UNCDF | LoCAL
LOCAL CLIMATE ADAPTIVE LIVING FACILITY

'LoCAL-izing' NDCs

Using LoCAL to empower local governments in contributing towards achievement of nationally determined contributions

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Photos: p. 1 – Pond re-excavation for tribal community climate resilience, Mohonpur Upazila, Rajshahi District, Bangladesh, Cédric Jancloes © UNCDF/LoCAL; p. 9 – vegetable gardens tended by women groups, Mali, N. Meulders © UNCDF/LoCAL; p. 33 – energy efficient cookstoves, Niger, Idrissa Moussa © UNCDF/LoCAL

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Acronyms

CO_2e	Carbon Dioxide Equivalent
GHG	Greenhouse Gas
Gg	Gigagram
GW	Gigawatt
ha	Hectare
kt	Kilotonne
LDC	Least Developed Country
LoCAL	Local Climate Adaptive Living
MW	Megawatt
NDC	Nationally Determined Contribution
PBCRG	Performance-Based Climate Resilience Grant
REDD+	Reducing emissions from deforestation and forest degradation and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries
SIDS	Small Island Developing States
t	Tonne
UNCDF	United Nations Capital Development Fund
UNFCCC	United Nations Framework Convention on Climate Change

1

Background and purpose

The genesis and significance of NDCs

The United Nations Framework Convention on Climate Change (UNFCCC), adopted in 1992 and signed by 197 parties, established an international framework for cooperation to fight human-induced climate change. The subsequent Kyoto Protocol set up legally binding emissions reduction objectives for developed countries to be achieved in two commitment periods: 2008–2012 and 2012–2020. As the time frame of the Kyoto Protocol wound down, the 2015 Paris Agreement sought to intensify international action and investment, with bold objectives and financing pledges to achieve climate change mitigation and adaptation in both developed and developing countries.

The main goal of the Paris Agreement is to hold 'the increase in the global average temperature to well below 2°C, above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5°C above pre-industrial levels' to 'reduce the risks and impacts of climate change'. To this end, the agreement urges each party to 'prepare, communicate and maintain successive nationally determined contributions [NDCs] that it intends to achieve'[1]. These contributions, unlike those made under the Kyoto Protocol, are not legally binding. They are instead voluntarily adopted commitments to reduce emissions, and to adapt to and mitigate the effects of climate change. They reflect – or should reflect – each country's highest possible ambition, and are defined in line with a country's unique capabilities and circumstances[2].

There is no predefined structure or mandatory content for NDCs, but they all address how the country is going to contribute to the decrease of greenhouse gas (GHG) emissions, how it is going to contribute to climate change adaptation and mitigation nationally, and how is it going to contribute to fight climate change globally. NDCs include not only overall goals, but describe the means to achieve these goals through specific policies and plans to be implemented in energy, health, forestry, agriculture, waste management, water, capacity building, infrastructure, transportation and other sectors. They also set forth how the country plans to finance these objectives and – in the case of developing countries – if they will require external funding.

NDCs thus are tools that enable the international community to align its actions towards addressing climate change. Each NDC sheds light on the priorities each country has in fighting climate change and on possible ways to cooperate with other countries. A country's NDC highlights its strengths, and underlines where it most needs financial aid, technology and know-how. Sharing this information in

[1] The text of the Paris Agreement can be found here: https://sustainabledevelopment.un.org/frameworks/parisagreement.

[2] Prior to signature and ratification of the Paris Agreement, country contributions were referred to as 'intended' nationally determined contributions (INDCs). This report uses 'NDC' to refer to both intended and finalized contributions, unless a distinction must be drawn. All country NDCs can be accessed at UNFCCC's NDC Registry (interim): http://www4.unfccc.int/ndcregistry/Pages/All.aspx.

a structured manner helps ensure efficient achievement of the goals of the Paris Agreement, while breaking down the complexity of managing global climate change.

NDCs, LDCs and SIDS

The NDCs are an effective tool for communication and coordination amongst the parties to fight climate change and its impacts; this is especially important for least developed countries (LDCs) and small island developing states (SIDS). A mounting number of studies points to the conclusion that the majority of countries that are already and will be most affected by climate change are the world's least developed and poorest (Abeygunawardena et al., 2009; Bathiany et al., 2018).

The Paris Agreement states that developed country parties 'shall provide financial resources to assist developing country Parties with respect to both mitigation and adaptation, and…should take the lead in mobilizing climate finance'. It enjoins the international community to take into account the needs of developing country parties when providing financial resources, especially those 'particularly vulnerable to the adverse effects of climate change…such as the least developed countries and small island states'. And, most importantly, it prescribes that financial resources should be provided 'taking into account country-driven strategies'.

The NDCs constitute a vehicle of communication between LDCs and SIDS and the international community. They are an opportunity for LDCs and SIDS to set forth their own vision to mitigate, and adapt their countries to, climate change; as well as to ensure that funding of mitigation or adaptation plans designed by external actors are commensurate with the country's national strategy.

A recent analysis of the different parties' NDCs suggests that 'countries communicating more exhaustive information are associated with higher levels of need of adaptation action' and show 'lower institutional, economical…and financial capacity' (Rossi and Miola, 2017). Therefore, overall, those states with a more acute need for adaptation generally realize the relevance of the NDCs and provide more comprehensive information on their situation and needs. Of the 74 countries classified as LDCs or SIDS, 69 provided not only mitigation goals but also an adaptation component, resulting in a more complete NDC (Rossi and Miola, 2017).

The LoCAL programme

The Local Climate Adaptive Living (LoCAL) facility of the United Nations Capital Development Fund (UNCDF) was designed and launched in 2011 with the aim of promoting climate change–resilient communities and local economies by establishing a standard and internationally recognized country-based mechanism to channel climate finance to local government authorities in LDCs and to increase local resilience, thereby contributing to achievement of the Paris Agreement and the Sustainable

Development Goals (SDGs), particularly the goals of poverty eradication (SDG 1) and climate action (SDG 13). LoCAL increases awareness and capacities to respond to climate change at the local level, integrates climate change adaptation into local governments' planning and budgeting systems in a participatory and gender-sensitive manner, and increases the amount of finance available to local governments for climate change adaptation.

LoCAL combines **performance-based climate resilience grants** (PBCRGs) with technical and capacity-building support. PBCRGs ensure programming and verification of climate change expenditures at the local level and offer strong incentives for general performance improvements targeting areas of importance for enhanced resilience. The PBCRG can be seen as an earmarked cross-sectoral grant with conditions attached to the use of its funding for climate change adaptation beyond business as usual. Combined with regular grant allocations, PBCRGs enable 100 per cent of the investments in climate-sensitive sectors to become climate resilient over time.

The PBCRGs consist of a financial top-up to cover the additional costs of making investments climate resilient and/or of additional investments for climate change adaptation (Figure 1). These grants complement regular allocations made by the central level to local governments through the respective intergovernmental fiscal transfer system. They include a set of **minimum conditions**, **performance measures** and a **menu of eligible investments**.

The LoCAL cycle typically involves these key elements (Figure 2):

- **Local climate risk assessments are reviewed or undertaken** to inform the adaptation planning and mainstreaming process. Needs and capacities are assessed.

FIGURE 1: LoCAL financial support to countries

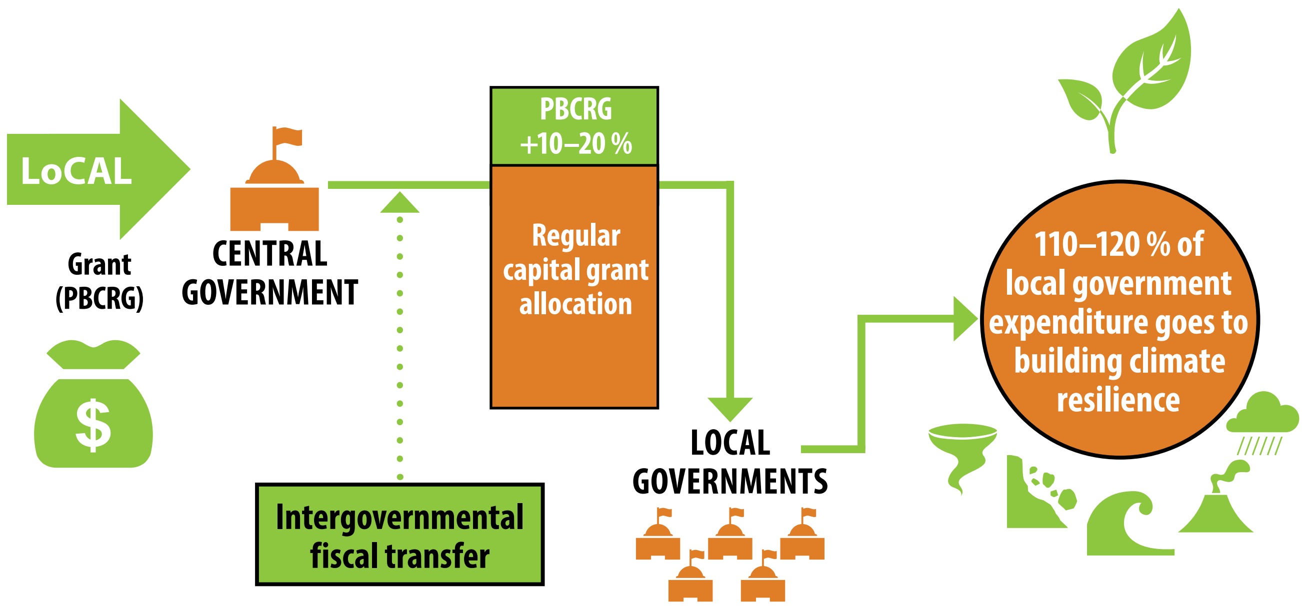
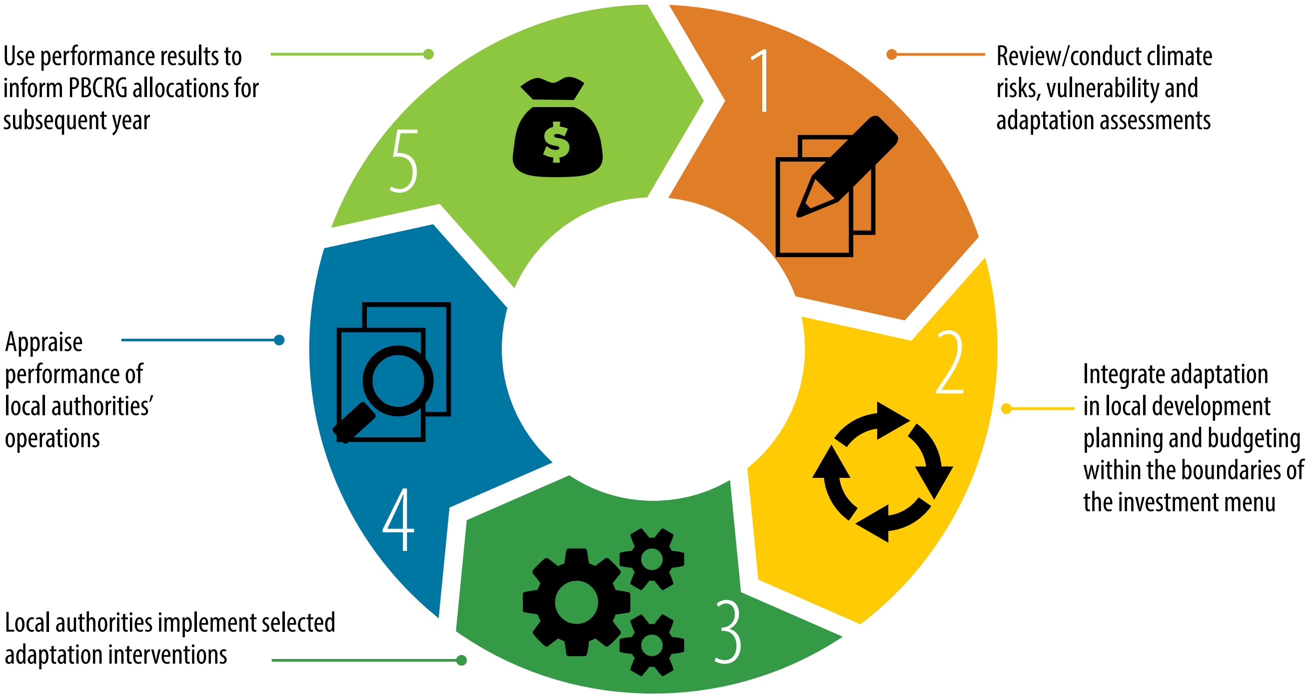


FIGURE 2: The LoCAL cycle



- Local authorities **integrate adaptation in their own local development planning and budgeting** processes, and cost, prioritize and select adaptation measures within the boundaries of the investment menu to be financed through the PBCRG. They develop local adaptation programmes in a participatory and gender-sensitive manner.
- Local authorities are assessed yearly against minimum conditions. PBCRGs are disbursed to support implementation of LoCAL adaptation measures in the context of local authorities' annual planning and budgeting cycles, and **selected adaptation interventions are implemented by local authorities**.
- **Performance of local authorities' operations is appraised** on an annual basis. This assessment determines the degree to which additional resources have been used efficiently and effectively to perform core functions and promote adaptation to climate change; audits are undertaken as part of the regular national process. Lessons are learned, and systems and procedures are gradually improved.
- The **performance results inform the PBCRG allocations for the subsequent year** based on a pre-agreed formula and priority capacity-building interventions designed to address weaker performance areas. This strengthens local authorities' incentives for continuous performance improvement and targeting of the most-needed adaptation interventions.

A new cycle starts, based on refinement of previous cycles.

LoCAL has become a proven mechanism for the international community to channel climate change finance to the most remote and vulnerable regions and populations of the world, ensuring traceability and performance monitoring and reporting. The programme operates in three distinct phases:

- **Phase I: Piloting**, consists of an initial scoping analysis, followed by testing in two to four local governments. As of November 2018, **The Gambia**, **Lesotho**, **Tanzania** and **Tuvalu** are in Phase I; **Ghana**, **Lao PDR**, **Mali**, **Mozambique** and **Niger** are preparing to enter Phase II.
- **Phase II: Consolidating**, takes place in 5–10 local governments in a country. It involves collecting lessons and demonstrating the mechanism's effectiveness at a larger scale. As of November 2018, **Bangladesh**, **Benin**, **Cambodia** and **Nepal** are in Phase II.
- **Phase III: Scaling-up**, is full national roll-out of LoCAL based on the results of the previous phases and lessons learned. LoCAL is gradually extended to all local governments, with domestic or international climate finance, and becomes the national system for channelling adaptation finance to the local level. **Bhutan** is in Phase III, with budget support from the European Union; **Cambodia** has also begun Phase III preparations.

Between 2014 and July 2018, LoCAL delivered close to $16.5 million, with grants and technical assistance to countries totalling $10.9 million. Box 1 provides some notable examples of LoCAL-implemented initiatives. As of July 2018, 99 local governments in 14 countries representing over 6 million people were engaged in LoCAL. Full national roll-out is expected to expand LoCAL's outreach to more than 350 million people.

LoCAL and NDCs

This report identifies opportunities for LoCAL to support sub-national governments in NDC implementation. To this end, a sample of 11 countries were analysed where LoCAL has established a strong presence and programme over several years: **Bangladesh**, **Benin**, **Bhutan**, **Cambodia**, **Ghana**, **Lao PDR**, **Mali**, **Mozambique**, **Nepal**, **Niger** and **Tanzania**. This analysis (described in the next section) compared each country's NDC to its LoCAL investment menu to determine their alignment, identifying initiatives frequently included in both so as to understand how LoCAL initiatives can support achievement of a country's NDC. The by-country findings of this analysis are detailed in the next section.

BOX 1: Sample initiatives powered by the LoCAL programme

In Bangladesh, guava is piloted as a drought-resistant high-value crop on a 1.4 hectare plot in the *upazila* of Mohonpur. Photo: Cédric Jancloes © UNCDF/LoCAL.

In Niger, LoCAL's well rehabilitation programme helped cut the excessive travel associated with fetching water in the plains of Dogonkiria. Photo: Nasser Alqatami © UNCDF/LoCAL.

2 Methodology and findings

Methodology

The findings presented here were derived through a multi-stage qualitative analysis focusing on 11 LoCAL countries. For each country, a detailed review of its NDC was undertaken to determine its main activities, targets and goals regarding climate change adaptation and mitigation in five sectors:

- Energy
- Agriculture
- Water
- Land use, land use change and forestry
- Capacity building

Accordingly, adaptation and mitigation plans under the NDCs were classified as to whether they related mostly to energy; agriculture; water; land use, land use change and forestry; or capacity building. These sectors were selected as their scope is sufficiently broad to encompass all potential climate change–related activities that could be performed under the LoCAL programme.

Once each initiative noted in each NDC was classified by sector, the analysis aimed to determine its relative priority within the national strategy and the funds required for implementation (where available) based on budget plans provided by each government in its NDC.

The second stage of the study involved a review of LoCAL initiatives within each of the 11 countries. The specific activities developed in each country were compared with the plans identified in that country's NDC. This comparison highlighted LoCAL activities which are aligned with, similar to and/or have the potential to support NDC goals.

For each country, the LoCAL initiatives were analysed to draw potential and existing parallels between the NDCs and the LoCAL programme. This analysis resulted in classification of whether the impact of the LoCAL programme on the execution of the NDCs would be high, medium or low. For instance, not all interventions proposed by a country NDC can be achieved by the local level, as they require major funding and are thus better implemented at the national level, or because the local level lacks the required mandate to undertake them. In such cases, LoCAL has a very low potential impact on NDC execution. The reverse is true where both NDCs and LoCAL interventions can be achieved at the local level.

The main obstacles encountered during the analysis derived from a lack of consistency in the available data. Because each country could design and express its NDC in its own terms, the information was not provided in a standardized way. Furthermore, climate change adaptation and mitigation challenges vary widely among countries, given the diversity of circumstances affecting each country (variations in geography, economy, development, politics, etc.). Hence, encompassing their idiosyncrasies and the mitigation and adaptation plans derived from them was a methodological challenge. Finally, some NDCs laid out their national priorities more clearly than others in terms of which adaptation and mitigation plans where a top priority and which ones were secondary according to the national strategy; others were defined more broadly and did not elaborate on the relative priorities of the actions included in their NDCs.

To address these obstacles, the methodology was designed to accommodate a wide variety of mitigation and adaptation plans (i.e. national adaptation programmes of action, national adaptation plans, UNFCCC national communications). Specifically, the sectors were defined sufficiently broadly so that a variety of initiatives could fall under their classification (e.g. one category was defined as agriculture rather than narrowing it down to categories such as livestock, agroforestry or aquaculture). The preliminary classification of the plans contained in the NDCs in these sectoral categories also allowed for greater data consistency, which was critical in identifying potential related activities in the LoCAL initiatives. Finally, for those NDCs in which country priorities were more qualitatively stated, the identification of priorities was based on qualitative analysis of the entire NDC document and the country context.

Bangladesh

Bangladesh is adopting a two-fold strategy against climate change. On the one hand, it is focusing on increasing the country's resilience to climate change; on the other, it is working to lower its emissions and achieve sustainable development. To reduce GHG emissions, the country's strategy pays special attention to the power, transport and industry sectors. Concurrently, it seeks to protect the population and improve livelihoods by focusing on food security and disaster management and prevention.

NDC goals and targets		Priority	Potential impact	Funds required	Alignment with LoCAL investment menu
	GHG emissions reduced by 15 % from business as usual by 2030[1]				Plan, design and construct urgently needed new infrastructure
	Super-critical technology in 100 % of coal sector			$16.5 billion[2]	
	1,400 MW renewable energy by 2030			$4.95 billion	
	Reduction on energy consumption: industry (10 %), commercial (25 %)				
	70 % improved biomass cook stoves by 2030				
	40 % market share of improved gas cook stoves				
	10 % switch from biomass to liquefied petroleum gas for cooking				
	50 % reduction in draft animals from business as usual				Introduction of climate-resilient crops and farming methods
	35 % increase in organic fertilizer share from business as usual				
	50 % of waste used for composting				
	70 % of landfill gas used for electricity generation				
	20 % of rice fields use alternate wetting and drying irrigation[3]				Design, construction or rehabilitation of small-scale irrigation systems
	Improve water security			$8 billion	Design and repair flood control/drainage structures
	River flood and erosion protection			$6 billion	Greenbelt coastal afforestation programme
	Re/afforestation in reserved forests				Social forestry programme
	Continuation of mangrove plantation and homestead forestry			$1 billion	
	Ecosystem-based adaptation (forestry co-management)			$2.5 billion	
	15 % improvement in vehicle efficiency			$2.65 billion	Comprehensive disaster management[4]
	20 % of passengers shift from road to rail			$2.7 billion	
	Improve disaster management/preparedness			$10 billion	Mainstream climate change in development planning
	Improve resilience in infrastructure/cities			$8 billion	
	Policy and institutional capacity building				Build capacity to take climate change adaptation forward

Note: ☐ = mitigation; ☐ = adaptation; ☐ = mitigation and adaptation; ☐ = high; ☐ = medium; ☐ = low.

[1] Conditional on international support.

[2] From 2015 to 2030 (not annually).

[3] This could also be under agriculture.

[4] Including strengthening capacity to manage natural disasters; community-based adaptation programmes; strengthening cyclone, storm surge and flood early warning systems.

Benin

Benin's main development sectors are highly vulnerable to climate change. The country's agriculture, water resources, forestry, health and energy sectors, along with coastal zone development, are at risk if adaptation and mitigation measures are not taken. As highlighted in its NDC, to prevent the negative effects of climate change, Benin looks to promote the creation of adaptation and resiliency plans at the local and national levels, promote education on these issues for citizen action, rehabilitate its forests to improve carbon sequestration, and promote the use of renewable energy sources.

NDC goals and targets	Priority	Potential impact	Funds required	Alignment with LoCAL investment menu
Install 1 million solar photovoltaic lamps for rural/peri-urban households by 2030			$151 million	Promote improved hearths and alternative energy sources
Construct 40 MW solar power stations			$80 million	
Construction 259.9 MW hydroelectric dam			$892 million	
Access to 120,000 low-consumption lamps			$2.88 million	
Provide 275,000 gas stoves and finance 35 % of the gas via grants			$198 million	
Produce electricity via natural gas (400 MW)			$338.6 million	
Create 5,000 ha of wood energy plantations			$1 billion	
Promote specific fertilizers and other biological organic inputs for sustainable soil fertility management			$0.23 billion	Test cultural practices adapted to climate change: off-season crops, resistant and short-season seeds
Protect coastal zone against erosion from sea level rise			$500 million	
Mobilize surface water for adaptation to climate change (micro-dams)			$3.15 billion	Develop bottomlands, water points and dig deeper wells
Promote 100,000 ha of tree planting			$1 billion	Rehabilitate degraded land Rehabilitate gallery forests Establish and regulate rural timber markets Forest fire prevention measures
Restore degraded forests/mangroves			$780 million	
Reduce consumption/apportionment and offer alternatives to exploitation of natural resources			$690 million	
Secure the limits of national forests			$350 million	

NDC goals and targets	Priority	Potential impact	Funds required	Alignment with LoCAL investment menu
Electrify 1,000 localities			$350 million	Establish resilient public facilities Establish field schools/ distribute local climate change adaptation good practices Set up a flood alert and management system Collect, archive and exploit indigenous knowledge on climate change adaptation Integrate climate change adaptation into the Municipal Development Plan (2016–2020); draft local climate change adaptation plan
Develop public transportation			$2.785 billion	
Promote resilient production systems			$60 million	
Protect ecosystems and human settlements from climate change			$7 billion	
Provide training, qualification and knowledge on practical climate change adaptation skills			$410 million	
Prevention and management of natural risks and catastrophes			$140 million	
Promote research and technologies for adaptation and mitigation of climate change			$423 million	
Enhance local governance so as to secure additional climate finance			$450 million	
Total			$30 billion	

Note: ☐ = mitigation; ☐ = adaptation; ☐ = mitigation and adaptation; ☐ = high; ☐ = medium; ☐ = low.

BOX 2: Benin, LoCAL and the NDCs

Benin has listed LoCAL as one of the adaptation measures under its NDCs. The country highlights the LoCAL contribution in bridging 'the gap for financing adaptation to climate change on the level of local communities while building their institutional and technical capacity to address climate risks and challenges in the process of local development'.

Co-funded by the Global Climate Change Alliance Plus Initiative of the European Union and by Sweden, LoCAL-Benin was launched in 2014 and initially implemented in the northern communes of Boukoumbé, Copargo and Toukountouna. The positive pilot experience secured the backing of the National Fund for the Environment and Climate (FNEC) in 2017, when three additional communes – Cobly, Matéri and Ouaké in the Atacora and Donga Departments – received PBCRGs to plan and budget climate change adaptation activities. The northern Benin communes of Banikoara, Karimana and Malanville were subsequently identified to join the effort in 2018. Additionally, FNEC was nominated as the country's national implementing entity to pursue accreditation to the Green Climate Fund (GCF), with a view to LoCAL scale-up.

LoCAL-Benin has implemented over 20 small-scale investments in six local government authorities targeted with PBCRGs, benefiting approximately 67,000 people – 55 per cent of whom are women. The PBCRGs focused on the construction of climate-resilient structures to facilitate circulation of goods and people during the rainy seasons, improved irrigation systems and community ponds, and capacity building on climate-resilient crops. Benin is currently implementing LoCAL Phase II, covering nine municipalities and potentially benefiting more than 500,000 people. The country's NDC estimates that about $700 million is needed to extend the initiative to all 77 municipalities of the country.

Bhutan

Bhutan's NDC aims to surpass current development efforts by balancing environmental conservation and economic development while incorporating climate resilience strategies within its development plans. The country seeks to remain carbon neutral by balancing its emissions with carbon sequestration from its forests. The NDC thus features strategies for water, forests, energy, agriculture and capacity building, including integrated water resource management approaches and monitoring and early warning systems to improve adaptation to climate change.

NDC goals and targets	Priority	Potential impact	Funds required	Alignment with LoCAL investment menu
Pursue clean hydropower (Clean Development Mechanism)				Harnessing solar, wind and biogas energy Establishment of community-based pico-hydels
Diversify energy mix: solar, wind, biomass				
Increase energy efficiency of industries, buildings and appliances				
Organic livestock farming and eco-friendly farm designs				Crop diversification to enhance resilience against/management of erosion Climate-proofing irrigation technologies
Expansion of biogas production with stall feeding				
Fodder production via agroforestry systems				
Introduction of sustainable land management technologies				
Integrated water resource management to increase resilience: monitoring, assessment and mapping				Improved water storage and supply pipelines/community ponds Improved water harvesting/storage/ efficient use Planting of water-conserving species in source areas
Efficient and climate-proof water harvesting, distribution and storage systems				
Integrated watershed and wetlands management, and protection of catchment areas for hydropower				
Sustainable management of forests, forest management units, protected areas and private forests				Sustainable forest use Reforestation of degraded lands Forest fire watch, alert and response
Robust forest monitoring: forest inventory and carbon stock assessment				
Forest fire management and rehabilitation				
Improve mass transit: transit demand management, vehicle efficiency, alternative vehicles				Climate resilience for roads/mule tracks/ bridges Climate-proofing measures Community-based early warning systems and disaster preparedness
Explore rail, water and gravity ropeways transportation/resilient transportation				
Improve freight transport efficiency				
Sustainable and resilient infrastructure and climate-smart cities; development of early warning system				

Note: ☐ = mitigation; ☐ = adaptation; ☐ = mitigation and adaptation; ☐ = high; ☐ = medium; ☐ = low. Bhutan's NDC does not provide any cost figures; the information provided here on funds required was estimated based on the language used in describing means of implementation.

Cambodia

Cambodia envisions fighting climate change with strategies directly related to economic development and poverty alleviation goals. Its main sectors of focus are agriculture, given its role in the economy and its role in food security; forestry, as a source for community livelihoods; and capacity building, as a key to protecting coastal zones and making infrastructure more resilient. In order to reach these goals, projects include the introduction of new technologies in the agricultural sector, the creation of early warning systems for climate change and the promotion of renewable energy.

	NDC goals and targets	Priority	Potential impact	Funds required	Alignment with LoCAL investment menu
	On- and off-grid renewable energy from solar, hydro, biomass and biogas resulting in reduction of 1,800 Gg CO_2e (16 %) from business as usual by 2030				Low/no carbon energy generation Increase energy efficiency at community/household level
	Promote use of renewables and energy efficiency in manufacturing (7 % reduction in Gg CO_2e from business as usual by 2030)				
	Promote energy efficiency by end users, including use of cook stoves (1 % reduction in Gg CO_2e from business as usual by 2030)				
	Develop climate-proof tertiary-community irrigation to enhance production of paddy fields				New cropping patterns for drought resistance/ water efficiency Climate-resistant agricultural produce, facilitate access to market
	Scale-up climate-smart farming systems				
	Develop crop varieties suitable to agro-ecological zones and resilient to climate change				
	Promote aquaculture				
	Develop flood protection dykes				Improve water management to tackle floods and extreme weather for drainage and irrigation
	Use mobile pumping stations and promote groundwater research				
	Increase forest cover to 60 % of national land by 2029 (reduction of 4.7 tCO_2e/ha/year)				Reforestation/forest conservation Sustainable resource management, ecosystem services evaluation
	Implement forest law enforcement, governance and trade (FLEGT) programme				
	REDD+ programme				
	Improve adaptive capacity of communities				Local climate change and vulnerability maps/ studies Improve data collection on climate change
	Strengthen climate information and early warning systems				
	Repair infrastructure in view of climate change impact				Studies on climate change–proof infrastructure
	Improve institutional/technical capacity to conduct climate change–related analysis				Studies on climate change scenarios; capacity development support to local governments regarding climate change
	Promote/improve public transportation and vehicle efficiency (3 % reduction in Gg CO_2e from business as usual by 2030)				
Total				$1.27 billion	

Note: ☐ = mitigation; ☐ = adaptation; ☐ = mitigation and adaptation; ☐ = high; ☐ = medium; ☐ = low.

Ghana

Ghana's main objective is to attain low-carbon climate resilience via adaptation and an unconditional 15 % reduction from business as usual in GHG emissions by 2030 (a 45 % reduction conditional on external funding support). Its strategy prioritizes the sustainable use of land; the building of climate-proof infrastructure; and the promotion of sustainable mass transportation, energy security and forest management – all while promoting equitable social development. Ghana foresees a scale-up in renewable energy penetration by 10 per cent in its energy mix, an increase in the application of technologies to fight climate change in the agricultural sector and improvement of its carbon stock via re- and afforestation.

NDC goals and targets	Priority	Potential impact	Funds required	Alignment with LoCAL investment menu
Scale up renewable energy penetration by 10 % by 2030 (hydro 300 MW, solar 250 MW, wind 150 MW, 55 solar mini grids 10 MW, scale up 200,000 home solar systems)			$2.214 billion	Promote and develop alternative energy source, such as solar panels, wind, hydro, etc. Non-grid renewable energy supply (solar, wind, small local hydro plants) Promote and develop energy saving
2 million solar lanterns for off-grid households			$300 million	
2 million efficient cook stoves by 2030			$50 million	
Scale up liquefied petroleum gas to 50 % use by 2030			$0.6 million	
Double energy efficiency improvement to 20 % in power plants: replace crude oil by 120 million standard cubic feet of gas for thermal plants			$1 billion	
Double energy efficiency improvement to 20 % in industry: scale-up of 1,000 facilities			$8.4 million	
Modified community-based conservation agriculture in 43 administrative districts			$799 million	Training of farmers in soil conservation/ alternative fishing skills Improved sheds for livestock against climate change
Increase livestock/fisheries productivity by 10 % via climate-smart technologies			$1.119 billion	
Innovation in post-harvest storage and food processing in 43 administrative districts			$1.270 billion	
Strengthen access to water for 20 % of population living in climate-risk communities			$1.919 billion	Improve drinking water supply systems, drainage, water schemes and irrigation for climate change

NDC goals and targets	Priority	Potential impact	Funds required	Alignment with LoCAL investment menu
Re/afforestation of 10,000–20,000 ha/year			$1.05–$1.75 billion	Re-afforestation Forest fire equipment and anti-poaching Establish better land use Awareness raising on environmental hazards
Enhance forest carbon stocks through enrichment planting/timber regulation of 5,000 ha/year			$60 million	
Results-based emissions reduction (45 %) in cacao forests			$2.067 billion	
Wildfire management in transition and savannah dry lands			$26 million	
Use of forest resources for business activities and sustainable energy			$767 million	
Manage 413,000 ha of fragile, culturally significant and ecologically sensitive areas			$512 million	
Scale up sustainable mass transportation (rail and bus) in 4 cities			$1.201 billion	Protection against sea impact/resilient infrastructure Flood early warning system
City-wide resilient infrastructure planning			$3.558 billion	
Early warning and disaster prevention			$403 million	
Green Cooling Africa Initiative[1]			$0.3 million	
Total			$22.6 billion[2]	

Note: = mitigation; = adaptation; = mitigation and adaptation; = high; = medium; = low.

[1] https://www.ctc-n.org/technical-assistance/projects/green-cooling-africa-initiative-gcai.

[2] $6.3 billion invested by Ghana, and the remainder by international donors.

Lao PDR

Lao PDR has identified a set of adaptation priorities based on the current understanding of the expected climate impacts it could potentially suffer in its territory. These priorities focus on five main sectors: agriculture, forestry and land, water resources, transport and urban development, and public health. Some of the projects Lao PDR envisions to tackle climate change are the improvement of resilience in its farming systems and infrastructure, the promotion of better forest management and policies, and the strengthening of water resource information systems.

NDC goals and targets	Priority	Potential impact	Funds required	Alignment with LoCAL investment menu
Increase the share of renewable energy to 30 % by 2025, for estimated emissions reduction of 1,468,000 $ktCO_2e$			$658.75 million	Non-grid renewable energy supply: solar, wind and biogas Optimize design and capacity of small local hydropower plants
Increase the share of biofuels to meet 10 % of demand by 2025				
Build hydropower plants (5.5 GW total by 2020; 20 GW to be constructed after 2020)			$320 million	
Improve resilience in farming systems and agriculture infrastructure via new systems and development of resilient crops and animals			$709 million	Improved household and community storage for crops/ diversification
Promote technologies/agricultural research for climate change adaptation				
Promote two-season rice cultivation in flood area by adaptive/short-rotation rice varieties				
Strengthen water resource information systems for climate change adaptation			$44 million	Improve water management to tackle higher rainfall Water treatment facilities
Watershed/wetlands management to improve resilience				
Increase water resource infrastructure resilience				
Promote climate change capacity in the water resource sector (study water treatment, increase staff technical capacity)				

NDC goals and targets	Priority	Potential impact	Funds required	Alignment with LoCAL investment menu
Increase forest cover to 70 % of land area by 2020, for estimated emissions reduction of 60,000–69,000 ktCO_2e			$180 million	Reforestation, sustainable natural resource management, community resilience Promotion of biodiversity as sustainable tourism product
Implement REDD+ programme				
Implement bilateral agreement on timber exportation with the European Union				
Continue forest law enforcement programme				
Promote climate resilience in forestry production and forest ecosystems			$40.5 million	
Promote technical capacity for managing forests for climate change adaptation				
Make electricity available to 90 % of households by 2020, for estimated emissions reduction of 63 ktCO_2/year			$160 million	Mainstreaming and capacity-building investments Improve roads/tracks to environment-friendly road construction and climate-proof standards Studies on seasonal fluctuations of water levels Improved data collection on climate change and studies on climate change vulnerability, adaptation Integrating climate change in local government plans (development, budgets, etc.)
Develop road network, for estimated emissions reduction of 33 ktCO_2/year			$105 million	
Increase use of public transportation, for estimated emissions reduction of 158 ktCO_2/year				
Build monitoring and evaluation capacity to improve climate change mitigation/adaptation				
Increase resilience of urban development: climate risk audits, flood protection, resilient water supply systems, etc.			$190 million	

Note: ☐ = mitigation; ☐ = adaptation; ☐ = mitigation and adaptation; ☐ = high; ☐ = medium; ☐ = low.

Mali

Mali is committed to the reduction of GHG emissions; and its strategy prioritizes initiatives in energy, agriculture and forestry with the aim of reducing emissions by 31, 29 and 21 per cent, respectively, in these sectors. Mali is pursuing actions that will favour the country's development and will improve its production systems in a sustainable manner. Therefore it aims at improving the portion of renewable energy in its energy mix (up to 10 per cent), improving its agricultural processes and promoting more resilient pastoral practices, and reducing deforestation while promoting the reforestation of 375,000 ha of land.

NDC goals and targets	Priority	Potential impact	Funds required	Alignment with LoCAL investment menu
Increase renewable energy to 100 MW by 2020			$1.16 billion	Promotion of improved stoves and alternative sources of energy for domestic use
Promote renewables to become 10 % of energy mix by 2020 (solar, wind, hydro, biomass)				
Increase rural electrification/energy efficiency				
Promotion of climate change–resilient pastoral techniques/practices through, for instance, creation of a 3,300 km transhumance route			$20.6 billion[1]	Development of irrigated perimeters Testing crop practices adapted to climate change: off-season crops, resistant and short-cycle seeds
Create 21 pastoral areas of 400,000 ha to prevent conflict with farmers and herders				
Smart hydro-agriculture and sustainable land management on 92,000 ha				
Create of grain banks				
Promote small-scale agricultural development/ conservation				
Develop and disseminate better adapted crops and animal species				
Plant fruit trees to prevent erosion				
Capture and store rainwater, create 20 water systems and 200 water catchment structures for 75,000 rural households				Development of shallows, water points and deep wells Creation of dykes and micro-dams to feed the groundwater
Fight against silting to develop aquaculture and inland fluvial transportation				
Supply solar-powered water to agro-pastoral communities				
Water depuration and re-utilization for irrigation				
Improve watershed management				

	NDC goals and targets	Priority	Potential impact	Funds required	Alignment with LoCAL investment menu
	Reforestation of 375,000 ha			$12.92 billion	Restoration of degraded land Reforestation and maintenance of young trees/fire-prevention measures Creation of village groves
	Ecosystem restoration, nature regeneration and anti-desertification and protection of 9 million ha				
	Improve natural resource management within a climate change context				
	Increase access/build capacity to access information on climate change			$1.062 billion[2]	Collection, archiving and exploitation of indigenous knowledge on adaptation to climate change Establishment of a directory and dissemination of good practices on adaptation to climate change
	Increase knowledge on new technology				

Note: ☐ = mitigation; ☐ = adaptation; ☐ = mitigation and adaptation; ☐ = high; ☐ = medium; ☐ = low.

[1] Mali will dedicate 15 % of its national budget to agriculture.

[2] This covers all adaptation-related costs, which include activities involving forestry, agriculture and renewable energy.

Mozambique

Mozambique hosts a diverse array of ecosystems and natural resources. To preserve these resources, Mozambique aims at increasing resilience in communities and the national economy by reducing climate risk; its overall goal is to reduce GHG emissions by 76.5 metric tonnes of carbon dioxide equivalent by 2030. Therefore, its strategy has focused on the inclusion of renewable energy in its energy mix; it also cites agriculture, water and forestry issues as key priorities. Amongst other initiatives, Mozambique looks to carry out an assessment of existing institutional and technical capacities for implementation of its National Climate Change Adaptation and Mitigation Strategy, and to increase the resilience of agriculture, livestock and fisheries for food security.

NDC goals and targets		Priority	Potential impact	Funds required	Alignment with LoCAL investment menu
	Biofuel policy				Non-grid renewable energy supply: solar, wind, small hydro plants
	New renewable energy development strategy				
	Conservation and sustainable use of energy from biomass strategy				
	Master plan for natural gas				
	Renewable energy feed-in tariff regulation				
	Renewable energy atlas				
	Increase resilience of agriculture, livestock and fisheries for food security				Upgrade irrigation, erosion control, climate proof storage facilities and sheds for livestock
	Improve capacity for integrated water resource management/resilient hydraulic infrastructure				Improve drainage, water schemes and irrigation, raising embankments, etc.
	Reduce soil degradation and promote the planting of trees for local use				Erosion protection structures
	Ensure biodiversity protection				
	National REDD+ strategy				

Note: ☐ = mitigation; ☐ = adaptation; ☐ = mitigation and adaptation; ■ = high; ■ = medium; ■ = low. Mozambique's NDC discusses financial issues only in terms of gaps and barriers and does not specify any amounts needed.

Nepal

Nepal faces the challenge of reducing poverty and addressing people's basic needs. Climate change poses a threat to the development of the country, and as a result, Nepal is eager to improve its resilience. To this end, Nepal is focusing its efforts on implementing new technologies and improving its infrastructure. Furthermore, it aims to modify its energy mix to include more renewable energy. Finally, to become carbon neutral and prevent erosion, Nepal has a comprehensive plan for re/afforestation.

NDC goals and targets	Priority	Potential impact	Funds required	Alignment with LoCAL investment menu
Reach 80 % electrification through renewable energy by 2050				Installation of solar street light Support for improved cook stoves for substitute of firewood
Reduce dependency on fossil fuels by 50 % and on biomass				
Install 25 MW of micro hydropower				
Install 600,000 solar home systems				
Install 1,500 institutional solar power systems				
Improve 4,000 water mills				
Improve 475,000 cook stoves				
Install 131,200 biogas plants/home systems				
Promote sustainable and organic farming and reduce the use of agro-chemicals				In rural communities, invest in cowshed improvement activities/ village development committee–level organic farming collection centre Measures to protect agricultural land and produce – including storage facilities – from floods, erosion or landslides
Promote rainwater harvesting and ponds construction				Rainwater harvesting, storage and utilization systems Promotion of water recharge system Development of water management plans to tackle drought, floods and extreme weather events

NDC goals and targets		Priority	Potential impact	Funds required	Alignment with LoCAL investment menu
	Implement REDD+				Protection of open/ barren land and tree planting Community-based forest protection and conservation measures, including prevention of illegal logging and poaching; development of forest fire alarm and response system and fire-fighting equipment in combination with training
	Maintain 40 % of the country's total area under forest cover				
	Improve forest sustainable management to Increase forest productivity				
	Enhance carbon sequestration and forest carbon storage				
	Improve forest governance				
	Plant trees in at least 10 % of the current open/ barren land				
	Control deforestation and forest degradation				
	Sell carbon credits from REDD+ at a better price				
	Implement 2,200 community adaptation plans of action for community forests				
	Implement local adaptation plans for action in 90 village development committees and 7 municipalities				Small gabion or dry walls with integrated bioengineering measures to stabilize slopes and ensure adequate road width Undertaking location studies – geotechnical, environmental, flood levels – to ensure safety of existing buildings
	Implement 375 local adaptation plans				
	Develop electrical rail network to support mass transportation by 2040				
	Monitor, research and decrease climate change and loss and damages associated with it				
	Capacity building at the institutional level to plan and implement adaptation and mitigation programmes				
	Develop electrical rail network in the lowlands				

Note: ☐ = mitigation; ☐ = adaptation; ☐ = mitigation and adaptation; ☐ = high; ☐ = medium; ☐ = low. Nepal's NDC discusses the costs of climate change for the country, but not the costs of its policies.

Niger

Niger bases its adaptation and mitigation strategies on the development of climate-smart agriculture and increasing access to energy services. These two pillars will allow for better access to health, education and potable water; and will improve household productivity and development. Niger's overall emissions goal is an unconditional 3.5 % reduction from business as usual by 2030 (34.6 % reduction conditional on external funding support). Its strategies include achievement of 30 per cent renewable energy in its energy mix, management and recovery of forest and agricultural land, and capacity-building projects to achieve climate resilience.

NDC goals and targets	Priority	Potential impact	Funds required	Alignment with LoCAL investment menu
Reduce energy sector emissions by 700 GgCO_2e			$6 billion (including $46.33 million for extending electrical network)	
Achieve 30 % of renewables in the energy mix				
Reach capacity of 250 MW of renewable energy, 130 MW from hydroelectric				
Improve rate of access to electricity to 100 % in urban areas/30 % in rural by 2030				
Achieve penetration rate of improved cook stoves of 100 % in urban areas/30 % in rural				
Promote biogas and biofuels at industrial and household levels				
Decrease GDP energy intensity by 25 %				
Decrease energy losses to 10 % by 2020				
Extend Nigerian Electricity Corporation's electrical network				
Restore 1,030,000 ha of agricultural/forestry/pastoral lands			$968.06 million[1] (including $111 million financed by the World Bank for Climate-Smart Agriculture Support Project)	Recuperation of degraded land for agriculture Promote seed varieties adapted to climate conditions (millet, sorghum) Management of ponds for crops
Manage 145,000 km of hedgerows				
Plant 750,000 ha of multi-use species				
Plant 125,000 ha of *Moringa oleifera*				
Promote climate-smart agriculture				
Climate-Smart Agriculture Support Project				
Development of the Badaguichiri watershed			$12.4 million	Development of water reservoirs to control erosion and irrigation

NDC goals and targets	Priority	Potential impact	Funds required	Alignment with LoCAL investment menu
Scale up good sustainable land management practices to increase resilience and sequester carbon			$968.06 million[1]	Recovery of degraded lands Assistance for natural regeneration Recovery of degraded community lands/ installation of firewalls
Sustainable management of forests to reduce GHG emissions from deforestation				
Assist natural regeneration of 1.1 million ha				
Management of 2,220,000 ha of natural forests				
Fixation of 550,000 ha of dunes				
Manage 75,000 ha of private forestry and seeding 304,500 ha of roadways				
Manage natural forests for sustainable supply of wood				
Capacity building on climate change resilience/ adaptation of all actors involved				Improvement of local expertise and information on climate change Planning capabilities (plan elaboration, research, capacity building, etc.)
National Action Plan for Adaptation Resilience/ Global Environment Facility/Canadian International Development Agency project			$7 million	
African Climate Change Adaptation Programme (setting up an index-based insurance prototype to prevent droughts)			$610,000	
United Nations Development Programme/ European Development Fund Community-Based Adaptation project			$4.26 million	
Strategic Programme for Climate Resilience[2]			$100 million	
Total			$8.67 billion for 10 years[3]	

Note: ☐ = mitigation; ☐ = adaptation; ☐ = mitigation and adaptation; ■ = high; ■ = medium; ■ = low.

[1] Budget for entire Agriculture, Forestry and Other Land Uses strategy.

[2] Consists of three projects financed by the United States.

[3] Adaptation: $1.61 billion; mitigation: $7.06 billion.

Tanzania

Tanzania aims to enhance its adaptive capacity and increase its long-term resilience to climate change, as well as lower its GHG emissions and achieve sustainable development, in a participatory and voluntary manner. While the country has negligible GHG emissions – estimated by the World Bank in 2008 at 0.2 tonnes of carbon dioxide equivalent per capita – its vast forested lands make it a net GHG sink. Tanzania's contributions to global GHG emissions reduction will focus on enhancing carbon sinks through forest conservation, afforestation and reforestation, as well as through the use of natural gas and the expanded use of renewable energy such as geothermal, solar, hydro and wind power. Its adaptation strategy seeks to protect the population from adverse climate change impacts and improve livelihoods, focusing on food security, sustainable agriculture, water, and disaster management and prevention.

NDC goals and targets	Priority	Potential impact	Funds required	Alignment with LoCAL investment menu
Enhancing integrated basin catchment and upstream land management for hydro sources				Promoting the use of energy efficient technologies and behaviour that increase climate change adaptation Enhancing the use of renewable energy potential (mini-hydro, solar, wind and biomass)
Promoting energy diversification systems and clean technologies for power generation and transportation (geothermal, wind, solar and renewable biomass)				
Expanding use of natural gas for power production, cooking, transport and thermal services				
Promoting rural electrification				
Promoting climate-smart agriculture, sustainable pasture and range management				Introduction of climate-adaptive crop varieties and climate proofing of agricultural/livestock facilities Establishment of cooperatives, veterinary centres, education and livelihood diversification Monitoring systems for crop, livestock diseases and pests affected by climate change
Enhancing development of climate-proof agricultural and livestock infrastructure and services				
Protecting smallholder farmers against climate-related shocks, including through crop insurance				
Promoting integrated water resource development and management practices				Climate proofing of existing natural water sources and catchments Investment in adaptive climate change approaches such as water resource harvesting
Investing in the protection and conservation of water catchments including flood control and rainwater harvesting structures				
Promoting wastewater reuse and recycling technologies				
Developing and exploiting groundwater resources				

NDC goals and targets		Priority	Potential impact	Funds required	Alignment with LoCAL investment menu
	Facilitating effective and coordinated implementation of actions to enhance contribution of entire forest sector (forest policies, national forest programmes and REDD+ related activities)				Implementation/ enforcement of forestry legislation, by-laws on deforestation/poor forest management Support improvement of community forest governance and reforestation/tree planting/agroforestry programmes Promotion of sustainable land management technologies and effective land use planning and reduction of charcoal consumption and efficient wood fuel utilization technologies
	Re/afforestation and conservation in reserved forests (including via national programmes and initiatives)				
	Enhancing and conserving forest carbon stocks				
	Enhancing governance, protection and participatory sustainable management of forest resources				
	Up-scaling improvement of agricultural land and water management				Promotion of indigenous and scientific knowledge for increased climate resilience and awareness raising of climate change impacts Capacity building on climate-smart agriculture and livestock practices, and on forecast interpretation and dissemination Mainstreaming climate change into public planning and budgeting, including in health plans and programmes
	Strengthening the capacity of agricultural research institutions on sustainable agriculture, pasture and range management				
	Improving monitoring and early warning systems				
	Enhancing awareness of the impacts of climate change in the context of human settlements				
	Promoting climate change mainstreaming, sustainable and climate-sensitive health and sanitation infrastructure				
Total (by 2030)				$72.5 billion[1]	

Note: ☐ = mitigation; ☐ = adaptation; ☐ = mitigation and adaptation; ☐ = high; ☐ = medium; ☐ = low. The information presented here is based on Tanzania's INDCs, as it is currently designing its NDCs. Only aggregate estimates of funds are available; these are thus not disaggregated by sector.

[1] Adaptation: $12.5 billion; mitigation: $60.0 billion.

3 Conclusions and recommendations

NDCs as a LoCAL opportunity

By financing and facilitating the design and development of activities frequently included in NDCs, LoCAL serves as a vehicle through which governments can support NDC implementation at the local level – ultimately aiding countries in delivering on agreed-upon core activities and procedures. Core overlapping initiatives found in both NDCs and LoCAL investments are listed below, by sector.

- **Agriculture.** The alignments between NDCs and LoCAL investment menus focus on the introduction of innovative crops and farming methods that make agriculture more resilient to climate change, including mitigation and preparedness plans and activities for erosion, flooding and landslides. Interventions include new irrigation technologies, crop diversification and short-cycle seeds, improving livestock and storage sheds, and training in soil conservation.
- **Water.** The alignments between NDCs and LoCAL investment menus are geared towards the improvement and efficiency of irrigation systems, drainage structures and coastal afforestation for flood control. They also focus on improving water harvest, storage, preservation and supply via improved pipelines, water treatment, better water reservoirs, development of shallows/bottomlands and promotion of groundwater preservation.
- **Forestry.** The alignments between NDCs and LoCAL investment menus focus on initiatives for reforestation and afforestation for preservation; the promotion of more sustainable use of forest resources, both of natural resources per se and use in sustainable tourism; and the establishment of better systems to control forest fires. They also focus on law enforcement mechanisms, forest policies and empowerment of social/communal institutions to protect forests.
- **Capacity building.** The alignments between NDCs and LoCAL investment menus for capacity building focus primarily on improving adaptation to climate change, climate change mainstreaming in local government planning and budgeting systems, increased local capacity to forecast and design local climate change strategies and plans (e.g. improving data collection systems), undertaking climate change risk and vulnerability assessments, and creating more comprehensive early warning and disaster management systems. They also focus on making infrastructure more resilient to climate change and on sharing good practices on climate change adaptation.

Overall global conclusions

The quality and focus of country NDCs vary widely. Scaling and mainstreaming local adaptation strategies to align with NDC targets remain challenging tasks, as local adaptation planning frequently lacks specificity. Specifically, the NDCs analysed in this report currently lack the spatial and temporal detail that would enable accurate identification of the highest impact areas for local government planning and for related LoCAL intervention and support. However, this effort is expected to become more fluid as NDC review progresses during the next 2-3 years to yield more exhaustive documents.

As countries review and update their respective NDCs, more information and data should become available. This will enable local governments to make data-driven local planning decisions while simultaneously identifying more accurate technical and strategic entry points for LoCAL support. Furthermore, the addition of more specific NDC targets will enable LoCAL to enhance its metrics for impact evaluation.

In the interim, the LoCAL country database can be referenced as a sample of the adaptation results local governments are producing in the NDC targeted area. Moreover, adaptation activities and investments, capacity building, technical assistance, localized climate risk and vulnerability assessments, improved local participatory adaptation planning envisaged by LoCAL can also serve as useful tools to bridge the current NDC's data gap, while contributing to achieving NDC's goals in target areas.

Regional conclusions: Africa

The Africa region NDCs reviewed – for **Benin**, **Ghana**, **Mali**, **Mozambique**, **Niger** and **Tanzania** – vary widely in terms of the degree of specificity applied to adaptation analysis and costing for the required adaptation support.

Trends

- **Existing policies.** Most NDCs appear to be rooted in various existing or in progress plans, policies or programmes – e.g. national adaptation plans, national adaptation programmes of action, national climate change action plans or nationally appropriate mitigation actions.
- **Mitigation.** Mitigation efforts tend to focus on the agriculture, forestry and energy sectors. Given that access to reliable electricity is a development priority for many African countries, the energy sector is often forecasted to generate significant emissions growth in the medium term. Thus, increased use of renewable energy is a common mitigation action item in the African NDCs.
- **Adaptation.** Adaptation priorities are included in all the African NDCs reviewed. Because of the heavy reliance on pastoralism and rain-fed agriculture, all the African NDCs emphasize the criticality of potential climate change impacts on food security, including food, livestock, agriculture and forestry. Sustainable and responsive water resources, health systems, ecosystem planning, infrastructure and energy are also regional sector priorities.

Needs

Assistance in data collection and GHG inventory development is a common need across the African NDCs. For adaptation, common needs include capacity building and technical support for risk and vulnerability assessments, sectoral mainstreaming and adaptation policy development. Given the widely varying stages of adaptation planning across the region, support for knowledge sharing and collaboration may be valuable.

Regional conclusions: Asia

The Asia region NDCs reviewed – for **Bangladesh**, **Bhutan**, **Cambodia**, **Lao PDR** and **Nepal** – focus on technology/knowledge transfer to scale up adaptation strategies, and link disaster risk reduction and climate change mainstreaming.

Trends

- **Existing policies.** All the reviewed Asian NDCs are informed by previously established climate change–related policies. However, the level of granularity of each country's underlying policies differs greatly. **Bhutan** and **Nepal** focus on climate change mainstreaming and technology transfer for renewable energy in rural contexts. Others, such as **Lao PDR**, tightly link adaptation and climate change response planning to their national development plans.
- **Adaptation.** Common adaptation needs include capacity building at the national and local levels, land rehabilitation and support for REDD+ (reducing emissions from deforestation and forest degradation and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries) programmes.
- **Relevant sectors.** Disaster risk reduction, real-time forecasting and modelling, and water resource management activity support are consistent priorities given the common risk of coastal area vulnerability and sea level change across countries.

Needs

Mitigation needs include support for measurement, reporting and verification, monitoring and evaluation, and national GHG inventory development, particularly for the forestry and agricultural sectors. Adaptation needs focus on capacity building at the national and local levels, land rehabilitation and support for REDD+ programmes. Countries also requested technology transfer for renewable energy and energy efficiency technologies, and support for developing and implementing clean energy projects.

Recommendations to enhance LoCAL support in target countries

LoCAL country initiatives and investments can best support country action by:

- Prioritizing financing and supporting development of overlapping activities
- Aligning indicators and metrics with both national targets and local NDC commitments

Specific recommendations for LoCAL support of country NDC implementation follow.

I. Strengthen data collection to support dynamic decision-making on programming and resourcing.

1. Support communities in gathering information on localized spatial and temporal adaptation needs based on latest community, and local and central government data and needs assessment to ensure informed and accurate decision-making.
2. Strengthen and, as needed, create data collection and monitoring systems. Look for opportunities to integrate data into dynamic databases that support continuous updates and responsive decision-making by governments and donors.

II. Engage stakeholders in integrating and aligning local and national goals and metrics to optimize work efforts and maximize results; ensure LoCAL indicators enhance planned efforts.

3. Support alignment and integration of local plans with country-level NDCs to minimize cost, coordinate local and national work efforts, and maximize impact and results.
4. Review LoCAL adaptation indicators, possibly via implementation of the Assessing Climate Change Adaptation Framework (ACCAF), to strengthen alignment with broader NDC targets and indicators for selected LoCAL countries and sectors, thereby streamlining country-level efforts and maximizing outcomes.

III. Further focus the LoCAL portfolio of scalable and replicable adaptation interventions to broaden and speed impact, proactively facilitating knowledge sharing on priority areas.

5. Develop an adaptation portfolio of actions, and prioritize implementation of those that directly contribute to NDC adaptation goals at the local level.
6. Define and share clear country-level roadmaps for future LoCAL technical and strategic support of NDC implementation. Work with relevant local and national stakeholders to ensure stakeholder alignment and ownership of the process and to identify highest-impact investment opportunities.

7. Work to mainstream the LoCAL approach and investments into planned adaptation measures where and if possible, supporting LoCAL champions' participation in in-country NDC reviews and discussions.

8. As appropriate, facilitate, cross-geography learning as a mechanism for strengthening local efforts across priority areas.

IV. Raise awareness on key mitigation and adaptation issues and risks by consistently championing the engagement of diverse local and national stakeholders.

9. Ensure the involvement of all key stakeholders in implementation of NDC policies and programmes at the local level by raising awareness of adaptation practices and positive impacts on national, local and community development and resilience.

V. Clarify intervention costs and impacts, and develop capabilities to engage non-traditional funders alongside traditional ones.

10. Localize NDCs by estimating the costs of each NDC adaptation action and the total costs for NDC implementation – including data collection, programme management and monitoring activities – at the local level.

11. Assess public and private funding shares, and the additional resources required, pledged and/or budgeted towards NDC targets at the local level.

12. Engage the private sector by supporting the development of bankable projects and addressing associated risks. Develop strategies and proposals to increase international support, including from bilateral and multilateral funding sources.

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UNCDF makes public and private finance work for the poor in the world's 47 least developed countries. With its capital mandate and instruments, UNCDF offers 'last mile' finance models that unlock public and private resources, especially at the domestic level, to reduce poverty and support local economic development. UNCDF's financing models work through two channels: **financial inclusion** that expands the opportunities for individuals, households, and small businesses to participate in the local economy, providing them with the tools they need to climb out of poverty and manage their financial lives; and by showing how **localized investments** – through fiscal decentralization, innovative municipal finance, and structured project finance – can drive public and private funding that underpins local economic expansion and sustainable development. By strengthening how finance works for poor people at the household, small enterprise, and local infrastructure levels, UNCDF contributes to SDG 1 on eradicating poverty and SDG 17 on the means of implementation. By identifying those market segments where innovative financing models can have transformational impact in helping to reach the last mile and address exclusion and inequalities of access, UNCDF contributes to a number of different SDGs.

LoCAL provides a mechanism to integrate climate change adaptation into local governments' planning and budgeting systems, increase awareness and response to climate change at the local level, and increase the amount of finance available to local governments for climate change adaptation.

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