties about the long-term agronomic impact of cane-trash harvesting for power generation. Small sugar cane farmers are also reluctant to embrace change, as the collection of cane trash is more complicated in manually harvested fields than in mechanically harvested ones, and may require the acquisition of new equipment.

FINANCIAL BARRIERS

- In Bhutan, the 'current EU-GCCA programme is focused only in four eastern districts. The ministry plans to upscale the climate change adaptation programme in all 20 districts. However, the ministry has limited funds'.[3]

- In Uganda, the 'low economic adaptive capacity due to high exposure to climate change impacts limits households access and ability to sustain adaptation strategies'.[4]

- In Mauritius, scaling up the *Paille en canne* project will require addressing financial hurdles so that all parties involved get clear benefits. Funding must be found for the acquisition of new material assets needed to improve the industrial process; sugar-cane growers that modify their process to supply cane trash to sugar factories must be assured of receiving proper remuneration; and sugar factories that substitute cane trash for coal for generating part of their electricity will be more inclined to invest if they can benefit from guaranteed long-term tariffs for the power produced – which could be helped by the updating of the legislative framework.

In the face of these obstacles, solutions and adaptive responses exist that support the achievement and scaling up of social benefits derived from climate action. This is the focus of the next section.

3 Nima Phuntsho Sherpa, Ministry of Agriculture and Forest, Bhutan, presentation (GCCA + Global Learning Event, Brussels, Belgium, 12–14 September, 2016).

4 K.N. Igbokwe, E. Zziwa, W. Nalyongo and J. Kobusinge, Food and Agriculture Organization of the United Nations, Uganda, presentation (GCCA+ Global Learning Event, Brussels, Belgium, 12–14 September, 2016).

3.3 SCALING UP SOCIAL BENEFITS

The Paris Agreement clearly mentions the significance of addressing social context in planning and implementing climate interventions. Some specific elements of the Agreement echo the GCCA(+) experience with regard to increasing the social benefits of climate change policies and initiatives. To reach the most vulnerable people, increase the number of beneficiaries and enhance benefits for society as a whole, interventions must focus on the success factors identified in the first part of this chapter. In addition, the following approaches entail opportunities for scaling up social benefits:

- **Tracking progress towards long-term goals through a robust transparency and accountability system.** The Paris Agreement emphasises transparency and accountability. The development of credible monitoring and evaluation (M&E) and MRV systems,[5] based on nationally owned indicators, robust baselines and reliable data, is critical to identifying direct and indirect climate change impacts, monitoring and reporting progress in adaptation and mitigation, and making adjustments where necessary. GCCA+ experience increasingly demonstrates the need for robust M&E systems to guide the management of existing interventions, and provide reliable evidence as a basis for scaling up.

- **Building resilience to the impacts of climate change.** Integrated approaches should link climate change adaptation and disaster risk reduction (DRR), not least because 95% of recorded natural disasters are climate related;[6] this is further discussed in chapter five.

  Early warning systems, emergency preparedness, risk insurance and the use of climate forecasting and models to inform climate risk-assessment all contribute to building resilience. The Paris Agreement also makes reference to 'building the resilience of socio-economic and ecological systems, including through economic diversification and sustainable management of natural resources'. This is the approach used in GCCA+'s interventions, such as in Bhutan (described in the case study at the end of this chapter), and in Uganda (described in Box 3–1).

- **Targeting subnational authorities and local government levels with specific initiatives.** So far, initiatives targeting central levels of government as well as the community level have tended to predominate. In between, subnational and local governments have an important role to play in implementing adaptation as well as some mitigation measures, given their 'closeness to action' and their growing competences in the context of decentralisation reforms. Box 2–2 in the previous chapter explains how the UNCDF's LoCAL initiative finances local adaptation through performance-based grants.

- **Targeting and mobilising Civil Society Organisations (CSOs) & Community-Based Organisations (CBOs).** Those most vulnerable to climate change live in a complex and interconnected system faced with a high degree of uncertainty. Capturing, documenting and sharing practices, ensuring access to timely information, local advocacy, monit-

Locals carry out gabion and loose-stone checks as part of dam maintenance in Tahtay Maichew, Kebele.

5 M&E typically refers to adaptation, and MRV to mitigation.
6 United Nations Office for Disaster Risk Reduction (UNISDR), 'Risk-Management Solutions and Tools as a Response to the Adverse Effects of Climate Change: Lessons from the UN Global Assessment Report on Disaster Risk Reduction' (keynote presentation introducing theme 4, GCCA+ Global Learning Event, Brussels, Belgium, 12–14 September, 2016).

oring and planning and roles that CSOs and CBOs can play are important ways to respond to the complexity of the context and get everybody to respond and move towards resilient communities. Enhancing their roles as planners, advocates and implementers will therefore be a priority.

- **Mobilising the private sector.** Discussions on private-sector engagement in climate action generally focus on leveraging investment by large private-sector companies, as a way of mobilising larger amounts of climate finance. Large-scale private investment, notably in low-carbon energy and transport systems, can indeed contribute to scaling up the social benefits of climate action. Community entrepreneurs also have a key role to play in the delivery of climate change solutions: for example, they play a key role in the promotion and deployment of fuel-efficient cooking stoves and solar home systems – thereby generating benefits for the poorest and most vulnerable sectors of society. Smallholder farmers can also generate a mix of adaptation and mitigation benefits by adopting climate-smart technologies such as agroforestry and other agroecological techniques.

- **Promoting the uptake of local knowledge and know-how.** Across the world, local communities have developed solutions for coping with climate variability and change. While some may occasionally result in 'maladaptation', in most cases they can be usefully integrated into adaptation (and some mitigation) responses. This promotes ownership and facilitates the adoption of new techniques and practices.

The GLE2016 also produced a set of recommendations specifically for consideration by donors when assessing and deciding on funding interventions and when interacting with government:

- **Allocating sufficient budgets to support the functioning of climate institutions and the sustainability of existing initiatives.** Too often, donor support is focused on the implementation of specific projects and new initiatives with high visibility. However, resources are also needed to ensure the proper functioning of institutions involved in the response to climate change, and to sustain existing initiatives that have been shown to generate benefits. While it can be argued that the responsibility for financing such expenditures lies primarily with national governments, donors should not systematically decline to contribute. The provision of climate finance in the form of budget support is a good way of allowing partner countries to allocate resources where they will be the most useful to achieve agreed objectives.

- **Contributing to the scaling up of successful projects.** While financially profitable adaptation and mitigation solutions may spread naturally once successful practices have been documented and benefits demonstrated, economically viable solutions that generate benefits for society as a whole but not necessarily for individual actors, or those that involve upfront investment that is unaffordable for the poorest, require continued support if they are to be deployed on a large scale. This calls for the availability of funding for scaling up successful pilot initiatives, for instance by means of follow-up interventions or budget support.

- **Timing climate change interventions so as to align with the government's calendar.** This can be critical for successful and timely climate change mainstreaming into policies and plans.

- **Investing in implementation support.** During implementation, technical support can be useful, for example when analysing governance structures and mechanisms in view of their improvement; when assessing training needs, and preparing or executing a capacity development plan; or when managing and exchanging knowledge. Complementing budget support with targeted technical assistance is a valuable approach.

- **Promoting interactive knowledge management.** This may involve, for example, the regular organisation of workshops at different levels (community, national and regional) to raise awareness, share knowledge and monitor social impacts; participation in networks of organisations and initiatives involved in climate change management; and exchanges with other civil society and private-sector networks. During all awareness-raising and knowledge-management activities, specific attention needs to be paid to the preparation of materials and the dissemination of information in accessible formats, languages and media – taking account of the lack of access to internet in remote areas and for the poor.

- **Sharing lessons learned from failures.** Case studies tend to focus on success stories. However, finding out about interventions and approaches that only partially delivered the expected results, and understanding why and in what circumstances, is just as useful to secure the cost-effective delivery of social benefits.

CASE STUDY

ENHANCING THE RESILIENCE OF RURAL HOUSEHOLDS IN BHUTAN

FACT FILE	
PROJECT NAME	Climate change adaptation in Bhutan's renewable natural resources sector
CRIS NUMBER	DCI-ENV/2013/330-784
REGION	Asia
COUNTRY	Bhutan
GCCA+ PRIORITY AREA	Adaptation, mainstreaming
SECTOR	Agriculture: overall development and poverty reduction
FUNDING INSTRUMENTS	Sector budget support

The small Himalayan Buddhist kingdom of Bhutan's development is highly dependent on climate-sensitive sectors such as agriculture, hydropower and forestry. The melting of the Himalayan glaciers increases the risk of flooding as well as water scarcity in the dry season. Changing monsoon patterns are reflected in shorter rainy seasons with increasingly heavy rains and longer dry seasons. These changes are a threat to people's livelihoods and the rural economy.

An example of an irrigation site.

Multi-sector coordination for climate change adaptation is necessary to address these challenges. The existing climate change information management systems are considered inadequate, aggravated by limited technical capacity on climate change especially for climate change and crop modeling.

PROJECT OBJECTIVES

With the overall objective being the proliferation of climate change awareness into all areas of Bhutan, targeted sector budget support will reinforce mainstreaming of climate change adaptation into the 11th Five-Year Plan in order to enhance the resilience of Bhutan's rural households to the effects of climate change.

'This is a success story and when it comes to up-scaling, the programme can be replicated in other districts and taken up as a national adaptation programme.'

Pema Tenzin, Senior Programme Coordinator,
Development Cooperation Division, Gross National Happiness Commission

TESTIMONIAL

Mrs Ugyen Dema from the Gomphu village, Zhemgang district, has this to say about the EU GCCA project:

'Solar fencing has brought great relief to us as it has reduced our hardship and made our lives much easier. Over the years, the depredation of crops by wildlife like wild boar, reindeer, monkeys, porcupine, deer and bears has drastically decreased from the day it was installed. I observed that, once the animal experiences an electric shock after touching the fence, animals develop a fear and never attempt to touch it again. Fencing not only keeps wild animals away but also deters domestic stray cattle, dogs and children from damaging the crops. The fencing has proven effective in protecting domestic cattle from entering the fields at night.

'Last year, all the farmers harvested 100% of their paddy crops and we expect the same this season too, as it is the main crop generating cash income and staple food. The fencing has also solved some of our social problems. Now we do not have to leave our kids all alone at home and spend sleepless nights in different locations on the fields, which is what we used to do. Our school-going children have also benefitted a lot, as we are able to cater to our children's needs and have more family time. We are also able to devote our time to other income-generating works that otherwise would have been sacrificed by attending the fields and protecting them from wild animals. We utilise the fence area to grow vegetables and other winter cereal crops besides our main crop, rice, as it is protected throughout the year by the fence.

'However, at times we face difficulty in coordinating timely repair and maintenance works due to lack of cooperation, other farmers being out of station for other works and other personal and domestic reasons. Nevertheless, with the passage of time our friends are realising the importance of solar fencing and coming forwards for maintenance works, and so far no major problems have been encountered.

'Finally, on behalf of all community members I would like to thank our District Agriculture Officials and the EU GCCA project for making our lives easier.'

Mrs Ugyen Dema, Gomphu village, Zhemgang district.

The specific objective — to ensure climate change readiness of the Renewable Natural Resources sector in Bhutan — will be greatly helped by mainstreaming climate change into the sector and ensuring steps are taken towards increasingly addressing climate change adaptation at a multi-sectoral level.

FACTS AND FIGURES

In the focus are four of the eastern districts, Lhuntse, Mongar, Pemagatshel and Zhemgang, with a total number of 44 gewogs. With a total number of households of 16,023, in 2012, 3,360 farmers were practicing stall feeding, while in 2015, 7,582 farmers had adopted improved dairy husbandry.

106 hectares has been brought under efficient irrigation for horticulture crops and a total of 38,394 km2 covering 2,424 Cluster Plots has been mapped for the National Forest Inventory.

The overall cost was €4.397 million, of which €0.797 million were contributed by the Republic of Estonia.

KEY ACHIEVEMENTS TO DATE

An overall reduction in importation of LPG gas for rural households has been recorded since the implementation of this program, as well as an increase in milk production and a reduction in numbers of free-range cattle.

A number of measures have been taken to provide shade for improved breeds of cattle to reduce heat-induced stress, which in turn reduces methane gas production and provides an alternative livelihood to farmers.

For women, the amount of time spent traditionally on collecting firewood and food has been reduced and allows for more time for socially inclusive activities.

LESSONS LEARNED

As with most projects on a governmental level, timing of GCCA-supported interventions, and their alignment with the government's calendar, can be critical for successful mainstreaming.

The experience in Bhutan also highlights the importance of selecting concrete and nationally owned indicators (while setting conditions of the Financing Agreement) and the value of complementing budget support with targeted technical assistance.

There are a large number of institutions involved in climate change in Bhutan, and coordination of their efforts is still too fragmented. The GCCA programme has started working on this issue with MoAF and other institutions.

THE WAY FORWARD

The programme continues working towards the mainstreaming of climate change adaptation into the 11th Five-Year Plan of the Renewable Natural Resources sector, in line with the Gross National Happiness Commission's framework to mainstream environment, climate change and poverty concerns into the Plan.

The programme is supporting the development of a data centre that will provide an overview of the impacts of climate change on the Renewable Natural Resources sector based on a landscape as a complex system with multiple interacting sectors. This should support the operationalisation of the overall Renewable Natural Resources sector climate change policy and strategy in Bhutan.

KEY MESSAGE

The Renewable Natural Resources Sector Adaptation Plan of Action 2016 will be a critical document especially for climate change resource mobilisation. Preparation for the 12th Five-Year Plan, which will provide vital inputs, has begun.

MAIN PARTNERS

Ministry of Agriculture and Forests: www.moaf.gov.bt

Gross National Happiness Commission: www.gnhc.gov.bt

Irrigation site in Nepal.

4 LINKING GENDER, POVERTY AND CLIMATE CHANGE MAINSTREAMING

4.1 GENDER AND CLIMATE CHANGE: THE GCCA+ EXPERIENCE

As mentioned in the previous chapter, climate change impact is not felt equally by all. People face a wide diversity of experiences depending on location, age, ethnicity, socio-economic status – and gender. Since the start of operations in 2008, the GCCA(+) has promoted gender mainstreaming and gender focus in its programmes and projects. The evaluation of the first phase of the initiative highlights that the gender dimension has been adequately considered and integrated in project design and execution. For example, in Jamaica, women played key roles throughout GCCA project implementation, and occupied most key posts in the associated government departments.[7] The programme led by the Common Market for Eastern and Southern Africa (COMESA) put specific emphasis on ensuring women's participation. Other GCCA interventions, such as Tanzania's ecovillage projects and the Guyana mangrove programme, demonstrated that women's empowerment can reduce poverty and provide sustainable and long-term results.

Box 4–1 gives further examples of efforts to secure the active participation of women in GCCA interventions in Cambodia and the Pacific.

Workers employed to harvest watercress on the island of Mauritius take a break from their labour. Their future is uncertain because changing weather patterns have led to longer, drier periods when the watercress beds dry up.

7 Euronet Consortium, *Evaluation of the Global Climate Change Alliance (GCCA) Global Programme World-Wide, Final Report* (Euronet Consortium, February 6, 2015; rev. April 20, 2015).

Box 4–1 Ensuring women's active participation in climate change interventions

The **Cambodia** Climate Change Alliance achieved involvement of women at local level thanks to its strategic collaboration with the Ministry of Women's Affairs. Through the participation of a competent entity, gender aspects have been integrated within the Cambodia Climate Change Strategic Plan 2014–2023 and related sector strategies. A climate change action plan for the Ministry of Women's Affairs has been prepared, and training workshops on gender aspects of climate change have been held at the national level and in two provinces. The last two National Forums on Climate Change included specific sessions on gender issues. Gender equity criteria were also applied in many of the field projects, where women were engaged in small-scale irrigated farming, household rainwater storage, savings groups and the deployment of biogas digesters and improved cook stoves.

Source: Information shared by participants in the GLE2016, complemented by data from the Cambodia Climate Change Alliance evaluation report carried out by the Swedish International Development Cooperation Agency (SIDA, 2014).

In the **Pacific Small Island States** programme, the inclusion of a gender equality adviser in the project team and the preparation of tailored tools (the Pacific Gender and Climate Change Toolkit) helped integrate gender in project design, which resulted in activities focused especially on women. Eventually, partners and participants recognised the importance of gender in relation to climate change. (See Box 4–2 for more information on this programme.)

Source: Information shared by participants in the GLE2016.

Gender-related case studies presented at the GLE2016 all concluded with the same message: **'gender matters'**. Recognising gender differences and tackling gender inequalities is necessary to effectively address climate change. But gender equality will not happen by itself. A shift from policies and actions that are mainly focusing on scientific and economic aspects of climate change to actions that put people at the centre of the climate change response is necessary to ensure equal opportunities for vulnerable groups, including women, to raise their voices.

4.2 OVERCOMING GENDER BARRIERS

Climate change brings a range of new aspects to the gender landscape, some of which are still not well understood. For example, the gender implications of climate risks and uncertainties, climate-related innovation, climate information services and climate decision-making require a deeper and more detailed understanding. What is clear is that the socio-economic gaps and challenges faced by women are further exacerbated by climate change: its impacts tend to aggravate gender inequalities, and in the face of climate-related disasters, women are disproportionately affected by loss of life.

At the field level, **cultural stereotypes and discriminatory social norms** undermine women's capacities and involvement in climate action. **Work overload** (as women typically work at least three to four hours per day more than men) further restricts their ability to lead and implement climate change activities.

Inequitable access to assets is another barrier that women and climate change programmes face. **Access to land**, which plays an important role in adaptation and mitigation responses, is one of the most significant challenges for women. Access to other productive assets such as **credit and technical assistance** is also frequently problematic, in spite of efforts made by international and national programmes to reach women and make productive and financial assets (like micro-credit) more readily available to them. Experience from Kenya shows that, to increase the uptake of financial services by women, heads of households need to be engaged for permission and support.

Gender inequality in **access to technology and climate information** also remains a major barrier when addressing climate threats. Climate change adaptation requires access to appropriate technologies that can build resilience in various areas. In the past few decades, numerous innovations – including mobile phones providing better and more timely access to information and alternative energies – have offered new opportunities for more resilient and low-carbon development. However, women often face barriers in accessing new technologies, including those that could increase their opportunities as entrepreneurs. They are also insufficiently involved in the design and testing of technologies that are directly relevant to their needs (e.g. energy systems for cooking, heating and lighting, or irrigation systems for home gardens). From a gender perspective, successful technologies are those that promote women's economic advancement (e.g. by helping to increase productivity and/or creating new income generation opportunities) and address other barriers such as social norms, access and time constraints. The case study at the end of this chapter describes how the rehabilitation of a water well in Niger as part of a climate change adaptation programme has helped reduce the workload of women and free up some of their time.

At government level, the **insufficient awareness, understanding and competences** to develop gender-responsive projects are structural and institutional barriers to gender mainstreaming. They put a brake on the integration of gender considerations in planning processes and on shifting from political rhetoric to action. More practical examples, and specific efforts to build and disseminate the knowledge derived from pilot 'gender and climate' initiatives, are needed to support effective gender integration at all levels and in particular at national level. Indeed, a supportive national policy, and legal framework on gender, drives commitment to promote gender equality and makes gender-specific interventions more effective.

Finally, updated socio-economic and **gender-disaggregated data** are often missing and/or incomplete, leading to gender-biased climate change (and other) interventions. Sex-disaggregated statistics are limited, especially in developing countries and rural areas. Beyond quantitative data, quality indicators that can help measure improvements in gender equality in climate action and other related spheres are also needed. The poor availability of case studies and lessons learned has also been identified as an obstacle, especially as interventions that promote gender equality in relation to climate change are still at an early stage.

These are all barriers that need to be understood and addressed in future efforts to bring gender equality into the mainstream of climate change policies and interventions.

4.3 BENEFITS OF GENDER-RESPONSIVE CLIMATE ACTION

Actions that are gender sensitive or gender responsive[8] – and are therefore designed to yield benefits for the whole population – are not only fairer but also more effective. Participants in the GLE2016 brought evidence of the higher degree of success of interventions that actively promote women's involvement (see Box 4-2). The activities that prove to be the most successful are those that help alleviate women's workload and those that generate economic benefits – preferably cash incomes – for them. Increasing women's income is beneficial for the whole community, as women are generally keen to invest their income in those areas most needed to reinforce resilience, in particular health, nutrition and education.

However, even though the inclusion of gender issues has been demonstrated to be cost- and impact-effective, identifying and implementing successful solutions requires changes in attitudes and behaviours as well as the use of adequate tools, the setting of targets and the allocation of resources. The next section explores what needs to be done – at policy level, in climate-related interventions and specifically in GCCA+ interventions – to effectively integrate gender in climate action and achieve the associated benefits.

8 **Gender-sensitive** actions are those that were planned taking account of gender norms, roles and inequalities and raise awareness about them – but do not necessarily take specific measures to address them. **Gender-responsive** actions are those that, in addition to acknowledging and raising awareness about gender norms, roles and inequalities, actually do something to address them.

Box 4–2 Benefits from gender-responsive climate action

The GCCA-funded **Pacific Small Island States** programme placed specific emphasis on understanding and addressing the social dimensions of targeted communities. Gender aspects were addressed primarily from the perspective of livelihoods. As a result of broad-based consultations (sometimes organised separately for different groups), some interventions were planned to include different but complementary activities for men, women, young people and children.

For example, in Tuvalu, the core of the intervention was the establishment of agroforestry demonstration sites that would feature 'climate-ready crops'. However, recognising that this was traditionally a male-dominated area (notably for reasons of land ownership), it was decided to develop a complementary activity, focused on home gardening, with women. The project was designed with input from women and men. For both groups, the goal is to improve livelihoods by providing local crops and reducing dependence on imports. Setting clearly defined activities and targets for each group has helped achieve tangible benefits for all.

Source: G. Cambers and T. Rabuatoka, 'Placing People at the Forefront of Climate Resilience: GCCA Pacific Small Island States Project' (presentation, GCCA+ Global Learning Event, Brussels, Belgium, 12–14 September, 2016).

In Chololo ecovillage in **Tanzania**, several partners worked together to support the community in testing, evaluating and taking up sustainable climate change innovations in agriculture, livestock, water, energy and forestry. From the beginning, steps were taken to empower women. Income-generating activities were assessed with a view to selecting those most beneficial to women. As a result, women's participation was high; women's income has risen by 64% on average, and total household income by 18%; the number of households eating three meals per day has doubled; the average period of food shortage has been reduced from 7.3 to 2.8 months; and women occupy 50% of leadership positions compared with 40% previously. The project has also shown that women are often early adopters of new practices and technologies, if they see a direct benefit to their family.

Source: M. Farrelly, 'Putting Women First in Climate Change Adaptation: Chololo Ecovillage, a GCCA Project in Tanzania' (presentation, GCCA+ Global Learning Event, Brussels, Belgium, 12–14 September, 2016).

4.4 STRENGTHENING THE GENDER FOCUS IN CLIMATE CHANGE INITIATIVES

Gender and women were not mentioned in the UNFCCC and Kyoto Protocol. The Paris Agreement now calls for a gender-responsive, participatory approach for adaptation and capacity-building actions. This is a good start, but gender equality and women's empowerment also need to be promoted in the areas of mitigation, technology and finance. In addition, women's important role in specific sectors associated with the response to climate change, in particular agriculture and food security, should be recognised more explicitly. An analysis of (I)NDCs from a gender perspective reveals that gender references, where they exist, remain confined mostly to women as 'vulnerable populations' in the face of climate change impacts, with less emphasis on supporting them to actively engage in adaptation and mitigation actions (see Box 4–3 for more findings of this study). At the national level, **(I)NDCs and NAPs represent good entry points for gender integration in climate policies and activities.**

Box 4–3 INDC analysis from a gender perspective

An analysis of the 167 INDCs submitted by Parties to the UNFCCC ahead of COP21 indicates that attention to social issues and gender is less than might have been expected. Half of all submissions include references to social issues (e.g. poverty, inequality, human wellbeing, marginalisation). Poverty is the social issue receiving the most attention (70 Parties). Gender receives attention from slightly less than 40% of Parties (65 Parties) – none of which, it turns out, are industrialised countries. The figure below shows the proportion of reviewed INDCs that mention gender – either in general or specifically in relation to adaptation and/or mitigation – or fail to do so.

Gender not mentioned (61.08%)
Gender mentioned (13.77%)
Gender and adaption (14.37%)
Gender and mitigation (4.19%)
Gender, adaptation and mitigation (6.59%)

GCCA+ partner countries generally recognise women as a particularly vulnerable group. Most of the countries that do are sub-Saharan African Parties, making the region a global leader in prioritising gender equality, either promoting a gender-rights approach (e.g. Lesotho, Malawi, Uganda) or recognising women's role in the energy sector (e.g. Burkina Faso, Niger, Senegal).

Source: Sophia Huyer, *An Analysis of Progress in Gender Equality at COP 21*, CCAFS Info Note (CGIAR Research Program on Climate Change, Agriculture and Food Security, 2016).

The **EU external relations gender action plan 2016–2020**[9] promotes a pioneering approach based on a shift in institutional culture, aimed at ensuring that commitments on gender equality are translated into clear and tangible outcomes. This involves giving higher priority to gender actions in development cooperation; improving coordination, coherence and leadership on gender issues; using robust gender evidence and analysis; allocating adequate financial and human resources; monitoring efforts and outcomes; and fostering partnerships between the EU and other stakeholders to build national capacity for gender equality. This provides a clear framework for action by the GCCA+ aimed at further mainstreaming gender concerns. The GCCA+ has an opportunity to take a leadership role in this area vis-à-vis other EU climate-funding instruments.

GLE2016 participants shared experience and had extensive discussions on what is needed to better support gender integration in climate change initiatives. Key conclusions on how to successfully address gender aspects include the following:

- Both **gender mainstreaming and gender-specific interventions** are useful, as they tend to be complementary. Including a gender component in a programme is a good way of securing the implementation of gender-specific activities, while the expertise mobilised for implementing this programme can also support bringing other components into the mainstream. Box 4–4 illustrates an application of this approach in Bangladesh.

Box 4–4 Combining gender mainstreaming and gender-specific interventions

Bangladesh is in the process of adopting an Environment, Forestry and Climate Change Country Investment Plan (CIP) that identifies priority areas for investment in these sectors. It includes a gender-specific programme that will support capacity building in gender-sensitive policy and programming in the Ministry of Environment and Forests and its agencies; strengthen the capacities of rural women to better engage in environmental management (including through training in leadership, lobbying and negotiation); and promote the participation of women and minority groups in environment-related decision-making processes. In addition, gender will be brought into the mainstream via other programmes. The CIP's programme on improved transparency and knowledge includes a commitment to integrating sex-disaggregated data and gender budgeting approaches into all systems. This approach takes account of lessons learned from the implementation of the gender action plan adopted in 2013 in the context of the Bangladesh Climate change Resilience Fund (BCCRF),[10] which had only 'modest uptake'.

Source: Information shared by participants in the GCCA+ Global Learning Event (Brussels, Belgium, 12–14 September, 2016); *Bangladesh Environment, Forestry and Climate Change Country Investment Plan*, 2nd draft, May 27, 2016.

9 *Gender Equality and Women's Empowerment: Transforming the Lives of Girls and Women through EU External Relations 2016–2020*, Joint Staff Working Document SWD (2015) 182 final (European Commission and High Representative of the Union for Foreign Affairs and Security Policy, 2015).
10 The BCCRF is supported by the GCCA, among other donors.

- Gender analysis conducted at the stage of intervention design can help identify the best ways of securing and/or enhancing vulnerable groups, including **female participation** in programme or project activities. Activities that give women access to income-generating activities, education and technology are particularly valuable.

- Where participation depends on selection in a competitive process (such as a call for proposals), providing technical assistance to project carriers for the preparation of project applications may be an effective way of giving vulnerable groups, including women (who may be less literate) equal chances. Also, **making gender mainstreaming an essential condition** and not just an element of 'added value' will provide an incentive to give due attention to this aspect.

- Besides promoting vulnerable groups, including female participation, efforts are needed to ensure that women are properly involved in decision making, and that a culture of **female leadership** in the sector is created. Confidence training for women is a proven way of increasing their leadership and capacities.

- Climate action frequently promotes the use of **new technologies**. Where relevant, preference should be given to those that are 'gender designed' and/or 'gender accepted' and may contribute to alleviating the work burden of women.

- **Gender-related positive discrimination practices** are generally welcome, and frequently needed to achieve real progress. Explicit gender-equality objectives must be adopted at the time of designing and planning initiatives to address climate change. What gets measured is more likely to get done: setting targets and/or quotas signals that gender diversity is important and is to be treated as an objective in itself, not just another 'cross-cutting theme'. However, targets and quotas need to be accompanied by appropriate sensitisation, as they can turn out to be counterproductive if poorly implemented. Gender-related actions must be planned and executed while respecting national and local cultural norms.

- Gender outcomes must be tracked through adequate integration of the gender dimension in **M&E systems.** This requires the selection of workable and meaningful indicators that capture the various dimensions of gender equality and impacts. This in turn is likely to involve the use of gender-disaggregated and/or gender-sensitive indicators (e.g. for measuring access to rights and justice, access to resources and essential services, access to education and technology, access to income, improvements in living conditions) – for which data-collection systems may need to be adapted or enhanced.

- For adequate integration of gender aspects, it is important to build strategic alliances with **women's associations**, and to involve them in policy or intervention design, implementation and monitoring.

- The existence of **'gender champions'** (i.e. influential individuals, men as well as women, who actively support and promote gender equality) can usefully contribute to promoting gender-responsive climate initiatives.

- The integration and sustainability of gender initiatives in government activities and climate-related programmes requires **sustained financial support**. Budget allocations for gender mainstreaming and gender empowerment in relation to climate change are needed to move from intended or planned to effective gender-responsive climate actions.

A few specific suggestions were also made for the GCCA+:

- **More methodological and technical guidance** would be welcome. This may involve providing clear direction and definitions on gender terminology and expectations (taking into account different national interpretations); developing tools for supporting gender-responsive climate-related programming; providing case studies; and assessing the specific gender impacts of climate change.

- **Gender analysis** based on effective participation of women and their representative associations should be conducted systematically to inform the design of new interventions,[11] paying specific attention to collecting information on the social context. This would notably support improved integration and quantification of gender aspects in the logical framework, which should be done from the very beginning.[12]

- To make this possible, **more resources** (including gender-specific expertise) **and time** must be dedicated to project design.

- To monitor progress on gender integration in the GCCA+ initiative as a whole, a **baseline** needs to be developed – after which progress will have to be monitored, possibly against quantified targets.

- Any **policy dialogue** related to GCCA+ should incorporate gender concerns and issues, and highlight potential gaps in national-level gender policy and practice.

11 This is also a recommendation of the new EU gender action plan.
12 Some flexibility is needed, however: sometimes, full data collection (e.g. for establishing baselines) is not possible during project preparation – in which case complementary data collection and assessment can be undertaken during the initial months of implementation.

CASE STUDY

MORE WATER, LESS WALKING

FACT FILE	
PROJECT NAME	Local Climate-Adaptive Living Facility (LoCAL-UNCDF)
CRIS NUMBER	DCI-ENV/2013/330–784
REGIONS	Africa, Asia and the Pacific
COUNTRIES	Twelve countries across regions including Niger, Dosso district
GCCA+ PRIORITY AREAS	Adaptation, mainstreaming
SECTOR	Adaptation, governance
FUNDING INSTRUMENTS	Project approach, joint management. Other financing entities across countries: SIDA; the governments of Bangladesh, Benin, Belgium, Bhutan and Liechtenstein; UNDP–Global Environment Facility (GEF); and UNCDF.
WEBSITE	www.local-uncdf.org/more-water-less-walking www.local-uncdf.org

In Niger's remote communes, the rising issue of water scarcity is a concern for many. As the weather patterns shift, the people of the Dosso district are finding it harder to have safe and secure sources of water. With a limited number of options, many are willing to go to great lengths to find water, in order to get by day to day. With the rain patterns changing, there is no telling which wells will provide water. This unpredictability makes the need greater. For women, especially, the act of fetching water may entail a whole day's work.

PROJECT OBJECTIVES

Overall objective:

- Promote climate change resilient communities by increasing financing for and investment in climate change adaptation at the local level in the least-developed countries.

Specific objective:

- Increase local authorities' access to climate finance to implement climate change adaptation activities in target countries.

The programme will achieve these objectives by providing performance-based climate resilience grants, targeting rural local authorities especially.

FACTS AND FIGURES

In its first year of implementation, LoCAL Niger has provided performance-based climate resilience grants to two communes of Niger representing an estimated 100,000 people. Among the dozen climate-resilient investments undertaken, there was the rehabilitation of well water in the rural community of Dan Kassari, department of Dogondoutchi in the region of Dosso.

KEY ACHIEVEMENTS TO DATE

In Niger, women are the main beneficiaries of a number of investments made during the pilot phase. Many of the water projects in Niger specifically benefit women, as they spend a disproportionate amount of their time each day fetching water. The rehabilitation of a number of wells through LoCAL has greatly improved access to water and thus reduced the amount of time women have to spend walking to the nearest wells, as these used to be further away.

In the example, the rehabilitated well is designed in a way to ensure minimum loss of water when drawing. A drain encircles the well where most of the falling water drips down the edges of the construction and is collected in pan-shaped structure for the transportation animals and livestock to sip on. This design not only supplies fresh water to the animals, but also decreases the amount of water carried back, as it no longer needs to be split.

This rehabilitation work increased the water level, protected the wells from climate variation by raising their coping by 0.5 metres, and included the installation of gates and troughs to help village women draw water.

'This action illustrates well how addressing climate variability and change also answers basic development needs like access to safe drinking water, or gender issues. While working to improve local understanding of climate risks, LoCAL Niger has taken a pragmatic approach to support the local government capacity in increasing the resilience of the most vulnerable populations through 'no-regret' adaptation measures.'

Sophie De Coninck, Progamme Manager, LoCAL (Africa)

An organisational mechanism and management committee for the rehabilitated wells have been established in each village.

The activities are focused on maximizing synergies between adaptation and poverty eradication.

The project eases the care burdens of women and girls, which will not only lessen the labour and time commitment required to provide basic services for their families, but can also strengthen communities by allowing for women to offer their talents and labour to adaptation and mitigation efforts, and economic activities more broadly.

Another investment – the rehabilitation of degraded land – specifically benefitted women by providing 200 women with temporary jobs in rehabilitating the land and planting new trees. The project simultaneously reduced the risk of flooding and provided additional income to women and their families.

LESSONS LEARNED

LoCAL recognises the different ways in which women and men can be affected by climate change, as well as the importance of their particular contributions to solutions. Whilst the specific criteria for the performance-based climate resilience grant system vary from one country to another, a number of LoCAL countries have systems with specific gender-sensitive performance measures.

In the example chosen, women and men access, manage, use and benefit

Women taking well water, Dogondoutchi, Dosso, Niger.

'Prior to the LoCAL project and the construction of two wells in Yelmet Ahmet and Witchia villages, women had to walk 8 to 9 kilometres with two water receptacles of 25 litres each. The construction of these two wells considerably reduced the burden on women by reducing walking distances and time spent on this chore, while also providing access to better water quality.'

Maman Tourba, Mayor of the Commune Rurale de Dogonkiria, Niger

Children coming to collect well water, Dongonkiria, Niger.

from water differently, and because of gender discrimination and disparity, women and men's relationship to water is unequal. In many households, women are the primary users and managers of water for domestic activities including cooking, cleaning, subsistence agriculture, health and sanitation; men primarily use water resources for income-generating activities (agriculture or livestock).

Climate change threatens to exacerbate the inequalities between women and men's relationship to water and as such, the burden of women's work in unpredictable climate conditions is strongly affected.

Investing in basic needs and supporting women in far-away regions results in an improvement to quality of life for their families and communities.

A new well in a remote region improves the quality of life of neighbour 'last mile' communities.

THE WAY FORWARD

In 2017, LoCAL will consolidate its portfolio across local governments in all 12 participating countries.

Niger will consolidate their work through a second cycle of investments in their pilot phase while exploring partnerships for Phase II, which aims to provide support to more communes throughout the country.

The programme is working on a system to monitor and evaluate the impact of activities on the resilience of women and men in 'last mile' communities.

The planning and implementing of new activities – with local governments answering to livelihood needs but also increasing the resilience of the most vulnerable communities – is underway, involving 64 local governments across Africa, Asia and the Pacific and representing five million people.

ONE KEY MESSAGE

The pragmatic approach of LoCAL in promoting immediate benefits for livelihoods is also improving knowledge about climate impacts and vulnerabilities, creating a sustainable pathway to a climate and gender change.

TESTIMONIAL

For some people, the act of fetching water entails a whole day's work. This is the case with Fatima Dankani, who spends six to eight hours a day collecting water and transporting it back to her village, which is one kilometre away from a well that the Local Climate Adaptive Living Facility programme of UNCDF recently rehabilitated in the commune of Dan Kassari – an area so distant from any city that it has no paved roads and borders Nigeria.

Mrs Fatima Dankani and her son Nazir, Dan Kassari Dogondoutchi, Dosso, Niger.

Before the rehabilitation of the well, Fatima used to have to travel four to five kilometres for water, taking her more than 12 hours for less water and, at times, the well would be dried up upon her arrival.

'Ever since the well has been rehabilitated, there has been a difference in my life,' Fatima said. 'I bring water for two families – mine and my husband's. All together, there are seven people who depend on me on a daily basis. I cannot let them down.'

Fatima, who is 22 with three children, tried to carry ten gallons per day, back and forth to her home. Sometimes her son, Nazir, accompanies her on these long walks, but he is too young to carry anything. During the dry months, she sometimes has to make the same trek five times a day.

'My family and I have benefitted greatly from this well. I am thankful, as it has reduced my suffering. Previously, the children would cry if they had to go with me to the well; at the same time I couldn't leave them, as there was no one to take care of them, especially the younger ones.'

Fatima's son, Nazir, might not be from the village, but he has tagged along with his mother enough times to make friends with the village's children. He plays in his mother's sight, while the water is drawn and packed into two yellow plastic gallon jugs, with a long strap attached between them, which she carries with diligent balance. She says it is better that way, for her and for the wellbeing of the child.

Although Fatima does not have animals that help her transport the water, she is very thankful for LoCAL's rehabilitation of this well as it has made the experience so much easier and replenished many of her village's needs.

5 MANAGING CLIMATE RISKS

5.1 A RESILIENCE FUNDING GAP

Building climate resilience is essential to achieve the goal of ending poverty. Yet the time intervals between climate disasters is decreasing, giving countries **fewer opportunities to fully recover** from losses, and making it **more difficult to find resources and implement adequate resilience-building strategies.** This is particularly true for SIDS and smaller countries, for which climate-related losses represent a direct opportunity cost for development.

Losses linked to climate-related disasters **are escalating**. The United Nations International Strategy for Disaster Reduction (UNISDR)'s Global Assessment Report on Disaster Risk Reduction 2015 (GAR2015) and Munich RE data[13] show that the number of loss events as a consequence of climate change more than doubled between 1980 and 2014. At the same time, weather-related losses and damage have risen from costing an annual average of about US$50 billion in the 1980s to close to US$200 billion over the last decade.

In such a situation, **making development climate- and disaster-resilient seems to be the logical way forward**. However, the amount of money required to respond to the negative effects of climate change is immense. As our knowledge of impacts, and the magnitude of their severity, is growing, **estimates of adaptation investment needs are being multiplied every few years**, notably for developing countries. While in 2007 the UNFCCC valued the need at US$28 billion annually by 2030, new estimates show that annual adaptation costs could range from US$140 to US$300 billion by 2030, and from US$280 to US$500 billion by 2050.[14]

This scenario points to the emergence of a **foreseeable and rapidly increasing funding gap** for climate- and disaster-resilient development. Indeed, total international public finance for adaptation amounted to about US$27 billion in 2013 and 2014.[15]

In the face of this growing gap, a key message delivered at the GLE2016 was to **'invest today to lessen losses tomorrow'**. Poor land use and urban planning, in particular, have a strong potential to create new risks in the future (GAR2015) – while the benefit–cost ratio of investing in proper land-use planning in specific projects can reach 400%.[16] Land management is another sector offering opportunities for decreasing potential future risks, as declining ecosystem services associated with land degradation dramatically increase the impacts of extreme weather events on life, infrastructure and livelihood assets.

As UNISDR representatives at the GLE2016 indicated, the right mix of **appropriate technology, enabling legal and institutional frameworks, timely forecasting** and **early warning** can reduce the risks. Understanding the drivers of spontaneous adaptation strategies at beneficiary level (see Box 5–1) and looking at opportunities for risk reduction across disciplines and sectors is also critical for building long-term resilience.

13 Münchener Rückversicherungs-Gesellschaft, 'Geo Risks Research', NatCatSERVICE database (data as at January 2015).
14 United Nations Environment Programme (UNEP), *Adaptation Finance Gap Report* (UNEP, May 2016).
15 Barbara K. Buchner, Chiara Trabacchi, Federico Mazza, Dario Abramskiehn and David Wang, *Global Landscape of Climate Finance 2015 (Climate Policy Initiative, November 2015*, updated September 2016).
16 United Nations Office for Disaster Risk Reduction (UNISDR), 'Risk-Management Solutions and Tools as a Response to the Adverse Effects of Climate Change: Lessons from the UN Global Assessment Report on Disaster Risk Reduction' (keynote presentation introducing theme 4, GCCA+ Global Learning Event, Brussels, Belgium, 12–14 September, 2016).

Labourers at the Mai Shum Nursery build sun protection for new crops.

Box 5–1 Most common adaptation strategies in subsistence-oriented communities

Researchers at the Hakai Institute and Simon Fraser University in Canada carried out a global meta-analysis focused on how subsistence-oriented communities are coping with and adapting to climate change. This study, based on a review of peer-reviewed and grey literature, synthesises adaptation strategies and analyses patterns in people's adaptation responses in relation to different factors (i.e. geographic location, cultural group, subsistence activity). The most common strategy entails the spreading of risks associated with climate change through the diversification of livelihoods, food sources and gathering places. The collated strategies developed by subsistence farmers were particularly numerous and diverse, and were mostly sustainable and low cost.

ADAPTION STRATEGY	SUBSISTANCE ACTIVITY	EXAMPLES
SPREADING RISKS THROUGH DIVERSIFICATION	AGRICULTURE	• Change crops and/or varieties (i.e. switching to drought-resistant crop varieties) • Multi-cropping • Change planting dates • Change or diversify subsistence activity
	HUSBANDRY	• Change herd composition (breeds, species) • Change feed/grazing cycles • Change or diversify subsistence activity

Source: V. Savo, C. Morton, D. Lepofsky, and K. Lertzman, presentation (GCCA+ Global Learning Event, Brussels, Belgium, 12–14 September, 2016).

Haleka Alaktli and Meebrhit Kidane ploughing the land to sow new crops in Adi-Nefas.

5.2 RISK-INFORMED, ROBUST DECISION MAKING

Climate and disaster risk-assessment involves unpacking complex issues and understanding the key drivers of risk (which are closely related to the drivers of vulnerability) and methods of risk assessment, including their limitations.

For effective risk management, **understanding how risk is perceived** is fundamental. Risk perceptions, and the associated willingness to proactively reduce and prepare for potential risks, are strongly influenced by personal experience and awareness of potential loss. The quality of communication is therefore important to support action at the level of various stakeholders and encourage them to take steps towards risk management throughout the successive stages in development and climate-response processes, from investment priority setting to implementation.

Understanding **technical barriers to identifying risks and solutions**, in particular at the local level, was one of the most-discussed aspects of climate risk management during the GLE2016. The main practical barriers are related to poor access to data, as a consequence of non-existent datasets, or poor transmission of existing information. In addition, the available climate-forecasting and risk-monitoring tools and methodologies are frequently too complex and not suited to local and community-based projects. Where only limited climate, environmental and socioeconomic data are available in the field, individual projects tend to use direct field observations and simplified approaches to assess complex information such as available ecosystem services, existing pressures and adaptive responses. If the approach is not robust enough, this can lead to decision making for risk mitigation being based on subjective interpretation of insufficient data.

This calls for more efforts to reach down to development practitioners and **translate technical data and the results of scientific models into a language that can be understood** by them. For example, this can take the form of easily readable maps, trend-analysis graphs providing a broad picture of the evolution of key variables, or even simplified economic-analysis results. GLE2016 participants also noted that risk information alone is probably insufficient to trigger significant changes in decision making, planning or budgeting. The gap between climate-risk information production and use has to be bridged by translating technical information into explicit benefits for users and decision makers.

Viable technical solutions that contribute to resilience need to become more accessible. Gaps exist not only in terms of technical capacity and knowledge but also in terms of effective solutions that can be scaled up to address the consequences of climate change in specific contexts. For instance, in the construction sector in Haiti, traditional disaster-proofing techniques and low-carbon alternatives are being promoted to replace more commonly used building practices that are cheaper, but also highly climate- and hazard-sensitive.

Also, risks **related to regulations and political risk** stand out as being of the highest concern. Risks arising from poor or ill-conceived regulation (e.g. in relation to zoning and building standards) are perceived as being the most frequent and most consequential. Political risks – such as policy inconsistency and poor coordination between the national, regional and local levels, lack of political will to address sensitive issues such as land-use planning and natural resource management, lack of enforcement of existing regulations and the loss of customary laws – represent challenges. This indicates that more attention needs to be paid to building the capacities of LDCs and SIDS to develop, implement, and enforce sound regulations and planning processes as an entry point to risk management.

It is evident that there is **no single risk mitigation solution**. Natural hazard risk-management and climate change adaptation need to be responsive and tailored to address local needs and circumstances. Adaptation and risk management should therefore be undertaken at the local level, taking account of local development imperatives. Risk reduction and adaptation should be seen as a change management process, the success of which ultimately depends on the quality of the connection between the individual and the surrounding social, economic and natural environment (including social community, public and private assets, public services, ecosystem characteristics, etc.).

That being said, **common approaches to risk management can be identified**. For instance, risk and vulnerability assessments undertaken to inform risk-mitigation strategies, notably at the stage of intervention design, provide an opportunity for stakeholders to analyse their environment and a basis for identifying a combination of risk-mitigation measures and potential opportunities that support community resilience. Using standard tools to better understand climate change impacts and monitor adaptation results can be challenging and technically demanding (especially for small organisations) but also brings many benefits in terms of identifying key issues and priorities, thereby supporting evidence-based decision making. Box 5–2 presents the five-step methodology developed by the Italian organisation Istituto Oikos for defining and monitoring a robust climate-risk management strategy.

Box 5–2 A practical approach to designing evidence-based adaptation strategies

With the support of the GCCA's 'Integrated approaches for climate change adaptation' programme, Istituto Oikos is establishing the first **integrated rangeland conservation and adaptation model** in a key ecological corridor between the Mount Meru, Kilimanjaro and Amboseli ecosystems, in the Arusha region of northern Tanzania. There, increasingly unpredictable rainfall patterns are a threat to the survival of pastoralists, who depend on the continued provision of ecosystem services for their livelihoods.

The adaptation model, designed and piloted in collaboration with local authorities and international research teams, integrates scientific evidence, empirical measurement of the impacts of human activities, ecological monitoring and knowledge exchange. To design a robust, evidence-based adaptation strategy that integrates climate risks, Istituto Oikos followed a five-step approach:

Step 1: Assess existing pressure, e.g. through an assessment of the density of settlements. This is done through direct observation and the interpretation of satellite imagery.

Step 2: Assess available resources. Notably, this step will help characterise the quality of the ecosystem services. The main tools are direct observation and map interpretation. By using results from Step 1 and Step 2, Oikos found that livestock density reaches peaks of density 22 times higher than the rangeland-carrying capacity, estimated on the bases of rainfall records, and under ideal conditions, at 3.5 hectares per Topical Livestock Unit.

Step 3: Assess climate change related risks. The EU guidelines for environmental and climate change mainstreaming gives information on what a Climate Risk Assessment is and proposes a template for Terms of Reference. An analysis of the perception of climate change related risks through semi-structured questionnaires informed on the most critical areas of concern of the target communities, and helped to prioritise interventions.

Step 4: Assess adaptive responses. Here are a few examples:

- Improved water management: tangible, quick results.
- Alternative crops: very slow adoption.
- Improved livestock breeds: quite slow adoption/challenging energy and water needs.
- Reforestation/afforestation: long-term investment and lack of immediate results.
- New environmental enterprises focusing on women: mostly good results and rapid income-generating solutions.

Step 5: Establish an ecological monitoring process

Indicators should include: water availability, alien plant species presence, density and distribution, livestock counts and movements, deforestation and charcoal production, livestock market-value trends.

The project implements an integrated approach that combines risk understanding and preparedness, capacity building for the use of climate change monitoring tools (linked to the installation of two meteorological stations), and the setting up of new local institutions (e.g. water-management boards, grazing committees) to help protect ecosystem services. It also supports communities to develop land-use plans and diversify their livelihoods, with a focus on climate-smart activities (e.g. water storage, drought-resistant cereals, biogas and more sustainable charcoal production).

Source: Istituto Oikos, 'The Key Role of Donor-Supported Interventions in Designing Evidence-Based Adaptation Strategies: The Case of Rangelands in Arusha Region, Northern Tanzania' (presentation, GCCA+ Global Learning Event, Brussels, Belgium, 12–14 September, 2016).

5.3 TOWARDS PRACTICAL, PARTICIPATORY ADAPTATION STRATEGIES

Adaptation strategies focused on subsistence-oriented goals are generally small-scale, specific, and do not involve regional or national administrative decisions. Such strategies tend to be cost effective as they focus on available resources and technology. Unfortunately, the replication of such practices, including environmentally sound ones, is often not sufficiently promoted due to lack of commercial interest. Technical networking between similar initiatives implemented in different areas helps save time and money, notably by avoiding the repetition of some mistakes at the planning or implementation stage.

In contrast, **top-down adaptation strategies tend to focus on environmental conservation and on governance on broader scales**, with the involvement of communities to share their adaptation needs and solutions still sporadic. As a result, they may fail to be widely adopted or have visible impact in the field. Approaches to climate risk management and adaptation should recognise that knowledge is not all about science, models and projections: part of it is based on practice and traditional knowledge, which needs to be better understood, harnessed and adequately factored in.

More flexible policies and strategies that, while setting overarching goals and principles, would better **enable local communities to deal with climate change now and on their own terms** are thus urgently needed. Communities need to be more involved in climate-related decision making, management and governance. For instance, experience in Tanzania shows that rural communities are perfectly able to take up and use climate-monitoring tools. The adaptation of existing, complex monitoring and management tools to fit community skills and capacities should be seen as an essential component of successful risk management.

The experience of GCCA+ and its partners has identified some **structural factors that support long-term adaptation and risk-management strategies.** These include:

- Governance and knowledge systems that comprise all stakeholders including local ones. Both scientific advances and working solutions need to be included in policy development – which requires two-way exchanges between scientists, data managers and central planners on the one hand, and local communities and development practitioners on the other.

- More systematic mainstreaming of disaster risk reduction into sector and local planning and design of new actions. This is especially important for actions that have an impact on the social and economic fabric that drives resilience.

- The sustained and regular monitoring of risks. This supports the updating of risk-mitigation strategies as risks evolve and experience accumulates.

Finally, **risk management is more successful when it is gradually embedded in existing activities and processes at sector level.** This requires institutionalising disaster risk reduction in national to local planning processes, and building capacities for risk management within institutions at all levels. Specific attention needs to be paid to empowering communities and local authorities by giving them access to the necessary information, resources and authority. This is in line with Target 7 of the Sendai Framework for Disaster Risk Reduction 2015–2030, which is to 'substantially increase the availability of and access to multi-hazard early-warning systems and disaster risk information and assessments to people'.

Top left: Salma Zahran Hamad has built and sold over 100 fuel-efficient cookstoves in her community, helping her pay for the continued education of her oldest daughter. Kiungoni, Pemba, Tanzania.
Top right: Hamad Mwitanii with a vanilla vine in his converted agroforestry farm. In the past, his steep hillside farm was cultivated by his family annually, producing cassava. With the help of Community Forests Pemba, Hamad has transformed it into a resilient agroforestry system.
Bottom: Agricultural Officer Siti Makame trains 30 women on seed saving, water management and natural pesticide use at the CFP Rural Innovation Campus, Pemba, Tanzania.

5.4 SUPPORTING BETTER RISK MANAGEMENT

To conclude, this section examines some key recommendations of the GLE2016 for supporting better risk management in GCCA+ interventions.

First, efforts must be made to **enhance the use, quality and dissemination of climate-vulnerability assessments**[17] as a tool for informing risk-mitigation strategies and development planning. These could be more systematically undertaken either during project preparation or as an integral part of project implementation (or both); the case study at the end of this chapter illustrates the benefits of conducting such an assessment. To support the assessment process, more use could be made of existing datasets and climate data services (notably those developed in the context of EU-funded initiatives for building the capacities of regional scientific centres in the field of earth and climate observation), and more links established with relevant ongoing initiatives (e.g. the World Bank's Global Facility for Disaster Reduction and Recovery). This is in line with the priorities of the EU's Action Plan for Resilience in Crisis-Prone Countries,[18] which recommends developing shared assessments (as well as strategies and implementation plans) to build resilience.

Support should be provided to help partner countries **embed risk information in national decision-making**, notably at the level of ministries of finance and other institutions involved in central planning. Sound development and investment planning implies risk-informed planning. In the prioritisation and design of investments, more attention needs to be paid to long-term climate risks and associated risk proofing; this can be facilitated by the convergence of risk models used by climate change practitioners and in disaster risk reduction. For those investments that are planned at the local level, building the capacities of local authorities and communities with regard to adaptation and disaster risk reduction is also important.

Another recommendation is to promote **multi-benefit and multi-stakeholder approaches**. Climate risk and vulnerability assessments can be

Kemanit Alembirhan (left) instructs community members in Endaba Biruk.

17 NEW GUIDELINES Integrating the environment and climate change into EU international cooperation and development (European Commission, 2016).
18 *Action Plan for Resilience in Crisis-Prone Countries 2013–2020*, Commission Staff Working Document SWD (2013) 227 final (European Commission, 2013).

used to identify 'no regret' adaptation options (i.e. those anticipated to deliver benefits under any predicted climate scenario), while economic assessments such as cost-benefit analysis can help identify those adaptation options and investments that pay off in the long run, across various scenarios. A most common and successful strategy in the face of uncertainty is to dilute risks through diversification of activities and livelihood strategies. Risk management and adaptation solutions that generate multiple benefits for multiple stakeholders – such as those based on conservation agriculture or ecosystem-based approaches with a strong focus on livelihoods and income generation – are frequently found to be 'no regret' options. Box 5–3 briefly describes a project in Djibouti that was designed to simultaneously deliver socio-economic and environmental benefits, both of which contribute to climate resilience. The Timor-Leste case study at the end of this chapter provides another example of a project combining various types of benefits.

Finally, **appropriate metrics to measure the effectiveness of climate risk reduction and adaptation to climate change need to be developed**, to identify best options and monitor the performance of adopted measures over time, as climate keeps changing. High-quality data collection, analysis and monitoring over the medium term are essential for intervention success. Sound, robust (and nevertheless affordable) M&E systems are needed to support decision making, awareness raising, knowledge building and accountability. A common set of indicators aligned to the climate change agenda, SDGs and the Sendai framework should be developed. At the intervention level, additional, more specific indicators are likely to be needed to monitor progress, taking account of the selected approaches to climate risk-resilience and adaptation.

Box 5–3 A multi-benefit approach: supporting livelihoods and ecosystem integrity

In Djibouti, the water component of the GCCA project *Solutions to Climate Change in the Energy and Water Sector*s focuses simultaneously on livelihood support and more efficient management of natural resources:

- It is helping transform a wastewater stream into a productive water resource.
- The use of part of this water in a new irrigation scheme will soon help stabilise and increase the incomes of 40 farmer families in an area where subsistence agriculture is threatened by climate change (which aggravates water scarcity and salinisation), thereby increasing the resilience of marginalised suburban communities.
- The release of a flow of freshwater to a neighbouring coastal natural reserve will help protect the local biodiversity and provide opportunities for the development of ecotourism and other sustainable income-generating activities.

Source: D. Xanthoulis 'Assistance technique au projet Alliance mondiale contre le changement climatique à Djibouti: Réponses au changement climatique dans les secteurs de l'énergie et de l'eau' (presentation, GCCA+ Global Learning Event, Brussels, Belgium, 12–14 September, 2016).

CASE STUDY

HELPING TIMOR-LESTE COMMUNITIES TO CREATE THEIR OWN FUTURE

FACT FILE	
PROJECT NAME	Global Climate Change Alliance Programme Timor-Leste (GCCA-TL)
CRIS NUMBER	DCI-ENV/2012/023-745
REGION	Pacific
COUNTRY	Timor-Leste
GCCA+ PRIORITY AREAS	Adaptation, mainstreaming
SECTOR	Agriculture, forests, natural resources, overall development and poverty reduction
FUNDING INSTRUMENTS	€4 million (GCCA fast-start funding from Ireland)
WEBSITE	www.gccatl.eu www.facebook.com/gccatl

Rural populations in Timor-Leste live in a particularly fragile agro-ecological context and a weak rural economy. Climate change exacerbates existing food security issues, through the degradation of natural resources, increased probability of natural disasters, strong winds, landslides, flash floods, water scarcity and conflicts over resources. Deforestation is also a major concern. Forests are destroyed for agricultural purposes and wood is used as a domestic fuel by 90% of households. It is estimated that forest cover has decreased by almost 30% between 1990 and 2010, i.e. by about 1.7% a year.

The propagation of pepper cuttings in one community nursery – clove seedlings also can be seen, top right (Loes watershed, Liquiçá municipality, Açumano village).

PROJECT OBJECTIVES

The project is focused on communities' activities and improving people's lives – firstly to understand climate threats, and secondly to organise appropriate responses. It all comes into a strategy involving the sustainable management of natural resources and improving livelihoods.

This is done through three different lines of work:

1. Ensuring climate monitoring is performed on a regular basis and provides reliable information;

2. Supporting vulnerable communities to understand climate challenges and identify adapted responses;

'GCCA works with communities because adapted practices must link with real necessities. This close contact between the programme and communities brings ownership into the Vulnerability Assessment. The dialogue among people improves the understanding of the climate change effects. The plans and the best way to cope with risks come next.'

Mirko Gamez, GIZ project coordinator

3. Supporting communities in the implementation of local and sustainable resilience mechanisms (i.e. improving and diversifying production).

FACTS AND FIGURES

13 agro-meteorological stations covering all municipalities of the country have been established for a reliable climate information network.

42 agro-forestry nurseries have been established in the rural communities.

The climate-resilience action plan has been visibly improved in at least 50% of the communities, representing 5,000 families.

The construction of improved stoves in 36 kitchens from households in 21 villages has been supported.

KEY ACHIEVEMENTS

A functional and fully operational agro-meteorological system for information sharing to different kinds of users.

A secure data-storage system is in place through an open-source AGROMET.

A methodology has been developed for performing vulnerability assessments and local action plans in Timor-Leste.

Timor-Leste's good practices in climate change adaptation are now assessed and documented.

Awareness campaigns about the importance of climate change adaptation have been carried out since 2014.

Good practices for mitigation/adaptation have been demonstrated through different kinds of events and forums at national and local level. More than 5,000 people have been reached directly.

An agro-forestry nursery network has been implemented linking 42 agro-forestry nurseries.

There have been conservation activities through reforestation on important water points or in areas with potential landslides.

Seven new climate-sensitive livelihood activities were implemented (e.g. establishment of agro-forestry nurseries, commercial dragon fruit plantations, improvement of agro-forestry systems with high-value trees, improvement of household health with efficient and clean clay cooking stoves, etc.).

The distribution and planting of more than 400,000 trees (forestry, industrial and fruit species).

The Vulnerability Assessment exercise was done at village level with overall participation. To complement the information men and women are separated so as to capture different and complementary views.

The active participation of women in the village groups supported by the programme is about 35%.

LESSONS LEARNED

Vulnerability Assessments (VA) are a practical exercise for the community. VAs were particularly efficient in the context of Timor-Leste because they lead the community into the planning phase. Through VAs, GCCA has noticed an increased ownership of the programme.

In addition, the documentation of best practices and lessons learned on climate change adaptation in Timor-Leste fuelled technical discussions with partners and other stakeholders and helped the identification of appropriate techniques.

The EU GCCA programme has given priority to coordination with other development partners. As an example, the Participatory Land Use Planning (PLUP) in Timor-Leste has been first developed by JICA, and Conservation Agriculture is a programme implemented by FAO. Both programmes have given effective guidelines for the implementation of GCCA.

Land property and a clear understanding of administrative borders between private-community and estate land is crucial to implement soil and water protection activities and reforestation practices.

Government leadership (Forestry) is a key to success because it has promoted coordination and support among programmes implemented by development partners (JICA, FAO and International NGOs).

THE WAY FORWARD

- The agro-meteorological information system should provide timely and relevant information to the different users (farmers, NGOs, ministries, statisticians and researchers).

- Strengthen institutional capacity in mainstreaming climate change adaptation.
- Extend the vulnerability assessments to more communities along with the local action plans.
- Intensify the adoption of a selected group of agro-forestry activities that have performed well and have given economic return to the communities.

GCCA staff explaining the Automatic Agro meteorological station in Ermera to extension workers.

KEY MESSAGE

New, unpredictable climate events have put the traditional coping mechanisms of rural communities in Timor-Leste under stress. It is important to enable community resilience and offer alternative economic activities in support of the subsistence agriculture.

MAIN PARTNERS

Ministry of Agriculture and Fisheries; Secretary of State for the Environment (SEMA); Ministry of Commerce, Industry and Environment (MCIA); Ministry of Social Solidarity (MSS); Ministry of State Administration (ESTATAL); National Directorate for Disaster Risk Reduction, Camões – Instituto da Cooperação e da Língua (Camões, I.P.); Deutsche Gesellschaft für Internationale Zusammen.

TESTIMONIAL

In December 2014, Mr Alfredo, his family and a group of other neighbours installed an agro-forestry nursery in their village with GCCA-TL technical and material support. Mr Alfredo, chief of the nursery's group and also a teacher in the village's school, planned to improve his robusta coffee plantation by diversifying it with clove, pepper, rambutan and also silver oak trees produced in the nursery.

His plans were finally put in practice at the end of 2015, when he and his family planted hundreds of trees inside his existing two-hectare coffee plantation following all the technical recommendations from the programme's technicians.

Mr Alfredo proudly shows the development of pepper vines planted one year ago inside his coffee plantation.

One year after he planted his trees, he reported a high survival rate and could show very good development, for example of pepper vines already growing their first pepper curls. His success and his family pride was verified by the GCCA-TL technical team during the last visit made in March 2017.

Mr Alfredo's effective intercropping and efficient use of the land available is a model for Timorese technicians and other farmers around the village of Leotela in the Liquiçá municipality. Other farmers have started following his example. In addition, Mr Alfredo is always available to share his experience and knowledge with his neighbours and other farmers.

6 SUMMING UP GCCA+ FINDINGS

As highlighted in previous chapters, the GCCA+ and GLE2016 yielded a wealth of findings and recommendations that will support GCCA+ implementation over the next few years. The following topics deserve particular attention and consideration:

1. Supporting transformative initiatives

Transformative initiatives (e.g. those enabling the 'institutionalisation' of successful climate-smart practices and their wider dissemination, with long-term effects) are needed to increase the social benefits and number of beneficiaries of climate change policies and interventions.

Similarly, climate change mainstreaming (i.e. the systematic integration of climate change threats and dimensions into planning processes and the design and implementation of specific actions) is a relevant approach to achieve such a transformation. Considering that climate change adaptation and mitigation, disaster risk reduction and gender equality cannot be dissociated, these three themes should be mainstreamed together, building on synergies between them.

2. Enhancing aid effectiveness

Programme-based approaches, including sector support and budget support, are particularly well suited to the implementation of climate change measures, such as (I)NDCs, on the time and spatial scales required to achieve climate-proof economies.

Alignment with national policies and strategies, combined with a strong focus on relevance to local needs and circumstances through support for bottom-up approaches, is essential for achieving ownership of climate-related initiatives at all levels – thereby securing effective implementation and sustainability. Gender-sensitive and gender-responsive climate actions are not only fairer but also more effective, resulting in high-impact activities.

3. Linking projects, programmes and policy development

A well-established national climate change policy is a basic condition for effectively deploying and scaling up climate change-related actions. It provides a framework (i) for climate change mainstreaming into key sector policies, strategies and plans; (ii) for the prioritisation, coordination and monitoring of climate change actions; and (iii) for the provision of incentives for investment in adaptation and mitigation.

Local experience can generate useful empirical evidence for policy and decision making, with the demonstration of results achieved on a pilot basis contributing to raising awareness, prioritising climate change in the policy agenda and stimulating policy-making efforts.

Combining work at the policy and central institutional level with the implementation of field activities, which is a key feature of many GCCA+ interventions, is thus validated.

4. Supporting climate change policy development and governance

Weak policy, institutional, legal and regulatory frameworks, notably with

regard to land and natural resource governance and tenure security, are barriers to the successful implementation of climate actions. Lack of political support or continuity in political priorities is also a problem. Individual projects have little control over these obstacles – and even interventions at a more strategic level can struggle to achieve visible improvements in governance.

There is no 'magic bullet' for addressing these issues, but facilitating policy dialogue to raise political support and create coherent policy and regulatory frameworks remains a useful approach.

5. Improving access to climate science, data and technology

Access to climate science and data provides a foundation for sound decision making on adaptation and climate risk-reduction – especially if combined with social and economic data. However, climate data and climate-modelling results must be interpreted and presented in clear, user-friendly formats to be understood by and accessible to non-specialists. More technical and communication support is needed to popularise climate science, and to strengthen collaboration between meteorological services and climate-data users.

Similarly, improved access to adaptation and mitigation technology is a recurrent demand of developing countries. Simplicity, cost-effectiveness, adequacy to the needs of women, cultural acceptability, integration of local knowledge and know-how, as well as local availability of equipment and services, should guide the choice of technologies.

6. Strengthening monitoring systems

More technical and financial investment is required in the monitoring and evaluation (M&E) of adaptation and the measurement, reporting and verification (MRV) of mitigation, particularly to assess and understand the long-term environmental and socio-economic impacts of various adaptation and mitigation measures.

In addition, monitoring frameworks must include quantified and qualified targets, measured by meaningful and adequately gender-disaggregated indicators, reflecting objectives associated with gender equality, vulnerability reduction, climate change adaptation and mitigation.

7. Building institutional and individual capacities

A critical mass of national expertise at both central and (especially) decentralised levels is a prerequisite for successful implementation of climate-related actions. This institutional and individual expertise requires skills such as scientific and technical qualifications directly related to climate science, adaptation/mitigation responses and related technologies, and generic skills such as those needed for inter-institutional and cross-sectoral coordination, legal and regulatory framework enhancement, financial and economic analysis, M&E/MRV, or access to international finance.

8. Engaging new stakeholders and fostering partnerships

The private sector can help close at least part of the financing gap for (I)NDC implementation and the scaling up of adaptation and mitigation actions – but to this effect it must be made more aware of climate-related threats and stakes, and more engaged in planning processes.

Securing wide ownership and successful implementation of (I)NDCs and other climate-related actions requires the participation of a wide range of actors, including the various branches and levels of government, parliament, civil society (including women's associations) and private-sector stakeholders. Involving them more systematically in the planning, implementation and monitoring of climate actions and in knowledge-sharing networks demands specific capacity-building efforts.

9. Strengthening knowledge management

Experience and knowledge-sharing can be promoted through formal and informal networks such as community-based initiatives, government actors at various levels, private-sector and civil-society organisations, academic and research institutes, regional and interregional organisations, and development partners. Technical and policy workshops at various levels (community, national, regional) could also be organised more regularly to exchange experience.

Knowledge-sharing should not only focus on success: it is also useful to share lessons learned from less well-performing projects (e.g. through case studies explaining what did not work and why).

10. Taking stock and moving forward

While some of the findings that emerged during the GCCA+ 2016 activities, including the GLE, are mainly targeted at national policy makers, requiring some structural changes in governance systems (to be addressed through policy dialogue), many of the findings and recommendations presented in this publication can and should be integrated in the identification, formulation, implementation and evaluation of GCCA+ interventions. This may require developing new guidance on specific aspects, such as gender mainstreaming, the use of climate- and gender-sensitive indicators and knowledge management.

Furthermore, investing sufficient time and resources in GCCA+ project preparation is a necessary improvement for allowing effective stakeholders consultation, collecting data and establishing strong baselines for monitoring frameworks, properly integrating gender and disaster risk reduction and engaging in a more comprehensive reflection on sustainability and the potential for scaling up.

7 AGENDA FOR 2017–2020

During the first year of its programmatic implementation, GCCA+ has been successfully collecting best adaptation and mitigation practices, reviewing recent and updated climate change response strategies and examples, and taking stock of this experience. This will be used to improve the effectiveness, efficiency, sustainability and impact of GCCA+ activities in the coming years.

During the 2017–2020 implementation period, activities will particularly focus on:

- Supporting two major developments in the international cooperation landscape, namely the Paris Agreement on climate change and the UN 2030 Agenda for Sustainable Development.
- Strengthening partnerships and boosting knowledge management and outreach, which are two hallmarks of the initiative.

A group of men and women from Secial take part in a training session which was part of a project promoting moringa oleifera as a climate-resilient crop. Moringa is a tree that is well known in Timor-Leste and has shown a very high resiliance to climate impacts, especially drought.

7.1 SUPPORTING IMPLEMENTATION OF THE PARIS AGREEMENT

With the Paris Agreement, climate change adaptation is now on a par with mitigation in UNFCCC priorities. The GCCA+'s strong focus on adaptation and resilience to climate-related stresses and shocks is perfectly in line with this development. Maintaining the GCCA+'s focus on adaptation, coupled with increasing support for disaster risk reduction, will also contribute to monitoring and reducing the impact of disasters suffered by LDCs and SIDS.

Supporting (I)NDC implementation is clearly a priority for new GCCA+ interventions – and may in some cases be part of ongoing interventions, as well. These priorities include: (i) mainstreaming (I)NDCs into national, sector and decentralised development strategies; (ii) helping partner countries prioritise them and assess the financial and technical needs to implement them; and (iii) translating them into actionable roadmaps in all relevant sectors, complete with investment plans and plans for strengthening the policy, legal and institutional frameworks.

As regards the mobilisation and stepping up of climate finance, the 2016 GCCA+ experience, particularly via the GLE2016 discussions, points to increased GCCA+ funding for the scaling up of successful pilot projects and, where the conditions for successful outcomes are met, to increased use of budget support. Whatever the modality, ensuring that financial resources reach the local level, where the bulk of adaptation measures and a significant share of mitigation measures must be implemented, is a programmatic and technical priority. Options for acting on these recommendations will be carefully examined by GCCA+ in the preparation of new interventions during 2017–2020.

The establishment of a common, enhanced transparency framework for action and support calls for continued support to GCCA+ partner countries to establish reliable M&E and MRV systems. These systems are instrumental in tracking progress in (I)NDC implementation, monitoring GCCA+ interventions and providing a robust foundation for GCCA+ knowledge-building and management efforts.

7.2 CONTRIBUTING TO THE SUSTAINABLE DEVELOPMENT AGENDA

Supporting implementation of the Paris Agreement, and more generally the enhanced participation of LDCs and SIDS in climate change adaptation and mitigation efforts under the UNFCCC, directly contributes to sustainable development objectives, such as SDG 13 – Climate action.

Considering the synergies between adaptation, mitigation and development, GCCA+ current and future interventions contribute to the achievement of other sustainable development goals, including SDG 1 – No poverty; SDG 2 – Zero hunger; SDG 7 – Affordable and clean energy; SDG 14 – Life below water; SDG 15 – Life on land; and SDG 17 – Partnership for the goals. Integrated and holistic approaches such those favoured by GCCA+, generating co-benefits (e.g. sustainable land management contributing simultaneously to climate change mitigation, restoration of soils, enhanced livelihoods and improved food security), are widely recognised as the most promising, and should continue to be promoted.

Future GCCA+ work will also support the achievement of SDG 5 on 'gender equality'. This effort will require strengthening gender integration in climate interventions – through more systematic use of gender analysis – to inform the design of projects and programmes, the adoption of explicit gender-related goals, the inclusion of activities that empower women economically and raise their ability to take part in decision making, and the monitoring and evaluation of gender outcomes. GCCA+ will also focus on promoting increased gender integration in (I)NDCs.

7.3 BUILDING STRONGER PARTNERSHIPS

One of the specific 2016 GCCA+ objectives has been to continue fostering technical and strategic partnerships among stakeholders. The numerous debates and exchanges that took place during the GLE2016 between the 198 conference delegates, representing all GCCA+ stakeholder groups, testify to the success of this endeavour.

Beyond this successful conference result, GCCA+ will sustain efforts to stimulate partnerships and build cooperation at the regional level, across countries and regions and between EU actors, in the context of a vibrant GCCA+ community. Planning for new regional interventions will resume in 2017 under the 11th EDF intra-ACP programme, while a regional conference will be organised in the course of 2017 under the GCCA+. The organisation of 'south-south cross-visits' should also help foster direct cooperation between GCCA+ interventions and partner countries.

7.4 BOOSTING KNOWLEDGE MANAGEMENT AND OUTREACH

A new communication and knowledge-management strategy is in preparation.

It will notably involve a stronger web and social-media presence, seeking more opportunities for networking and visibility in order to access more and wider audiences. A new website and collaborative platform are just a few of its recent efforts to boost the communications platform.

The GCCA+ will keep engaging in successful face-to-face meetings including through the organisation of global and regional conferences and events. It will also continue to feature in EU side events at UNFCCC conferences and other selected international forums.

While working to improve and modernise its existing communication tools and channels, the initiative is also trying new and very innovative ways of talking with its audiences. It recently produced a climate memory game showing the initiative's project in Ethiopia through a web application. The latest global learning event has similarly made much more use of animations, infographics and videos instead of traditional slide presentations.

More comprehensive knowledge-management systems will also be set up, building on the evaluation of GCCA past activities (completed in 2015), the monitoring of ongoing interventions, the development of a formal GGCA+ results framework, and participation in various networks.

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ABOUT GCCA+

The Global Climate Change Alliance Plus (GCCA+) is a flagship initiative of the European Union helping the world's most vulnerable countries to respond to climate change. Having started with just four pilot projects in 2007, it has become a major climate initiative with 61 programmes in nearly 50 countries.

The initiative helps mainly Small Islands Developing States (SIDS) and Least Developed Countries (LDCs) to increase their resilience to climate change. GCCA+ also supports these countries with the implementation of commitments resulting from the Paris Climate Agreement, the 2030 Agenda for Sustainable Development and the proposal for the new European consensus on development.

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