



NATIONALLY DETERMINED CONTRIBUTIONS (NDCs) IMPLEMENTATION INDEX, MONITORING AND TRACKING TOOLS FOR SELECTED COUNTRIES IN AFRICA

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Acronyms and Abbreviations

AFOLU	Agriculture, Forestry and Other Land Use
APA	Ad Hoc Working Group on the Paris Agreement
ATAR	Adaptation Technical Analysis Report
ATPS	African Technology Policy Studies Network
BAU	Business-as-usual
BNRCC	Building Nigeria's Response to Climate Change
BUR	Biennial Update Report
CBN	Central Bank of Nigeria
CCD	Climate Change Directorate
CCF	Climate Change Fund
CDM	Clean Development Mechanism
CER	Certified Emission Reduction
COP	Conference of the Parties to the UNFCCC
CRF	Common Reporting Format
CSOs	Civil Society Organisations
CTF	Clean Technology Funds
CTU	Clarity, Transparency, Understanding
EAC	East African Community
ERGP	Economic Recovery and Growth Plan
ETF	Enhanced Transparency Framework
FDI	Foreign Direct Investment
GEF	Global Environment Facility
GCF	Green Climate Fund
GDP	Gross Domestic Product
GHG	Greenhouse gases
GHGI	Greenhouse Gas Intensity
GWh	Gigawatt hour
GWP	Global Warming Potential
ICA	International Consultation and Analysis
INDCs	Intended Nationally Determined Contributions
IPCC	Inter-governmental Panel on Climate Change
ITMO	Internationally Transferred Mitigation Outcome
LDCs	Least Developed Countries
LULUCF	Land-use, land-use change and forestry
M&E	Monitoring and Evaluation
MDGs	Millennium Development Goals
MPGs	Modalities, Procedures and Guidelines
MRV	Measuring, Reporting and Verification
MTEF	Medium-Term Expenditure Framework
MTP	Medium Term Plan
NAMAs	Nationally Appropriate Mitigation Actions
NAP	National Adaptation Plan
NAPA	National Adaptation Plan of Action
NASPA-CNN	National Adaptation Strategy and Plan of Action on Climate Change for Nigeria
NBSAP2	Second National Biodiversity Strategy and Action Plan
NC	National Communication
NCCAP	National Climate Change Adaptation Plan
NCCFP	National Climate Change Focal Point

NCCP-RS	National Climate Change Policy and Response Strategy
NCCRS	National Climate Change Response Strategy
NCCSC	National Climate Change Steering Committee
NCMC	National Carbon Monitoring Centre
NDCs	Nationally Determined Contributions
NDMA	National Dry-land Management Authority
NDP	National Development Plan
NEMA	National Environment Management Authority
NGOs	Non-Governmental Organisations
NIMET	Nigerian Meteorological Agency
NNPC	Nigeria National Petroleum Corporation
NPCF	National Policy on Climate Finance
NPE	National Policy on Environment
PA	Paris Agreement
PACJA	Pan African Climate Justice Alliance
PaMs	Policies and Measures
QA/QC	Conducting Quality Assurance and Quality Control
RECs	Regional Economic Communities
REDD+	Reducing Emissions from Deforestation and Forest Degradation
SBSTA	Subsidiary Body for Scientific and Technological Advice
SCCU	Special Climate Change Unit
SDGs	Sustainable Development Goals
SIDS	Small Island Developing States
SNC	Second National Communication
TACCC	Transparency, Accuracy, Compatibility, Consistency and Completeness
TER	Technical Expert Review
TNA	Technology Needs Assessment
ToR	Terms of Reference
UNFCCC	United Nations Framework Convention on Climate Change
USD	United State Dollar
VPA-FLEGT	Voluntary Partnership Agreement for Forest Law Enforcement Governance and Trade

Executive Summary

The Paris Agreement and its enabling Decision 1/CP.21 request the *Ad Hoc* Working Group on the Paris Agreement (APA) to develop recommendations on modalities, procedures and guidelines (MPGs) for the Enhanced Transparency Framework (ETF) for action and support. The MPGs constitute a core element of the so-called “Paris rulebook”, as they establish a system for reporting and reviewing of information by parties. Under the ETF in particular, Parties shall provide a national inventory report as well as information necessary to track progress towards implementing and achieving their Nationally Determined Contributions (NDCs) (Article 13.7). The Paris Agreement on climate change, the 2030 Agenda for Sustainable Development (Agenda 2030) as well as African Union’s Agenda 2063 pave pathways towards a prosperous and sustainable future for the continent. African countries are at different stages of the process of integrating the Agenda 2030 (also known as the Sustainable Development Goals, SDGs) and Agenda 2063 in their national development planning frameworks. In most countries, increased awareness of both Agenda 2030 and 2063 beyond the central planning authorities, key ministries and the national statistics offices is needed.

Awareness of Agenda 2063 is particularly low at the sub-national levels. Some countries such as Botswana, Cameroon, Côte d’Ivoire, Democratic Republic of the Congo, Djibouti, Ethiopia and Uganda, whose planning cycle coincided with the commencement of the SDGs, are at a more advanced stage of the integration process. Others like Kenya and Mali are establishing mechanisms for smooth integration and transition to the new global agenda. For example, Botswana’s new long-term vision (*Vision Beyond 2016*) and the 11th National Development Plan (NDP11, covering the period 2017-2023) have adopted an incremental approach to sustainable development, first focusing on affordable “low-hanging fruits” and then moving on to more complex interventions. Sustainable development will be aligned with the medium-term National Development Plans (NDP11-NDP14) which go up to 2041. The NDP11 focuses on reorienting and transitioning the country’s development policies and frameworks to sustainable development. The Democratic Republic of the Congo’s (DRC) *Growth and Poverty Reduction Strategy Paper, 2011-2015* seeks to achieve sustainable development by 2030 by mainstreaming sustainability in all public policies. Ethiopia has taken steps to integrate Agenda 2030 and the Common African Position in its second growth and transformation plan (GTP-II) (2015-2019). The country is also integrating environmental sustainability which was originally captured separately in its *Climate Resilient Green Economy Strategy* (CRGE) in the new GTP-II. In Ghana, the central planning agency - the National Development Planning Commission – is ensuring alignment with the SDGs through directives and guidelines to inform line ministries’ development plans. The SDGs are being streamlined at both national and sub-national levels. Kenya’s Third Medium-Term Plan (MTP3) for Vision 2030 is committed to the attainment of Agendas 2030 and 2063. Rwanda has elaborated a national and subnational coordination/ oversight mechanism to facilitate the integration of the SDGs into its new planning framework and long term vision, with Parliament and the Senate providing overall oversight and the Cabinet providing strategic orientation and approving funding for SDG priorities. Africa’s dual transition to the SDGs and Agenda 2063 requires an integrated results framework. Adoption of the two Agendas signals a two-pronged transition: a global-level transition from the Millennium Development Goals (MDGs) to Agenda 2030 and a continent-level transition from NEPAD to Agenda 2063. Both Agendas are comprehensive, underpinned by an extensive consultation process, and share common aspirations of structural transformation and sustainable development. However, the two Agendas are not identical. Implementing them will

require effective messaging about their content, coherent integration of both Agendas into national planning frameworks and an integrated results framework for follow-up. The Paris Agreement on climate change, which entered into force in 2016, provides extraordinary possibilities for climate and sustainable development actions. In 2015, the United Nations Member States adopted the Agenda 2030, which acknowledges global poverty and inequality and builds on the MDGs. This ambitious agenda is comprised of 17 SDGs with 169 specific targets, and is designed to balance the social, economic and environmental dimensions of development. Achieving and implementing these global commitments will require ambitious development strategies, policies and actions. Together, the Paris Agreement and Agenda 2030 demonstrate an increasing momentum towards a transition from aspiration into implementation. With these landmark agreements now in place, countries have entered the implementation phase, where climate action contributes to the broader goal of sustainable development at the national level. Central to the implementation of the Paris Agreement are countries' NDCs. The NDCs of each country express national climate-related strategies, policies and actions.

Given the ambitious goals and visions of countries around the world including those in sub-Saharan Africa, the overwhelming majority of countries have highlighted a desire and need for enhanced international support for the implementation of their NDCs. However, an analysis of NDCs clearly indicate that many developing countries share similar financial, capacity and technological needs and constraints in climate adaptation and mitigation areas that include energy, transportation, waste management, land-use, agriculture, forestry, water, health and infrastructure. Implementation of NDCs based on national development priorities will generate substantial co-benefits to the achievement of the SDGs globally, Agenda 2063 and the sustainable development and poverty reduction blueprints of individual countries. Owing to the interconnected nature of social, economic and environmental issues, progress in climate action cannot be achieved in isolation. Achieving the SDGs requires efforts in numerous sectors that are highly relevant to development. Agriculture, waste, water, energy, health, nutrition, education, infrastructure and biodiversity are key sectors that link climate actions and SDGs.

According to the Paris Agreement, current textual proposals for guidance and guidelines under Articles 4, 6 and 13, Parties are required to communicate or report on mitigation-related informational elements, including:

- NDCs to be prepared and communicated every 5-years (Articles 4.2 and 4.9);
- Features of the NDCs (paragraph 26 of Decision 1/CP.21 requests further guidance to be developed);
- Information “necessary for clarity, transparency and understanding” (CTU) to facilitate the understanding of the NDCs target (Article 4.8);
- Information on accounting for NDCs (Article 4.13 mandates Parties to account for their NDCs);
- Internationally transferred mitigation outcomes (ITMOs), including accounting approaches and explanations on ensuring certain principles, when engaging in cooperative approaches under Article 6;
- National inventory of anthropogenic emissions by sources and removals by sinks of greenhouse gases (GHGs) (Article 13.7a);
- Information necessary to track progress towards implementing and achieving their NDCs under Article 4 (Article 13.7b).

In the process of communicating an NDC and tracking and reporting on progress towards implementing and achieving its mitigation target, key steps are required namely:

- i) Developing and agreeing on the NDC at the national level (national process, with potentially many sub-steps);
- ii) Communicating the NDC to the United Nations Framework Convention on Climate Change (UNFCCC):
 - a) Clarify NDC mitigation target: Communicating upfront information that allows third parties to understand the target (e.g. CTU information on scope, coverage and time frame, assumptions and methodologies);
- iii) Reporting information to track progress made in implementing and achieving the mitigation target:
 - a) Provide a description of the NDC, re-iterating and updating any information that was initially communicated under CTU along with the NDC;
 - b) Identify how progress towards the NDC will be tracked (by using e.g. GHG emissions and removals, relevant indicators, implementation of policies and measure or GHG projections, depending on NDC target type);
 - c) Report on qualitative and quantitative information to track progress made in implementing and achieving NDCs (GHG emissions and removals, current value of relevant indicators, impact of policies and measure or emissions projections, depending on NDC target type);
 - d) Reporting accounting tables that in the case of an NDC formulated in terms of GHG emissions, would consider e.g. emissions, removals, as well as ITMOs used towards achieving the NDC.
- iv) Conducting a technical expert review process to examine Parties' reporting.

This assignment is intended to achieve two major milestones namely: (a) Development of an NDCs Implementation Index (NDCII); and (b) Development of model monitoring and tracking tools to support the NDCII. Activities to help develop the NDCII entailed employing macro-level indicators/components namely: Governance, Mitigation, Adaptation, Measurement, Reporting and Verification (MRVs), and Finance, in developing accountability mechanisms to track implementation of the NDCs. This involved employing governance-related indicators in tracking NDCs implementation that include but are not limited to:

- (i) Reviewing existing governance-related institutional arrangements including governance landscape and planning processes;
- (ii) Establishing country-level NDCs implementation coordination team complete with defined roles and responsibilities, and; coordination approaches with key government ministries, departments, and agencies;
- (iii) Setting up institutional arrangements to facilitate integration of existing processes within wider relevant government ministries, agencies, and sub-national authorities
- (iv) Establishing capacity within governments for NDCs implementation governance indicators tracking through identifying of the capacity gaps across government that is needed to enable NDCs implementation;
- (v) Engaging external stakeholders through stakeholder mapping and well-defined responsibilities for such engagements complete with a clear stakeholders' engagement plan
- (vi) Developing appropriate legal frameworks to guide NDCs implementation.

Activities undertaken in employing mitigation-related indicators to track NDCs implementation include but are not limited to reviewing the existing mitigation policy landscape, setting up institutional arrangements for coordination and oversight of mitigation activities and analysing the national mitigation potential with a view to identifying priority sectors and mitigation options. It also included conducting a detailed appraisal of mitigation priority actions for key sectors, designing mitigation policies, accessing financing for mitigation actions, implementing mitigation policies, designing and implementing a national mitigation MRV system, and preparing for national future NDCs.

Activities in employing adaptation-related indicators in tracking NDCs implementation include but are not limited to:

- (i) Reviewing the existing national adaptation policy landscape;
- (ii) Undertaking the laying of groundwork and governance system to address identified gaps and describe how to initiate and launch the national adaptation plan process;
- (iii) Undertaking preparatory work for adaptation plan;
- (iv) Accessing financing for adaptation actions;
- (v) Implementing national and sub-regional adaptation policies, projects and programmes; and
- (vi) Monitoring and reporting on progress and effectiveness of adaptation actions.

Activities entailed in employing finance-related indicators in tracking NDCs implementation include but are not limited to the following:

(i) Reviewing existing climate finance landscape; (ii) Establishing the institutional arrangements for oversight and coordination of climate finance activities; (iii) Compiling an overall costing for NDCs implementation; (iv) Identifying funding gaps and needs for NDCs implementation; (v) Assessing public and private financing options; (vi) Developing country climate investment plans; (vii) Securing direct access to international climate funds for national and sub-national institutions; (viii) Developing project pipelines and financing propositions that can be put forward to different financing sources; (ix) Increasing private sector engagement in climate financing and overcoming barriers to investment; and (x) Designing and implementing country-level climate finance MRV system.

Activities entailed in employing MRV related indicators in tracking NDCs implementation include but are not limited to: (i) Reviewing current MRV activities and processes, (ii) Establishing institutional arrangements for the oversight and coordination of MRV activities; (iii) Assessing data gaps and needs; (iv) Designing the country MRV system for mitigation, adaptation, and finance; (v) Establishing data management processes; (vi) Building national MRV capacity; and (vii) Improving the national MRV system over time.

Operationalisation of the above activities in the project implementation helped to: define and delineate the scope of the NDCs Implementation Index including MPGs under the ETF that were used and dimensions that were covered; develop the number and type of NDCs implementation indicators (both qualitative and quantitative) as required; ensure that the indicators were aligned as much as possible with the Paris Agreement goals of mitigation and adaptation; develop an award and weighting criteria for the indicators; identify and clarify the target group for the NDCs Implementation Index (Supply-side, demand-side or a mix of both); identify sources of data;

develop a guide on the presentation and interpretation of the scores and findings; advise on how findings on the index were analysed and visualised to inform and guide policy, and; propose how the NDCs implementation index could be hosted online.

Based on the country-specific outcomes of analysis of the influences of activities associated with each of the five macro-level indicators/components on NDCs implementation, an award and weighting criteria for the indicators was developed. Based on the criteria and the justification articulated hereof, Governance was allocated a weighting of 30%; MRVs 25%; Mitigation 20%; Adaptation 15%, and; Finance 10%. There is enough justification based on the literature encountered during the country-specific analyses for the higher weighting figure of 30% allocated to Governance because the potency of NDCs implementation is a function of first and foremost the strong institutional, regulatory, and legal frameworks. Private investors for instance, cannot be attracted to invest in various projects in any country in the absence of legal and regulatory frameworks to back and protect their investments and other associated interests. All the eight study countries had developed and were at varying stages of operationalising various climate-related policies, strategies, and legislation. MRVs were allocated weighting of 25% because they are mandatory in the development and submission of National Communications (NCs) and Biannual Update Reports (BURS) that preclude the submission of NDCs. Every country that is a signatory to the Paris Agreement is thus, expected to be MRVs compliant - they must be involved in tracking progress in their GHG inventory [GHGI]. Apart from providing a clear line of sight towards achieving GHG emissions reduction, MRVs also seek to guide adaptation actions towards mitigating the adverse impacts of climate change. MRVs have three important components and processes entailed in their implementation which include: GHGI; Nationally Appropriate Mitigation Actions (NAMAs), and; support (Funding, technology acquisition, and training/capacity building). Mitigation was allocated weighting of 20% because reducing emissions is one of the yardstick measures of adherence to NDCs. All countries are expected to develop NAMAs in order to qualify for participation in the multi-billion dollar business models expected therefrom. There are established annual NAMAs calls by UNFCCC, hence reducing emissions is critical and all countries are expected to reduce their emissions conditionally and unconditionally in respective percentages presented in their preceding NDCs.

Adaptation was allocated a weighting of 15% because measures for coping with the adverse effects of the vagaries of climate change are key to the sustainability of climate-resilient systems. At present, there are no regular/annual Nationally Appropriate Adaptation Actions (NAAAs) calls from UNFCCC. However, various countries have developed their National Adaptation Plans (NAPs). Climate financing was allocated a weighting of 10% because both direct and indirect funding is required for operationalisation of climate-related policies, strategies, programmes, plans, and legislation. However, despite the huge commitments for climate financing from mainly Annex I countries and other bilateral and multilateral donors, there is limited direct access to climate financing by most of the study countries. Most of the finances are accessed through third party agencies such as the Global Environment Facility (GEF) and UN organisations with resultant minimal impacts on the ground. For instance, most of these third-party agencies come with their technical support teams, which constraints local capacity building in climate-related issues. The funding through these third-party agencies has been constant or declining and as such, not sustainable in addressing climate-related issues, which points to the need for domestically generated resources in addressing climate-related matters. However, due to perennial financial

constraints faced by most countries in sub-Saharan Africa, such as domestically generated financial resources are generally never adequate for effective support to the implementation of identified climate interventions as part of NDCs implementation. The country-specific analyses also helped to develop a guide on presentation and interpretation of scores and findings including generating of the ultimate NDCII as presented in Annex II.

CHAPTER ONE

1. INTRODUCTION

1.1 Background

The historic Paris Agreement, adopted at the Conference of Parties to the UNFCCC (COP 21) in December 2015, calls on the global community to keep global temperature rise this century to well below 2 degrees Celsius above pre-industrial levels, and to pursue efforts to limit the temperature increase to 1.5 degrees Celsius. Progress towards this ambitious goal depends on the successful implementation of the national climate pledges submitted by 189 countries in the run-up to and since COP 21 – dubbed the Nationally Determined Contributions (NDCs). The NDCs spell out the actions countries intend to take to address climate change – both in terms of adaptation and mitigation. Originally submitted as Intended Nationally Determined Contributions (INDCs), these become binding Nationally Determined Contributions when a country ratifies the Paris Agreement. However, since the ratification of these NDCs, there have been concerns about the capacity of African countries to deliver on their commitments, and much more importantly on whether the commitments they took under NDCs are realistic in the context of their national circumstances. This has been attributed to many factors including lack of capacity within the African countries as well as lack of appropriate data collection and/or monitoring tools. Some critics argue that the NDCs were hurriedly crafted by consultants to beat the COP 21 submission deadline and that inputs from key stakeholders were minimal. There is broad consensus that the mandatory revision of NDCs as per the requirements of the Paris Agreement presents an opportunity for African countries to revisit the framework and ensure that the implementation gaps identified are addressed adequately to ensure that they are consistent with individual countries' national development plans and strategies.

The Pan African Climate Justice Alliance (PACJA) commissioned a study to develop an NDCII and supporting data collection tools to monitor the implementation of NDCs in Africa in compliance with the Paris Agreement. This also included a study to understand the political economy of African countries with regard to NDCs and climate change governance, stakeholder analysis of actors and institutions involved in the development and implementation of the NDCs. The study also sought to understand climate governance, mapping of suitable tools, methods and indicators that exist and maybe in use in Africa to improve accountability, as well as defining and delineating the scope of the NDCII, including measures that will be used and dimensions that will be covered.

1.2 PACJA as an Organisation

PACJA is a consortium of more than 1000 organisations from 48 African countries that brings together a diverse membership drawn from grassroots, community-based organisations, faith-based organisations, non-governmental organisations, Trusts, Foundations, indigenous communities, farmers and pastoralist groups with a shared vision to advance a people-centred, rights-based, just and inclusive approach to address climate and environmental challenges facing humanity and the planet.

PACJA's tremendous growth of membership and mandate has necessitated a rethinking of its governance, which seeks to accord more roles to its base at sub-national/national level, through

establishment of national platforms that will henceforth serve as pillars of action in countries and sub-national levels. This is consistent with the Paris Agreement and Agenda 2030, which underscores the role of people and local communities in the achievement of their stated goals.

A robust, bottom-up approach which strengthens the voices of those at the frontline of the climate crisis – smallholder farmers, pastoralist communities, rural women, fisherfolk, forest communities, small and medium-sized enterprises (SMEs), people living with disabilities, the aged, etc. – who form the bedrock of PACJA membership, informs the Alliance’s interventions at all levels. In light of this, PACJA’s current strategic focus aims at building strong national/sub-national platforms with well-defined criteria which emphasises mandatory consideration of sectoral, language and territorial diversity in their membership and governance.

Currently, PACJA¹ is implementing a variety of projects that traverse direct programming, policy and advocacy, sub-granting and capacity building, mainly focusing on the most vulnerable groups which are “unreachable” in traditional development paradigms. The Alliance plays a central role in key African processes spearheaded by the African Union, United Nations Economic Commission for Africa (UNECA) and the African Development Bank (AfDB), among them, the flagship Climate for Development in Africa (ClimDev) Programme.

The Alliance also supports several governments through its national platforms, in addition to other key stakeholders such as media, parliamentarians and sector-based networks through targeted and dedicated initiatives tailor-made for respective thematic areas. PACJA is successfully implementing a 10-country sub-grant project supported by the World Bank’s Forest Carbon Partnership Facility (FCPF), which aims to build the capacity of forest communities on Reducing Emissions from Forest Degradation and Deforestation in Developing Countries (REDD+). The Government of Sweden through the Swedish International Development Agency (Sida) supports a sub-grant scheme aimed at catalysing local action and building sustainable networks for resilience-building and adaptation to climate change impacts.

Other key sectoral and thematic initiatives catalysed, facilitated and supported by PACJA include: the African Coalition for Sustainable Energy and Access (ACSEA); United Cities and Local Government Africa (UCLG-Africa) Taskforce on Climate Change; African Climate Legislation Initiative (ACLI); the African Climate Change and Environmental Reporting Awards (ACCER) and the Pan African Media Alliance on Climate Change (PAMACC). The Alliance works with like-minded partners to nurture initiatives such as the Penta-goal Consortium on Agenda 2030, the Racial and Climate Justice Collaborative, the Horn of Africa Working Group on Climate Security as well as the African Working Group on Gender and Climate Change (AWGGCC).

The Alliance has forged collaborations with governmental and non-governmental partners in both the global North and South to establish initiatives to advance their shared vision in international development discourses, and particularly in the implementation of the Paris Agreement, Agenda 2063 and Agenda 2030.

To support its activities, PACJA’s main financial funding is provided by the Government of Sweden through Sida. Other partners, such as the World Bank, German’s GIZ and UK’s

¹ <https://www.pacja.org/about.php>

Department for International Development (DFID) support specific projects and initiatives directly or through intermediaries. Oxfam International, Christian Aid, Trocaire, Open Society Foundations, Diakonia, and SNV also work with PACJA in specific sector-based projects, campaigns and initiatives at sub-national, national and regional levels.

PACJA's visibility and transformational story in Africa rest on its theory of change, premised on the belief that the realisation of environmental and climate justice – and the relevant human rights provisions that such justice affirms – will only be achieved if governments recognise these rights to justice and respond with necessary policies, resources and actions to meet the needs and aspirations of their citizens with respect to environmental threats and opportunities.

The capacity of citizens to articulate such needs and aspirations, and their access to decision-making processes, is too often constrained by lack of knowledge and restrictive government procedures and modalities. Effective community participation and intervention can bridge these constraints by amplifying the voice of citizens to their governments.

1.3 The UNFCCC and the Paris Agreement

The UNFCCC entered into force on 21 March 1994. Today, it has near-universal membership. The 197 countries that have ratified the Convention are called Parties to the Convention. The UNFCCC is a “Rio Convention”, one of three adopted at the “Rio Earth Summit” in 1992. Its sister Rio Conventions are the UN Convention on Biological Diversity and the Convention to Combat Desertification. The three are intrinsically linked. It is in this context that the Joint Liaison Group was set up to boost cooperation among the three Conventions, with the ultimate aim of developing synergies in their activities on issues of mutual concern. It now also incorporates the Ramsar Convention on Wetlands. Preventing “dangerous” human interference with the climate system is the ultimate aim of the UNFCCC.

The Paris Agreement builds upon the Convention and for the first time brings all nations into a common cause to undertake ambitious efforts to combat climate change and adapt to its effects, with enhanced support to assist developing countries to do so. As such, it charts a new course in the global climate effort. The Paris Agreement² central aim is to strengthen the global response to the threat of climate change by keeping a global temperature rise this century well below 2 degrees Celsius above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius. Additionally, the agreement aims to strengthen the ability of countries to deal with the impacts of climate change. To reach these ambitious goals, appropriate financial flows, a new technology framework and an enhanced capacity-building framework need to be put in place, thus supporting action by developing countries and the most vulnerable countries, in line with their national development objectives. The Agreement also provides for enhanced transparency of action and support through a more robust transparency framework. To this date, of 197 Parties to the Convention, 187 have ratified the Agreement.

The Paris Agreement requires all Parties to put forward their best efforts through “nationally determined contributions” (NDCs) and to strengthen these efforts in the years ahead. This includes requirements that all Parties report regularly on their emissions and their implementation efforts.

² <https://unfccc.int/resource/bigpicture/#content-the-paris-agreemen>

There will also be a global stocktake every 5 years to assess the collective progress towards achieving the purpose of the Agreement and to inform further individual actions by Parties.

The Paris Agreement opened for signatures on 22 April 2016 – Earth Day – at UN Headquarters in New York. It entered into force on 4 November 2016, 30 days after the so-called “double threshold” (ratification by 55 countries that account for at least 55% of global emissions) had been met. Since then, more countries have ratified and continue to ratify the Agreement. As of 2019, 183 nations and the European Union had ratified the Paris Agreement.

To make the Paris Agreement fully operational, a work programme was launched in Paris to develop modalities, procedures and guidelines on a broad array of issues. Since 2016, Parties work together in the subsidiary bodies (APA, SBSTA and SBI) and various constituted bodies. The Conference of the Parties serving as the meeting of the Parties to the Paris Agreement (CMA) met for the first time during COP 22 in Marrakesh, Morocco (in November 2016) and adopted its first two decisions. The work programme was expected to be completed by 2018 to pave way for implementation in 2020.

1.4 NDCs

NDCs are at the heart of the Paris Agreement and the achievement of these long-term goals. NDCs embody efforts by each country to reduce national emissions and adapt to the impacts of climate change. The Paris Agreement (Article 4, paragraph 2) requires each Party to prepare, communicate and maintain successive NDCs that it intends to achieve. Parties shall pursue domestic mitigation measures, to achieve the objectives of such contributions.

The Paris Agreement requests each country to outline and communicate their post-2020 climate actions, known as their NDCs. Together, these climate actions determine whether the world achieves the long-term goals of the Paris Agreement and to reach global peaking of GHG emissions as soon as possible and to undertake rapid reductions thereafter in accordance with the best available science, to achieve a balance between anthropogenic emissions by sources and removals by sinks of GHGs in the second half of this century. It is understood that the peaking of emissions will take longer for developing country Parties and that emission reductions are undertaken based on equity, and in the context of sustainable development and efforts to eradicate poverty, which are critical development priorities for many developing countries.

Each climate plan reflects the country’s ambition for reducing emissions, considering its domestic circumstances and capabilities. Guidance on NDCs was negotiated under the *Ad Hoc* Working Group on the Paris Agreement (APA), Agenda item 3.

This report critically analyses the interactions of political and economic processes within each of the countries on climate change mitigation and adaptation; the distribution of power and wealth between the different governmental and non-governmental groups and individual stakeholders, and; the dynamics/processes that create, sustain, and transfer such processes over time. The study takes cognisance of the fact that the Paris Agreement and its attendant driving tool - the NDCs is critical in Africa’s climate governance landscape and that it will involve looking at structures, institutions, and actors/stakeholders in the formulation, implementation, and, measuring, reporting and verification (MRV) of each of the country’s NDCs.

CHAPTER TWO

2. REVIEW OF IMPLEMENTATION OF NDCs

2.1 Background

The adoption of the Paris Agreement and the endorsement of the Agenda 2030 in 2015 signified a new trend of nations working together towards common global goals. Remarkably, most countries have submitted their NDCs to the UNFCCC. While this trend of global agreements on climate change is encouraging, the achievement of the Paris Agreement is not guaranteed. The Inter-governmental Panel on Climate Change (IPCC) 2018 Special Report on 1.5 degrees Celsius makes it clear that the Paris Agreement voluntary commitments cannot limit warming to even 2 degrees Celsius. Moreover, global warming is likely to reach 1.5 degrees Celsius between 2030 and 2052. To limit this warming at 1.5 degrees Celsius, carbon emissions will have to be reduced by 45% by 2030 from 2010 levels and reach net-zero by 2050. This means that to overcome this ‘adversity’ of our time, climate change, countries will not only endeavour to stay true to their NDCs commitments, but they will also need to keep raising the bar over time. At the moment, what matters most is transforming the commitments on paper to actions on the ground, and to ensure that those commitments can be enhanced to allow the global community to limit warming and strengthen resilience in line with the goals set by the Paris Agreement.

During the UNFCCC-COP 22 in Marrakesh, a coalition of countries and institutions working together launched the NDCs Partnership to mobilise support and achieve ambitious climate goals while enhancing sustainable development. The Partnership, co-chaired by Germany and Morocco, has completed its first year of activity, including establishing a Steering Committee, comprising of eight countries and three international institutions, in addition to the two co-chairs. The Steering Committee has met severally to guide decisions on strategy and structure for the Partnership, as well as discuss the progress. These partners work to ensure countries have access to the technical assistance, knowledge, and financial support they need to implement their NDCs - turning goals into action. The Partnership seeks to enhance cooperation to build in-country capacity through coordinated support from its members. Collectively, the Partnership also seeks to transfer knowledge and learning from individual successes globally to accelerate transformation across countries. Through creating a global community committed to NDCs implementation, the NDCs Partnership seeks to catalyse greater collective movement and therefore global impact.

2.2 Implementation of NDCs in Sub-Saharan Africa

With the successful adoption of the Paris Agreement, countries began planning for implementation of their NDCs pre-implementation period. It should be noted that countries are at different stages in developing plans or strategies that will guide national implementation of their NDCs. A survey conducted by United Nations Development Programme (UNDP)³ found that more than two-thirds of the responding countries have either not yet started with planning for NDCs implementation (34%) or are in initial consultations with stakeholders (33%). Technical support for NDCs planning and readiness will, therefore, be crucial over the coming years in order to achieve their successful implementation. In most cases, countries’ NDCs planning and implementation will build on existing climate change-related plans and strategies. The survey found that over two-

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https://www.undp.org/content/dam/undp/library/Climate%20and%20Disaster%20Resilience/Climate%20Change/Developing%20Country%20Support%20Needs%20for%20NDCs_Survey%20Analysis.pdf

thirds (71%) of responding countries have already developed a national climate change strategy or plan; nearly half (47%) of the countries have a National Adaptation Plan; more than a third (34%) have developed sectoral mitigation plans; 40% have Low Emission Development Strategies (LEDS); and 48% have other plans or strategies that will contribute to NDCs implementation (e.g., national development plans, sectoral adaptation plans, climate change laws, energy policies, etc.). These plans and strategies will play a key role in national efforts to translate NDCs into concrete actions.

CHAPTER THREE

3. APPROACH TO THE STUDY

3.1 Overview

3.1.1 Purpose of the Study

This study aimed at developing an NDCII and supporting data collection tools to monitor the implementation of NDCs in Africa in compliance with the Paris Agreement. This required in-depth understanding of the political economy of African Countries concerning NDCs and climate governance, stakeholder analysis of actors and, institutions involved in the development and implementation of the NDCs, and; climate governance, mapping of suitable tools, methods and indicators that exist and are in use in Africa to improve accountability. The study culminated in the development of accountability mechanisms that will be used to track the implementation of NDCs by countries in Africa.

This study further critically analysed: the interactions of political and economic processes within each of the selected countries on climate change mitigation and adaptation; the distribution of power and wealth between the different governmental and non-governmental groups and individual stakeholders; and the dynamics and/or processes that create, sustain, and transfer such processes over time. The study took cognisance of the fact that the Paris Agreement and the NDCs are critical in Africa's climate governance landscape, and this involves considering structures, institutions, and actors/stakeholders in the formulation, implementation, and MRV of each of the country's NDCs. The study team was equally alive to the fact that the critical aspect teased out is that NDCs must be driven by MRV methodology, which implies that all countries signatory to the Paris Agreement should strive to adopt the MRV methodology across the critical sectors captured in their respective NDCs.

3.1.2 Research Questions

To attain the desired goal/purpose, the study strove to answer the following key results-oriented questions:

- i. To what extent have the evidence-based narratives, policy analyses and advice influenced the national, sub-regional, and regional post-Paris climate change dialogues and policies?
- ii. What is the capacity of PACJA and its organs to effectively engage in post-Paris dialogues and response strategies related to the SDGs?
- iii. To what extent have the African Civil Society Organisations (CSOs) been empowered to hold their governments accountable on the domestication of the UNFCCC agreements and decisions?
- iv. What is the extent and depth of participation influence on states by African CSOs on post-Paris climate change dialogues in the context of the SDGs? and;
- v. To what extent has the public's awareness been raised and African CSOs mobilised and empowered to engage in post-Paris climate change dialogues and response strategies in the context of the SDGs?
- vi. What is the extent of availability and quality of quantitative data sets necessary for tracking implementation of NDCs in Africa?
- vii. Which Country-specific sub-indicators for developing accountability mechanisms to be used in tracking the implementation of NDCs exist in each of the eight select countries of Africa?

- viii. What causal chains of the interventions are entailed in tracking the implementation of NDCs in Africa?
- ix. Which other relevant activities that might affect effectiveness in future tracking of NDC implementation exist in Africa?

3.1.3 Inception Period

To determine how to best address the above assignment questions, a series of inception activities were undertaken. These included:

- i. Extensive study and review of relevant and available documents and data regarding the development of the NDCII;
- ii. Assessment of the availability and quality of quantitative data sets for tracking implementation of NDCs in Africa;
- iii. Detailed identification of country-specific sub-indicators for developing accountability mechanisms to be used in tracking the implementation of NDCs in eight select countries of Africa;
- iv. Mapping of the causal chain of the interventions entailed in tracking the implementation of NDCs in Africa;
- v. Preliminary identification of other relevant activities that might affect effectiveness in future tracking of NDCs implementation in Africa;
- vi. Further development of field data collection tools derived from the Terms of Reference (ToR);
- vii. Specification of indicators and corresponding components of data collection instruments;
- viii. Development of draft guidelines for interviews with key informants and focus groups;
- ix. Meetings and consultation with various key stakeholders in NDCs tracking in Africa and other development partners;
- x. Study team meetings in Nairobi to review available data, develop options for quantitative and qualitative data collection and analysis, and final drafting of the inception report.

3.2 Methodology and Approaches

The following data collection procedures were adopted in the course of undertaking this study:

3.2.1 Desk Study

An in-depth review of existing literature on the Paris Agreement, NDCs and existing tools and mechanisms for accountability in governments was conducted. The documents that were reviewed included:

- i. The Paris Agreement, UNFCCC, SDGs, AU Charter, Agenda 2063, Malabo Business plan 2012, and UNECA documents, among others;
- ii. Charters and climate change response policies and strategies of Regional Economic Communities (RECs) including Economic Commission for West African Countries (ECOWAS), East African Community (EAC), Southern African Development Cooperation (SADC), and Inter-Governmental Authority on Drought (IGAD) among others;
- iii. The respective national policies and laws on climate change, NDCs and National Climate Change Action Plans (NCCAPs), policies and other instruments as well as the national policies on green growth among others;
- iv. The national development plans to establish the status of mainstreaming of the NDCs and

- SDGs in the plans;
- v. Grey literature on existing monitoring, review and reporting/verification structures and processes on climate actions (It was critical to establish the processes of measuring the levels and establishing alignment to required standards);
- vi. Relevant sectoral policies, laws, and regulations in the sectors; and
- vii. Existing tools/mechanisms and institutional arrangements in different countries that facilitate NDCs implementation.

The documents reviewed provided information on the quantitative and qualitative data that were to be used for the development of the NDCII and tracking tools. Some of the information generated included:

- i. Various standards and indicators for measuring NDCs compliance in different countries based on the Paris agreement;
- ii. Existing monitoring and evaluation processes including tools and key reports on the indicators identified in the NDCs;
- iii. Institutional arrangements - Main actors, their roles, the contexts and linkages;
- iv. Reporting frameworks and requirements including structures and information management technologies;
- v. Policy and legislative opportunities and constraints for monitoring and evaluation and information management among others; and
- vi. Existing gaps in the establishment and administration of the tools and access to information.

3.2.2 Key Informant Interviews

Key informants that were interviewed included relevant staff of selected government ministries (central and devolved units) in key sectors, private sector players, selected NGOs and CSOs as well as some journalists, to capture enough data as well as build on the political economy study:

- *Central/Local government level interviews:* Involved representatives of relevant central government agencies in the sectors hosting selected projects, associated state agencies and development partners. The interviews led to the identification of key policies and legislations, key indicators, existing monitoring and evaluation frameworks including data collection tools and plans, reporting and information dissemination plans and, key challenges and opportunities.
- *Private sector players including NGOs, media, and consumer and producer groups:* The interviews sought to highlight existing laws, challenges and opportunities in the implementation of the NDCs, roles and responsibilities, accountability mechanisms and overall perception on effectiveness and possible improvements.
- *CSOs:* The interviews sought to identify relevant information on the NDCs, the status of access to that information, as well as challenges, opportunities and available capacity (technology, financial and human resources).

3.2.3 Focus Group Discussions

Focus Group Discussions (FGDs) were organised in each of the target countries where 10-12 key people representing the stakeholders were invited to triangulate information gathered via desk studies and Key Informant Interviews. It is during these discussions that expert opinions were

presented and information and data validated. The PACJA national platforms organised and conducted (in some countries) these FGDs in the eight countries.

3.2.4 Stakeholder Validation Workshop

A stakeholder workshop was organised to validate the NDCII, the accountability tracking tools, and the political economy report that were generated from this study. This workshop-cum-training workshop was held in Durban, South Africa at the sidelines of the African Ministerial Conference on the Environment (AMCEN). Further to that, a virtual validation through a webinar was also conducted to get further inputs from stakeholders before finalization. Comments and inputs from the workshop were synthesised and integrated into the final tool prior to piloting in the selected eight (8) countries.

3.3 Key Activities and Deliverables

The following are the key activities and deliverables as provided in the Terms of Reference (ToRs).

Key deliverables	Key Performance Indicators (KPIs)
1. Defining and delineating the scope of the NDCII including measures that will be used and dimensions that will be covered.	The ability to track the NDCs performance indicators horizontally and vertically in a linear form.
2. Developing the number and type of NDCs implementation indicators both qualitative and quantitative as required.	The NDCs of the eight countries under study (Kenya, Botswana, Zambia, Tanzania, Ethiopia, Gabon, Cote d'Ivoire and Nigeria) were looked at and a comparative analysis done.
3. Ensure that the indicators are aligned as much as possible with the Paris Agreement goals of mitigation and adaptation.	<ul style="list-style-type: none"> ▪ Governance (institutional responsibilities); ▪ Mitigation (BAU vision and targets, mitigation measures); ▪ Adaptation (Vulnerability and impacts, adaptation measures); ▪ Financing (Financial needs and sources, 'Lighthouse' projects); and ▪ MRV (NDC implementation framework, sector-level framework, monitoring plan) are in line with the Paris Agreement goals of mitigation and adaptation.
4. Development of an award and weighting criteria for the indicators	<ul style="list-style-type: none"> ▪ An award and weighting criteria for the indicators here is an assessment tool which was used to give weight, for instance, percentage weight of 0-100. ▪ The five NDCs components were analysed and indicators teased out in order to assess the performance of the eight countries' NDC types. ▪ It is the indicators that will determine the levels of each country's NDCs performance in comparison to one another.
5. Identify and clarify the target group for the NDCII (Supply-side, demand-side or a mix of both)/Identify sources of data; The target groups for the NDCs Implementation index	<ul style="list-style-type: none"> ▪ The supply side (the government) and the demand side (Non-state actors such as private sector and civil society, and other relevant stakeholders such as development partners involved in training and capacity building) were keenly studied.

	<ul style="list-style-type: none"> ▪ Different sources of data were also explored.
6. Development of a guide on the presentation and interpretation of the scores and findings	A guide for the presentation and interpretation of scores was designed
7. Advise on how findings on the index will be analysed and visualised to inform and guide policy	<ul style="list-style-type: none"> ▪ The eight countries were assigned scores for the five indicators in their NDCs types based on their performance targets. ▪ It is on this premise that the findings, analysis and interpretation were to advise government policy drive that will ensure improved future climate action and reporting obligation to the UNFCCC.
8. Propose how the index can be hosted online	The Index can be hosted on a separate website online or on PACJAs website.
9. Conduct a detailed political economy analysis of African NDCs against the current African climate governance landscape	<ul style="list-style-type: none"> ▪ The power and wealth between the different governmental and non-governmental group and individual stakeholders; and the dynamics/ TOR requires critical analysis of the interaction of political and economic processes within each of the eight countries on climate change mitigation and adaptation; the distribution processes that create, sustain and transform these relationships over time. ▪ The Paris Agreement and its attendant driving tool- the NDC is set to reposition Africa in climate governance landscape. ▪ It involved looking at the interaction between structures, institutions and actors (stakeholders), in the formulation, implementation and MRV of each countries NDCs. ▪ Critical aspects were extracted e.g. the NDC which must be driven by the MRV. In other words, all countries signatory to the Paris Agreement must strive to develop and implement MRV methodology compliant across the critical sectors as captured in their respective NDCs.
10. Map an outline of suitable tools and methods that exist and maybe in use in Africa or outside Africa with regards to improved accountability of public institutions and relevant to NDCs	Different tools used internationally were studied that could provide a system that can be used in Africa to improve accountability and transparency
11. Develop requisite customized tools for collecting data and feeding it into the NDC implementation Index	<p>The customized tools for collecting and feeding it into the NDC implementation index are:</p> <ul style="list-style-type: none"> ▪ The IPCC tools for GHG, especially the 2006 IPCC version 2.54 for mitigation; ▪ The MRV tool to measure adaptation because we collate social data such as vulnerability assessment, alternative livelihood, population dynamics etc. in line with the MRV system. It is unique in its approach to all the sectors - Energy, Industrial Process and Product Use (IPPU), Finance, Governance etc.

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- MRV Report goes to National Communication (NC), BURs and International Consultative Assembly (ICA)
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CHAPTER FOUR

4. KEY FINDINGS, DISCUSSIONS, TRACKING NDCs PROGRESS

4.1 Climate Change Adaptation and Mitigation

(i) Overview of Climate Change Adaptation Actions

Adaptation is the process of adjusting to the impacts of the changing climate, seeking to moderate or avoid harm or exploit beneficial opportunities. This module explains how countries can implement the adaptation component of their NDCs. For many African countries, adaptation is the priority in their NDCs because they are already experiencing devastating climate impacts. This is particularly the case for small island developing states (SIDS) and least developed countries (LDCs). Adapting to climate change is a long-term and cyclical process, and countries need to be flexible in order to respond to new evidence on vulnerability and their experiences of the impacts of a changing climate. Many countries have highlighted in their NDCs that international support will be needed to enable adaptation goals to be achieved, including finance, capacity-building and technology transfer for specific sectors. Given the inherent synergies between adaptation and other development goals, NDC implementation can contribute to nearly all of the SDGs, especially those on health and well-being (SDG 3), clean water and sanitation (SDG 6) and ecosystems and biodiversity (SDG 15). Gender-sensitive approaches to adaptation can redress inequalities and ensure that women are engaged at all levels. The UNFCCC's National Adaptation Plan (NAP) process provides a country-driven, comprehensive approach to adaptation planning and implementation. The UNFCCC's National Adaptation Plan process can be used by countries to implement the adaptation component of their NDCs. The process has the following objectives:

- a. to reduce vulnerability to the impacts of climate change, by building adaptive capacity and resilience
- b. to facilitate the integration of climate change adaptation into relevant new and existing policies, programmes and activities (in particular development planning processes and strategies) for all relevant sectors and at different levels.

The National Adaptation Plan process Technical Guidelines were drawn up by the UNFCCC's Least Developed Countries Expert Group. The guidelines describe four elements of the process:

- Lay the groundwork and address gaps
- Preparatory elements
- Implementation strategies
- Reporting, monitoring and review

An accompanying report sets out country experiences as best practices and lessons learned in addressing adaptation in LDCs. The guidelines are clear that “the [National Adaptation Plan] process is designed to be flexible and non-prescriptive, hence countries may apply the suggested steps based on their circumstances, choosing those steps that add value to their planning process and sequencing [National Adaptation Plan] activities based on their needs to support their decision-making on adaptation”. In addition, “the individual activities are not intended to be followed consecutively or completely.” This is an appropriate process for achieving the adaptation goals contained in countries' NDCs. If a country's NDC sets out *what* adaptation outcomes it is aiming for, then the National Adaptation Plan process details *how* to achieve these through the iterative planning, mainstreaming and stakeholder engagement processes required for effective adaptation.

In the context of the Paris Agreement, it is clearly stated that “*Parties hereby establish the global goal on adaptation of enhancing adaptive capacity, strengthening resilience and reducing vulnerability to climate change, with a view to contributing to sustainable development and ensuring an adequate adaptation response in the context of the temperature goal referred to in Article 2.*” – **Article 7.1, Paris Agreement.**

Article 7 of the Paris Agreement sets out a global goal and recognizes the varying scales of adaptation, from global to local (Article 7.2). It further states that adaptation plans (Article 7.9), with prioritised adaptation actions (Article 7.9.c) should be communicated periodically by parties (Articles 7.10, 7.11 and 7.12). The co-benefits of mitigation and adaptation actions are also acknowledged (Article 4.7).

Adaptation to the adverse impacts of climate change is urgent and indispensable to safeguard development gains and to address the needs of the poor and the vulnerable. Healthy systems that are resilient to disruptions, shocks, and stressors are critical in achieving not only environmental benefits but also serve as a foundation for economic and human development. Climate resilience is a key component of any healthy system, particularly in vulnerable countries that depend heavily on climate-sensitive natural resources and traditional agricultural practices for subsistence and livelihoods. Least developed countries in Africa are among the most vulnerable to climate change, yet the least able to adapt. In many cases, they lack the technical, financial and institutional capacity to identify the best ways to build resilience. With around US\$1.3 billion⁴ of voluntary contributions from donors, the Global Environment Facility Least Developed Countries Fund (GEF-LDCF) holds the largest portfolio of adaptation projects in the Least Developed Countries. With a renewed focus on implementation, the LDCF builds on its track record of leaving no one behind. But environmental and climate threats are growing on a global scale. There is a significant overlap of countries which are characterized as fragile, or conflict-affected, and those categorized as Least Developed Countries (LDCs). Given this, addressing fragility is especially important to the LDCF, which has provided and will continue to provide financing for the urgent and long-term adaptation needs of these countries.

National- and local-level policy frameworks and plans are required, supported by adequate resources. In particular, emergency incident response plans are needed for events such as heat waves, wildfires, floods, extreme water scarcity and infectious disease outbreaks (Pearce et al. 2018). These response plans set out the procedures to follow in the case of such events and the responsibilities of different actors. Secondly, communication is a key component of adaptation strategies, targeting a wide range of audiences, and using social and other media. Long-term communications strategies, such as “Heat education” campaigns, can raise awareness of the health risks of heat waves, and help prepare individuals and communities to self-manage their responses to increased heat (WHO 2015). Then, more short-term response communication is needed when an actual extreme weather event is forecast, making the public aware of an impending period of risk and what steps are needed to ameliorate that risk. Thirdly, the effectiveness of adaptation interventions rests on the strength of data systems and surveillance. Aside from providing warnings of extreme weather events, heightened surveillance is required of diseases associated

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<https://www.undp.org/content/dam/undp/library/Climate%20and%20Disaster%20Resilience/Climate%20Change/CA-Africa-Final.pdf>

with environmental factors, together with concerted efforts to systematically document the effectiveness of adaptation responses and to identify opportunities for improving services.

(ii) Overview of Climate Change Mitigation Actions

While it is recognised that adaptation is a priority for many developing countries, they will also need to show progress in reducing greenhouse gas emissions. Mitigation actions can deliver not only emissions reductions but also wider co-benefits in relation to climate change adaptation, development, employment, energy security and public health. These co-benefits can contribute to achieving a number of SDGs, in particular those on affordable and clean energy (SDG 7), sustainable cities and communities (SDG 11) and responsible consumption and production (SDG 12). Explicitly setting out the co-benefits of a low emission development approach can increase stakeholder buy-in and support the prioritisation of mitigation activities. Also, mainstreaming gender equality in mitigation policy design and implementation delivers well-planned and inclusive initiatives that produce improved results. NDCs can contain a range of different mitigation contributions. Many NDCs have quantified goals to reduce greenhouse gases (outcome-based goals), while others qualitatively set out specific mitigation actions (action-based goals). In some NDCs, both outcome-based and action-based goals are included. Outcome-based reduction goals can cover discrete sectors or be economy-wide, and can take a range of forms, including absolute reduction targets; reductions in relation to a base year or future projected business-as-usual emissions; and greenhouse gas intensity targets, for example, emissions relative to gross GDP. In addition, many NDCs contain not only an unconditional contribution but also a conditional contribution, which is contingent on the receipt of international support (or other conditions). *“In order to achieve the long-term temperature goal set out in Article 2, Parties aim to reach global peaking of greenhouse gas emissions as soon as possible, recognizing that peaking will take longer for developing country Parties, and to undertake rapid reductions thereafter in accordance with best available science, so as to achieve a balance between anthropogenic emissions by sources and removals by sinks of greenhouse gases in the second half of this century.”* – **Article 4.1, Paris Agreement.**

The Paris Agreement establishes the global goal of keeping warming well below a 2°C increase and calls for efforts to limit this increase to 1.5°C (Article 2). Low carbon economies will be built upon the foundation of NDCs (Article 4.2), with each new submission every five years representing a progression on the last to reflect the highest possible ambition from each country (Article 4.3). Greenhouse gas inventories are central to tracking progress in reducing emissions, with each country required to regularly produce a national inventory report (Article 13.7.a). Developing countries are encouraged to move, over time, towards economy-wide emissions reduction targets (Article 4.4) and all countries are invited to communicate, by 2020, long-term low-emission development strategies (Decision P.36).

4.1.2 Country-Specific Analysis of Mitigation and Adaptation Linked Activities

4.1.2.1 Cote d’Ivoire

The Land Use, Land Use Change and Forestry (LULUCF) Sector is at the Heart of Cote d’Ivoire’s National Policy on GHG emissions mitigation. Cote d’Ivoire has been a member of the REDD+ international organisation since 2011⁵. Côte d’Ivoire aims to reduce deforestation and deterioration of listed forests, and to win back 80% of protected zones compared to 2015 levels,

⁵ https://www.climate-chance.org/wp-content/uploads/2019/03/en_fp17-utcatf-cote-divoire_def.pdf

which equals a reduction of 74,400 ha per year. REDD+ is also seeking to reconstitute the country's forest cover through agroforestry practices, by planting 5,000,000 hectares by 2030 (REDD+ Côte d'Ivoire, 2017). The country also entered into a Voluntary Partnership Agreement for Forest Law Enforcement Governance and Trade (VPA-FLEGT) with the European Union in 2013, with the objective of effectively combating illegal logging and timber production and associated trading operations. In 2014, Ivory Coast signed up to the New York Declaration on Forests (NYDF), which aims to end deforestation by 2030. The objectives of the NYDF include the ambition to eliminate deforestation caused by supply chains in the agricultural industry and other economic sectors. During the 2014 World Climate Summit at the UN, Ivory Coast committed to transitioning towards zero-deforestation agriculture from 2017 onwards. This type of agriculture is more productive in terms of rural real estate, preserving parks and reserves, listed forests, and forests with special characteristics, as well as contributing to the restoration of forest cover in order to partially compensate for previous deforestation. It is also more resilient to the impacts of climate change, and respects the rights of local communities while also improving their sources of livelihood.

In all these commitments, a major focus has been the necessity of improving forest governance in Ivory Coast, as thus far none of the country's existing forest policies have been correctly applied. In 1988, the Ivorian government adopted a Forestry Master Plan (PDF) for the 1988 to 2015 period. Observing that the plan was failing, in 1999 the government adopted the Forest Policy Declaration, which was not applied due to the socio-political crisis (REDD+ Côte d'Ivoire, 2017). In 2014, a new forestry code was adopted, but so far this has also not been applied (APA, 2018). Given the catastrophic effect these failings have had on the nation's forest cover, a new national policy for the preservation, recovery and extension of forests was introduced by the government in May 2018. Based around realistic voluntary commitments, it has four objectives namely: preservation of biodiversity, preservation and reconstitution of a national climate favourable to agricultural activity and living spaces; compliance with international commitments, and economic and social development. In this new forestry policy, four of the six key strategic topics involve listed forests. They also introduce the concept of Agro-forests, which refers to listed forest zones in which agroforestry may be practiced (Ministry of Waterways and Forests, 2018).

The Central Role of REDD+

The REDD+ organisation plays a central role in the implementation of the national strategy to combat climate change in Ivory Coast. Its ambition is to stabilize and sustainably reverse the trend of natural forest disappearance from 2017 onwards, and to simultaneously restore 20% of forest cover by 2030. The next stage involved managing these forests in a sustainable fashion, while also achieving its goals in terms of poverty reduction, human and social development in local communities (social equality), culture and gender equality. Following the completion of the preparatory phase, during which the country developed its REDD+ strategy in partnership with public bodies, the private sector and organizations from civil society, REDD+ Côte d'Ivoire is now in its second phase: strategy implementation. According to REDD+ Côte d'Ivoire (2017), this strategy is based on an approach that is integrated, landscape-orientated, multi-sectoral, transparent, robust, participative and inclusive, in order to make the strategy as efficient as possible. As a result, NSAs will play a significant role in the implementation of this national strategy.

Policy Development Stakeholders

The key policy development stakeholders in the realm of climate change adaptation and mitigation include the following:

- **Ministry of Water and Forests (MINEF):** responsible for overseeing the management of the forest and water sectors and has a strong focus on reforestation.
- **Ministry of Environment, Urban Sanitation and Sustainable Development (MINESUDD):** responsible for the implementation and monitoring of government policy on environmental protection, urban safety, improving the quality of life and sustainable development.
- **Ministry of Mines, Petroleum and Energy:** responsible for the implementation and monitoring of government policy on mining, petroleum and energy.
- **Ministry of Economy and Finance:** responsible for financial management of the public sector, with a focus on poverty reduction and growth.

Government Policy Implementation Stakeholders include and not limited to:

- **Society for the Development of Forests in Côte d'Ivoire (SODEFOR):** a state company whose mandate includes the evaluation and proposal of government measures aimed at ensuring the implementation of the development plans for forest production and related industries, either by direct intervention or by coordinating, directing and controlling the activities of various government agencies or private actors.
- **Ivorian Office of Parks and Reserves (OIPR):** a state entity charged with managing the country's national parks and nature reserves. OIPR is also in charge of promoting ecotourism and developing areas peripheral to the national parks and nature reserves.
- **National Petroleum Operations Company of Côte d'Ivoire (PETROCI):** has as its main objective the building an integrated and diversified oil economy, optimizing research efforts and exploiting hydrocarbon resources.
- **National Environmental Agency (ANDE):** has the main objective of execution of environmental programmes and projects in Côte d'Ivoire. ANDE coordinates the implementation of environmental development projects and the inclusion of environmental concerns into development projects and programmes. ANDE implements the procedures for impact assessment and also the assessment of the environmental impact of macroeconomic policies.
- **National Office for Technical Studies and Development (BNETD):** aims to assist in the development of Côte d'Ivoire through the provision of technical advice, conceptualization of studies, undertaking of studies of public interest and monitoring and quality control.
- **Forest Police:** has as its main mission the monitoring and control of state-owned forest areas, and those belonging to communities and individuals, as well as preventing illegal logging and forest destruction.

Academic and Research Institutions Policy Implementers

- **Institute of Renewable Energy, University of Nangui Abrogoua:** focuses on conducting project-based renewable energy and energy efficiency research.
- **National Agronomic Research Centre:** conducts research, inter alia, on *Cashea siamea* (the kassod tree) and its use in charcoal production.
- **Centre for Development of Industrial Technology (CPTI):** conducts research on industrial equipment, including charcoal kilns.

Multilateral Institutions

United Nations Development Programme (UNDP): an active supporter of the energy and environment sector in Côte d'Ivoire. From 2009 to 2013, UNDP financed a project on management and sustainable protection of the environment. The project focused on three main objectives (UNDP, 2012):

- Developing/revising policies, mechanisms and legal instruments adapted to sustainable environmental management, and forest and water resources;
- Strengthening the partnership for the protection and sustainable management of the environment;
- Improving the understanding of the government, civil society and local communities of issues related to biotechnology, climate change, and natural and technological risks.

Activities in this project have included funding/co-funding to achieve the following:

- Revision of the Forestry Code;
- A sustainable development road map;
- A sustainable development indicator study.

UNDP is also involved in the following projects:

- A rural energy access study as part of the Sustainable Energy for All (SE4All) initiative;
- Small grant programmes for reforestation;
- Climate change adaptation in marine ecosystems;
- Small pilot briquette programmes with youth.

Policies, Regulations and Programmes in the Context of the NAMA

Côte d'Ivoire's vision for economic growth and poverty reduction is elaborated in the 2012-2015 National Development Plan. The country's goal, in the short term, is to reduce poverty rates significantly by 2015 and, in the longer term, to be an emerging country by 2020 (Republic of Côte d'Ivoire Ministry of Planning and Development, 2013). The National Development Plan, coupled with sector-specific strategies, provides the country's broader policy setting. The section below details Côte d'Ivoire's energy, environment, land and forestry policies, programmes and plans which are relevant to the NAMA.

Environment and Sustainable Development Environment Code

Law No. 96-766 of 3 October 1996 promulgated the Environment Code, setting the overarching regulatory framework for environmental issues in Côte d'Ivoire. The objectives of the Code are (Republic of Côte d'Ivoire, 1996):

- Protect the soil, subsoil, sites, landscapes and national monuments, vegetation, the flora and fauna, especially classified areas, national parks and existing reserves;
- Establish the basic principles for managing and protecting the environment against all forms of degradation to develop natural resources and to fight against all kinds of pollution and nuisances;
- Improve the living conditions of different types of people in respect of the balance with the surrounding environment;
- Create conditions for a rational and sustainable use of natural resources for present and future generations;
- Guarantee all citizens a framework for an environmentally healthy and balanced life;

- Ensure the restoration of the degraded environment.

National Environment Action Plan (PNAE-CI)

The National Environment Action Plan was put in place to provide a framework for environmental management for the period of 1996-2010. PNAE-CI recognizes that rapid deforestation is one of the main environmental problems in the country and that this is caused by: intensive agriculture and the use of slash-and-burn techniques; forest exploitation associated with mining; the extraction of wood for cooking purposes; population pressure; and illegal wood extraction in classified forests. The ten programmes of PNAE-CI are (Republic of Côte d'Ivoire Ministry of Environment and Tourism, 1995):

1. Development of sustainable agriculture;
2. Preservation of biodiversity;
3. Management of human settlements;
4. Management of the coastal zone;
5. Combating industrial pollution;
6. Integrated management of water;
7. Improvement of energy resources;
8. Research, education, training and awareness;
9. Management of integrated and coordinated environmental information;
10. Improvement of the institutional and regulatory framework.

Programme 7 includes production and diffusion of improved cookstoves, with a focus on the main cities of the country and charcoal sector support focusing on improved yields and professionalization of the sector. The actions of this component include: testing different techniques for improved carbonization, establishing programmes to apply improved techniques, training of trainers in efficient carbonization techniques and training of charcoal producers.

National Study on the Opportunities and Strategies for a Transition to a Green Economy in Côte d'Ivoire

The National Study on the Opportunities and Strategies for a Transition to a Green Economy in Côte d'Ivoire, or the Green Economy Roadmap, presents a comprehensive overview and plan of how Côte d'Ivoire can transition to a green economy. It provides an analysis of the strengths, weaknesses, threats and opportunities in sectors (i.e. agriculture, forestry, energy, industry and waste) that are required to create a green economy. The Road Map then presents two phases comprising a series of actions required to transition the country to a green economy. These actions are listed in Table 1 below.

Table 1: Phases and actions on the Roadmap to a Green Economy

Phase	Actions
1	a) Establishment of the Green Economy Inter-ministerial Steering Committee b) Consultation for updating of the national strategy for sustainable development and a green economy c) Development of a directory of stakeholders d) Gathering of best practices and business models e) Development of a directory of laws and regulations
2	a) Formalization of a national platform on the green economy

	b) Establishment of communities of practice c) Development of indicators and establishment of a system of monitoring and evaluation d) Organization of sectoral workshops (on taxation, environmental, sustainable procurement, etc.)
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Source: Republic of Côte d'Ivoire Ministry of Environment and Sustainable Development and United Nations (2012)

Cote d'Ivoire's Preparatory Work for Adaptation Plan and Implementation of Mitigation Policies include the following:

a) National Climate Change Programme (NCCP)

The NCCP aims to complete the following activities (Republic of Côte d'Ivoire, United Nations Framework Convention on Climate Change, United Nations Environment Programme, and Global Environment Facility, 2013):

- Complete a national greenhouse gas (GHG) emissions inventory by sector;
- Evaluate the vulnerability of different sectors to climatic change;
- Propose climate change mitigation measures;
- Propose measures for adapting to climatic change;
- Educate, train and raise awareness on climate change;
- Mobilize financial resources for the fight against climatic change.

The NCCP revolves around seven strategic objectives:

1. Promote the integration of climate change into policies and sectoral strategies as well as in the planning of development at the national level;
2. Improve knowledge about, the promotion of scientific research into, and the production and dissemination of information on climate change;
3. Develop and promote climate change mitigation activities (REDD+ and NAMA) in all sectors;
4. Strengthen and promote climate change adaptation activities;
5. Promote research and development at the national level and the transfer of technologies for climate change;
6. Prevent and manage the risk of natural disasters;
7. Promote and strengthen international cooperation and the mobilization of funding for the implementation of the NCCP.

Included under objective 4 are activities such as use of biochar and biomass, energy efficiency, reforestation and fighting deforestation.

b) Forestry Master Plan (1988-2015)

The Forestry Master Plan spans the years 1988-2015. The Plan has five major objectives (Republic of Côte d'Ivoire Ministry of Water and Forests, 1988):

- Maintain the productive exploitable potential of the Ivorian natural forest;
- Restore the forest cover, first by proceeding to the reforestation of woodland and savannah areas, and protect national parks;
- Develop and reforest the classified forests;
- Sustainably increase yields of forestry;
- Improve the processing and commercialization of forestry resources.

The Master Plan includes the following quantitative targets (Republic of Côte d'Ivoire Ministry of Water and Forests, 1988):

- Implement policies required to return to a level of log production of at least 4 million m³ a year;
- Manage 2.5 million ha of forest;

c) Agreement of Voluntary Partnership (APV), Forest Law Enforcement, Governance and Trade (FLEGT)

APV is a bilateral trade agreement between the European Union (EU) and Côte d'Ivoire, a producer and exporter of wood. The agreement aims to improve forest governance in the country and to ensure that timber and/or wood products imported into the EU meet all the regulatory requirements of Côte d'Ivoire (Côte d'Ivoire Ministry of Water and Forests, 2012c). FLEGT helps to enforce forest regulation in Côte d'Ivoire by legally committing Côte d'Ivoire and the EU to trade only timber products whose legality has been verified, using a system developed by Côte d'Ivoire as part of the APV.

d) Integrated Management of Protected Areas in Côte d'Ivoire

The Integrated Management of Protected Areas Project is a five-year (2012-2015) GEF project. The project was implemented by the Ivorian Office of Parks and Reserves, with co-ordination by the United Nations Environment Programme (UNEP). The project aims for five main outcomes (GEF, 2012):

- Improved management effectiveness in existing and new protected areas;
- Increased revenue for protected area systems to meet total expenditures required for their management;
- Increases in sustainably managed landscapes and seascapes that integrate biodiversity conservation;
- Increased resources to integrated natural resource management and other land uses from diverse sources;
- Good management practices in existing forests.

In order to achieve these outcomes, the project will result in the implementation of a number of activities such as:

- Modified sectoral policies at local/regional level (agriculture, non-timber forest products, wood fuel);
- Income-generating activities in the vicinity of Banco National Park; 3,000 ha of forest and non-forest ecosystems put under sustainable management.

e) United Nations Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries

Côte d'Ivoire became a partner country in the REDD+ programme in June 2011. In mid-2013, Côte d'Ivoire was selected as a priority country and the development of a Readiness Preparation Proposal (R-PP) proposal began. The proposal, developed by MINESUDD, was completed in November 2013. The REDD+ preparation project will run from June 2014 to December 2017 and is receiving funding from the Forest Carbon Partnership Facility, the UN REDD+ programme and the French Development Agency (AFD). The aim of the preparatory project is to implement enabling activities which will lead to a decrease in net greenhouse gas (GHG) emissions from forestry. The enabling activities include (FCPF and UN-REDD, 2013):

- The strengthening of national institutions to enable them to pilot REDD+ effectively;
- The formation of stakeholder groups, who will be informed and consulted on the strategy for the National REDD+;
- The clear identification of the underlying causes and direct drivers of pressure on forests;
- The establishment of institutional arrangements that will allow the national REDD+ strategy to be implemented;
- Completion of a study on socio-environmental impacts and the establishment of a functioning framework for ad hoc management;

Energy

Energy Strategic Development Plan 2011-2030

The four strategic areas of activity in the Energy Strategic Development plan are (Republic of Côte d'Ivoire, Ministry of Mines, Petroleum Resources and Energy, 2012):

1. Matching supply and demand for conventional electricity;
2. Sustainable energy through developing renewable and other new energy sources;
3. Institutional framework, capacity-building and organization;
4. Financial viability.

The Plan focus is on both on- and off-grid electricity generation, and envisages increasing the capacity of thermal energy, hydropower, energy from waste, biomass energy and solar energy.

Programme for Investment in Energy Access Services (PNIASE-CI)

The PNIASE-CI was established in 2012 and has three components (Republic of Côte d'Ivoire, Ministry of Mines, Petroleum Resources and Energy, 2012):

- Component 1: access to electricity;
- Component 2: access to modern cooking energy;
- Component 3: access to diesel energy.

The second component, access to modern cooking energy, comprises two activities. The first is to provide school kitchens with improved cookstoves which utilize butane, solar energy or biogas. Over the course of 2013-2015, 500 butane stoves will be installed, as well as 200 solar stoves and 50 biogas stoves. The second is to expand the use of improved cookstoves in rural areas, resulting in 550,000 improved cookstoves being distributed.

The Government of Côte d'Ivoire has recognized the need for action at national and sectoral levels to address and adapt to the impacts of climate change and has taken some initial steps in that direction. The "2015-2020 National Climate Change Programme" (Programme National Changement Climatique or PNCC), developed by the Ministry of Salubrity, Environment, and Sustainable Development, proposes mitigation and adaptation interventions. It highlights the importance of mainstreaming climate change into development planning. This is reiterated in the Intended Nationally Determined Contributions (INDC) submitted to the United Framework Convention on Climate Change in 2015, and the formulation of a National Adaptation Plan is mandated by Ivorian Law (2014-390).

To advance the NAP process, the government identified the following barriers to climate adaptation through a stocktaking exercise and stakeholders' consultations: roles and responsibilities on climate change adaptation are not clear within the government; technical capacities on adaptation planning and mainstreaming are limited; current data is insufficient to

conduct risk-informed adaptation planning; no monitoring, reporting, and verification system is in place for adaptation; no CCA-specific financial mobilization strategy exists; and the private sector's awareness of the risks and opportunities of climate change is limited.

Institutional Arrangement for CCA Coordination:

The **Ministry of Salubrity, Environment, and Sustainable Development** (*Ministère de la Salubrité, de l'Environnement et du Développement Durable* or *MINSEDD*) is the primary ministry in charge of climate change in the country and serves as the National Designated Authority to the Green Climate Fund (GCF). It is mandated to promote sustainable development, protect the environment, and respond to the country's development needs.

A **National Commission for Climate Change** (*Comité National Changements Climatiques*, or *CNCC*) chaired by the Prime Minister, has been created and is being operationalized. It will have a steering committee chaired by the Minister for the Environment, a Permanent Technical Secretariat (housed at MINSEDD), and four multi-stakeholder working groups. The CNCC will strive to bring together all the relevant stakeholders from the public sector, private sector, civil society, local authorities and local communities. It will be the main political coordinating body for climate change, including climate change adaptation, while the day-to-day management of these issues will be under the MINSEDD.

National Plans and Frameworks to Address Adaptation Action:

The 2015-2020 **National Climate Change Programme** (*Programme National Changement Climatique* or *PNCC*) developed by MINSEDD coordinates, proposes, and promotes measures and strategies to tackle climate change. It describes the main climate change projections for Côte d'Ivoire and the impacts on key sectors (agriculture, water resources, energy, biodiversity, health and coastal resources). It also highlights the need to develop a Climate Change Adaptation Plan and contains seven pillars:

- Promote climate change integration in sectoral policies and strategies and overall development planning, and strengthen the institutional and legal framework;
- Improve the national knowledge on climate change and strengthen the technical and human capacities of PNCC's stakeholders;
- Promote mitigation interventions in all sectors
- Strengthen and promote adaptation actions
- Promote research and development at national level and technology transfer on climate change
- Manage natural disaster risks;
- Strengthen international cooperation and mobilize resources to implement the PNCC.

Cote d'Ivoire's Pipeline Projects:

Readiness and Preparatory Support Proposal submitted to Green Climate Fund

The objective of the project is to strengthen Government of Côte d'Ivoire's (GoCI) capacity to integrate climate change adaptation into national and sectoral planning processes. It will assist the GoCI in preparing a framework for climate change adaptation ("NAP framework"), improving

domestic research and assessment capacity, and fostering the environment for private sector investment in CCA.

By building on existing development planning processes and institutions, the proposed project will seek to achieve its objective through the following outcomes:

1. The Institutional framework for CCA and national capabilities to develop a knowledge base are strengthened;
2. Adaptation priorities for the five most vulnerable sectors are presented in the NAP framework document, and integration into national and sectoral development planning is enhanced.
3. Sustainable financing mechanisms for CCA are strengthened, including through private sector engagement, innovation, and the identification of pilot projects.

The project will focus on five of the six highly vulnerable sectors (agriculture, water resources, land use, coastal resources, and health) while the sixth, forestry, will be covered under the REDD+ project.

The main beneficiaries of this project will be the Ministry of Salubrity, Environment and Sustainable Development (Ministère de la Salubrité, de l'Environnement et du Développement Durable or MINSEDD), the Ministry of Planning and Development, relevant Sectoral ministries, other targeted regional governance bodies, academic and research institutions, and the private sector. To ensure the sustainability of the project and the smooth implementation through both phases, the GoCI has committed additional financing of \$1.17 million through the Public Investment Programme (Programme d'Investissement Public or PIP).

In 2015, Côte d'Ivoire adopted its National Development Plan (***Plan National de Développement or PND***) for 2016 to 2020, with a total investment of approximately USD 5.3 billion, to reduce the poverty rate and support an emerging middle class. It calls for an increase in agricultural output, the promotion of the manufacturing sector, and improving the standard of living. It is centred on key development pillars such as: enhancing the quality of governance and institutions; accelerating the development of human capital and social welfare; accelerating the structural transformation of the economy through industrialization; developing infrastructure across the economy as a whole, while protecting the environment; and strengthening regional integration and international cooperation. The PND signals a commitment to managing impending climate risks while taking into consideration the lessons learned from its previous iteration. Through its fourth Strategic Area, "*Developing infrastructure across the economy as a whole, while protecting the environment*," the PND addresses the need to prevent coastal erosion and develop climate change adaptation capabilities.

The Ivorian Law 2014-390 provides a legal impetus for the development of a National Adaptation Plan, which is to be embedded within a larger integrated approach. In addition to other guidance on sustainable development, the law covers the following:

- Implementation modalities of national policy in the areas of climate change and sustainable development are determined by decree;
- Implementation of tools, principles, and objectives of sustainable development;
- The State shall develop and implement measures against climate change including a national strategy on climate change, national communications, a National Adaptation Plan, vulnerability assessments to climate change, and the inventory of greenhouse gas emissions.

Data and Information Basis for Climate-Related Decision-Making:

There are several national organizations focused on the gathering of climate information:

- **For land-based observation**, there is a network of stations, which are mostly managed by SODEXAM, the Agency for Aerial Navigation Safety in Africa & Madagascar (ASECNA) and the National Centre for Agricultural Research (CNRA). There were 141 stations across the country in the early 2000s. However, the coverage has substantially decreased due to the political crises and civil wars.
- **For water-based observation** i.e. for oceans and surface water, the oceanographic research center (CRO) was founded in 1960. Surface water supervision and observation are managed by Ivorian Anti-Pollution Centre (*Centre Ivoirien Antipollution* or *CIAPOL*), such as for rivers, lagoons and small running waters.
- **Other organizations involved** in climate information and studies are: MINSEDD, Lamto Ecology Station, Institute for Research on Renewable Energy (*L'Institut de Recherche en Energies Renouvelables* or IREN), CRO, National Environment Agency (*Agence Nationale de l'Environnement* or ANDE), Ivorian Society of Tropical Technology (*Société Ivoirienne de Technologie Tropicale* or I2T), and Center for the Demonstration and Promotion of Technology (CDT), etc.

Côte d'Ivoire has been improving national data generation and management on a continuous basis to support the preparation of national communications. This includes the establishment of national and sectoral focal points for data management and mechanisms for improving data sharing among institutions. Côte d'Ivoire submitted its **first National Communication** to the UNFCCC in 2000, recognizing its adaptation requirements. A second one was submitted in 2010, and the most recent and comprehensive yet, the Third Communication, was in 2017.

Cote d'Ivoire's Climate Financing

Ordinance No. 2012-487 of 7 June 2012 established the Investment Code. This Code aims to foster and promote green and socially-responsible investment in the country. It also encourages activities such as processing local raw materials, protecting the environment, improving the quality of life, and promoting a green economy (Republic of Côte d'Ivoire, 2012).

The Investment Code also provides details on topics such as:

- The guarantees given to investors;
- The obligations of investors;
- Incentive schemes for investments.

In 2015, a **24-month GCF Readiness proposal for USD 300,000 was approved**, with the *Centre de Suivi Ecologique du Senegal* as a delivery partner. This support aims to establish a *National Designated Authority* (to be identified) or Focal Point to the GCF and develop the strategic framework for engagement with the fund, including the preparation of country programmes. Emphasizing extensive stakeholder engagement, the readiness proposal aims to strengthen the capacity of the NDA in knowledge management on climate and finance, coordinate across stakeholders to facilitate effective consultations and communication, build capacity to monitor, evaluate and report the activities, and lastly, to develop a country programme strategy. The proposed project builds on the work of the ongoing readiness project and will enable improved coordination of activities under the proposed project through common planning workshops.

A proposed USD 115.5 million “*REDD+ project in the Republic of Côte d’Ivoire: Forest restoration, reforestation and reduced deforestation through zero-deforestation agriculture*” has been submitted to the GCF. Project outputs and activities propose concrete solutions to four key issues: (i) land-tenure security and land-use planning; (ii) transformation of agricultural methods and transition towards zero-deforestation supply chain; (iii) sustainable forest management and reforestation; (iv) operationalizing the necessary national REDD+ tools to integrate the results of the other three outputs. By addressing these, the project will protect remaining forested areas, support forest restoration efforts, and secure access to land for small producers while improving their incomes. The private sector actors from the cocoa industry, who will be involved in this project, will serve as useful allies for adaptation planning at large. As UNDP is also the accredited entity which will oversee project’s implementation under the National Implementation Modality, close coordination between the two projects will be ensured by the Agency.

In 2017, a GEF-funded project worth USD 1,370,000 was approved on “*Strengthening the transparency system for enhanced climate action in Côte d’Ivoire.*” This project will work with MINSEDD and focuses on: the design of sectorial interfaces of a *Measurement, Reporting and Verification (MRV) system*; a peer exchange program at the regional level through the collaboration with the South-South ECOWAS network on MRV; and the sharing of feedback and information on project implementation, results and lessons learned, with other parties and initiatives. This will enhance the information base in the country and allow for future projects and decision making to draw from a deeper well of knowledge.

The University Félix Houphouët-Boigny (U-FHB), is home to two research initiatives of interest:

- The *Africa Centre of Excellence for Climate Change Biodiversity and Sustainable Agriculture (CCBAD)* is funded by the Partnership for Skills in Applied Sciences, Engineering, and Technology (PASET29). CCBAD focuses on the training of graduates and applied researchers in the areas of climate change adaptation, biostatistics, and sustainable production including agronomic, genetic, breeding, pest, and disease management.
- The *West African Science Service Centre on Climate Change and Adapted Land Use (WASCAL)* is funded by the German Federal Ministry of Education and Research (BMBF). By pooling the expertise of ten West African countries and Germany, through a large-scale research-focused Climate Service Centre and aims to strengthen the local research infrastructure and capacity in West Africa related to climate change.

With support from UNDP and other technical and financial partners, Côte d’Ivoire has benefited from a number of projects to implement its climate change strategy. The NDC Support Programme will build on the outputs of the Africa LEDS project, which supported the creation of a model to analyse the impacts of different mitigation measures in the rice cultivation value chain. The model will be used to evaluate different actions that can be included in the NDC and the sectoral plans.

Another project, funded by the Belgian government, developed a methodology and a toolkit for integrating climate change in planning documents and budgets for the agriculture and forestry sectors. These products will be expanded to other sectors and used by more local governments. The programme is complimentary to Côte d’Ivoire GCF Readiness program which, in addition to preparing the government for engagement with the Fund, will also train the private sector on

accessing GCF funds. Collaboration will also be pursued with REDD+ programme, the Capacity-building Initiative for Transparency (CBIT) and the National Adaptation Plan (NAP) programme under a new effort by UNDP to bring all climate-related services under the NDC umbrella. Synergies also exist with the Global Climate Change Alliance (GCCA) + which plans to support Côte d'Ivoire on the institutional arrangement for NDC implementation and the feasibility of creating an independent agency for climate change. A study on gender in the national adaption process in Côte d'Ivoire — funded by the NAP Global Network — will also lay the groundwork for the gender and climate strategy to be developed under the NDC Support Programme.

Côte d'Ivoire NDCs Implementation

Through the 2015 Intended Nationally Determined Contributions (INDC), Côte d'Ivoire committed to reducing its greenhouse gas emissions by 28 per cent by 2030 and to strengthen the country's resilience to climate change. Eleven sectors are identified to be the most vulnerable to the adverse impacts of climate change. They are split in two categories:

- *High vulnerability*: agriculture/livestock/aquaculture, land use, forestry, water resources, energy, and coastal areas;
- *Low to medium vulnerability*: fisheries, infrastructures, transport, health, gender.

The INDC builds on the PNCC and sets out the following adaptation priorities:

- **Water resources**: Reducing vulnerability and increasing resilience through implementing an Integrated Management of Water Resources (IWRM) strategy; strengthening planning and coordination for national and cross-border watersheds; developing agro-dams; developing hydro-agricultural sites and dams to improve food production; improving the efficiency of irrigation to reduce water consumption; improved management of rainwater and floods (through capture and storing runoff) and strengthening the capacity of farmers.
- **Energy**: organizing the wood for fuel sector, preventing of silting, restoring minor stream beds, and disseminating the use of improved stoves
- **Coastal areas**: regulating invasive and erosive practices and building of protective construction measures.
- **Agriculture**: Several strategies including the 2018-2025 National Agricultural Investment Program have been adopted to strengthen this sector. The plan is focused on increasing resilience, developing an agro-ecological approach, improving production technology through access to improved inputs, and promoting women's access to rural land. The first phase, “PNIA 1 (2012-16)” allocated CFA Francs 2,040.5 billion (about US\$3.2bn) to increase agricultural production, resulting in an increase of a billion tonnes of cash crops production. The PNIA partly takes climate change into account but focuses on production rather than adaptation.
- **Forests and land use**: Improving forest species, promoting agroforestry, restoring degraded lands, promoting sustainable land management by improving the conservation of water and soil, developing a landscape approach for sustainable land management, and conservation of water and soil.

The Third National Communication (TNC) paints a detailed picture on climate change work undertaken and planned by the country, drawing from extensive consultations, interviews, research, and lists over a hundred references. It touches upon vulnerabilities in all its economic sectors, and notes the government's commitment to integrate climate change adaptation into its development strategy by 2020. While the information base used, compiled, and referenced in the

TNC is extensive and detailed, it displays gaps in certain places. For example, many studies on vulnerability and risk are gleaned from regional level data, and very few are produced at country-level which is an essential condition to contextualize the problems and solutions as accurately as possible. Good local-level data gathering practices, its analysis, and subsequent dissemination will also encourage local researchers and practitioners to produce rigorous, systematic research, and policy makers to consume and apply it in their decision making.

Despite a decade of political instability that fractured the social fabric and reversed economic gains, Côte d'Ivoire has the ambition of becoming an emerging market economy by 2020. The National Development Plan for 2016-2020 seeks to improve the country's infrastructure and boost the industrial sector. At the same time, its NDC commits the country to a low emission development trajectory, with the objective to reduce emissions by 28% against BAU through increased renewable energy use, the adoption of climate-smart agriculture measures, and improved management of forests and waste.

Cote d'Ivoire developed a high-level roadmap to provide guidance on the immediate next steps for NDC implementation. The roadmap together with the NDC call for the broader integration of NDC targets in development planning; the establishment of an NDC implementation mechanism; a monitoring system to track the country's progress; and outreach to communicate the country's climate change commitment to the private sector and local governments.

Following the path set forth, the NDC Support Programme will establish an inter-ministerial committee; support NDC mainstreaming in the next iteration of the National Development Plan and in the different sectoral plans; review of the state of implementation of current mitigation and adaptation projects and their contributions towards the NDCs; engage the private sector; and provide tools to local governments for integrating climate change in their regional planning documents.

Using a participative approach, the institutional arrangements under the REDD+, the CBIT, the NAP program and other climate-related programs will be brought under the umbrella of the NDC. This larger governing body will be presided by the Office of the Prime Minister and will have a representative from each of the priority ministries and the ministry of planning, the ministry of gender and the budget ministry. Modalities of communication between sectors will be established to facilitate the flow of information from the different sectors to the national NDC focal point.

A modelling tool for mitigation actions created under the Africa LEDS GP project will be used to facilitate the identification of climate change actions into the NDP and the sectoral plans. A strategy for integrating gender in the climate change actions will also be developed. A situational analysis on current mitigation and adaptation projects will be conducted to inform the progress on reaching the NDC targets and help identify gaps in financial resources and capacity. The analysis will enable Côte d'Ivoire to revise its ambitions in their next NDC update.

Support is to be provided to local governments when they draft their planning documents to identify opportunities for low carbon development. Côte d'Ivoire put in place a National Climate Change Programme in 2012, followed by a National Climate Change Strategy for 2015-2020. Among other things, the strategy provides an orientation for integrating climate change in national

policies and planning documents; for building national capacity on climate change; for promoting mitigation and adaptation actions and for increasing international cooperation. The Strategy forms the basis of the Côte d'Ivoire's NDC. The NDC will be translated into an investment plan for the private sector. The capacity of private actors will be built to access climate finance. A feasibility study will be conducted for a loan guarantee fund to de-risk investments in climate change projects.

Crosscutting Issues

Côte d'Ivoire appointed a gender focal point with the support of the NAP Global Network to address issues of gender inequality and strategies that women employ to cope with climate change, which are often under-explored. The initiative will aim to deliver a literature review of the impacts of climate change on gender, conduct consultations with relevant parties to share the results, analyse the implications for the NAP process, and the identification of particular actions for integrating gender considerations in the NAP process. This will also help identify key indicators to ensure gender mainstreaming in the NAP process. A report is in the process of being written by the Network and will be widely shared and disseminated within key stakeholder meetings when available. The findings of the other studies conducted with the NAP GN support will also be integrated into the activities of the proposed project.

4.1.2.2 Botswana

Botswana developed its National Climate Change Response Strategy in December 2017 where a number of issues regarding national mitigation and adaptation landscapes were addressed from broader perspective in terms of comprehensiveness of issues addressed such as environmental, social and economic considerations; coordination and cooperation as captured through national, regional and international cooperation; stakeholder involvement in terms of roles played by private sector, communities and civil society; realizability of adaptation objectives in terms of availability of resources required and technology development and transfer, and; institutional arrangements for effective and efficient implementation of adaptation activities such as establishment of National Climate Change Unit, National Climate Change Committee, Parliamentary Portfolio Committee on Natural Resources and Environment, Designated Climate Change Adaptation Focal Points, and Grassroots level Climate Change Committees. Concerning the mitigation component, the specific sectors addressed in the strategy included mitigation plans; carbon budgets, carbon markets, sustainable energy, transport emissions, waste management, and procurement. As regards the adaptation component, the strategy articulates issues to do with adaptation policy landscape in terms of identified key sectors that include Agriculture and Food Security; Human Health; Human Settlement; Forest Management; Land Use and Land Use Allocation; Disaster Risk Management; Biodiversity and Ecosystems; Infrastructure Development, and; Gender and other Cross-cutting Issues.

A look at the mitigation component of the strategy shows paucity of emphasis on need for designing and developing mitigation policies, strategies for accessing finance for mitigation actions, designing and implementing national mitigation MRV systems and preparation for national future NDCs. As a response to the observed weaknesses in the strategy, Botswana is developing a Climate Change Policy and Institutional Framework which is supported by a Strategy and Action Plan to operationalize the Policy. The Policy was approved by Parliament in 2016. In addition to the national policy, the development of a strategy involved design of a long term low

carbon strategy, a national adaptation plan, nationally appropriate mitigation actions, identification of technologies, plan for knowledge management capacity development, education and public awareness and a financial mechanism. This total package was to ensure that the policy is implementable.

Mitigation Contribution

The country intends to achieve an overall emissions reduction of 15% by 2030, taking 2010 as the base year. The emission reduction target was estimated based on the baseline inventory for the three GHGs being carbon dioxide (CO₂), methane (CH₄) and nitrous oxide (N₂O). The country will also continuously implement mitigation measures for the livestock sector to reduce CH₄ emissions mainly from enteric fermentation though these initiatives are not estimated in the 15% reduction target. Initiatives for emission reductions will be developed from long term low carbon development strategy

Scope and Coverage:

- a) **Gases:** The emissions reduction target was estimated based on baseline GHGs inventory for the three GHGs being CO₂, CH₄ and N₂O).
- b) **Sectors:** Energy sector (mobile and stationary sources), Waste, and the Agriculture

MRVs (Methodological Approaches): The methodological approaches for estimating national GHGs emissions inventory involved standard IPCC approved methods. Consequently, calculations of GHGs emissions were based on the IPCC Guidelines. For other non-energy sectors such as waste and agriculture, IPCC spreadsheets were adopted and data was input to generate emissions statistics. The country used 100-year global warming potential (GWP) values to estimate the CO₂ equivalent Certified Emissions Reductions (CERs) totals.

Adaptation

As semi-arid country Botswana is vulnerable to the impacts of climate change and places high priority on adaptation to reducing vulnerability. Botswana is developing a NAP and Action Plan which will highlight all the priority areas including Climate Smart Agriculture which include techniques such as low to zero tillage, multi-cropping to increase mulching which reduce evapotranspiration and soil erosion. The development of the NAP calls for a broader stakeholder consultation so that the products of this process represent the views and aspirations of all the stakeholders and respond to their needs. The outcome of this process will be significant in guiding how the country responds to the development challenges across all sectors that are attributed to global warming and climate change. This will be informed by already existing climate change information, socio-economic and development indicators, local experiences as well as existing policies, plans and institutional frameworks. National Adaptation Plan development is coordinated by Ministry of Environment Wildlife and Tourism, with support from the National Committee on Climate Change.

Botswana's adaptation planning process put into context issues to do with national level climate policy; national level development policy; institutional structure for climate governance, and the national level sectoral policies. Concerning implementation of current and planned adaptation policies, programs and projects, available literature indicates that the extent to which Botswana will be able to address the threat of climate change will be influenced by the range and type of

adaptation-focused projects and programs supported by the favourable government policies and its international development partners. A review of adaptation programs and projects revealed that there was a very low level of adaptation programming in the country, and that which is happening is typically through regional, rather than national, projects. This is further reflected in the limited amount of funding that Botswana has received for adaptation activities. One major constraint for CCA projects and programs in the country is Botswana's recent categorization as a middle income country; with this classification, a number of multilateral and bilateral donors withdrew their financial support from Botswana. As such, the funding available for the government and national NGOs to implement adaptation activities has decreased considerably.

Monitoring and reporting on progress and effectiveness of adaptation actions is mainly implemented through donor funded projects and programmes. The most concrete adaptation programs in Botswana, whether national or regional, focus on the management of the country's surface water resources, specifically the Okavango and Limpopo river basins. This aligns with the Second National Communication to the United Nations Framework Convention on Climate Change (SNC), which listed water as the country's highest adaptation priority. While agriculture is partially addressed (as food security) by adaptation programming, grasslands and livestock are absent, despite their prioritization and cultural importance. Forestry is also largely omitted from adaptation programming, despite its vulnerability and its critical importance to national energy needs. One project funded by IDRC specifically targets farmers but otherwise no details could be found on how specific vulnerable groups are being supported with adaptation action.

A number of adaptations actions are currently being implemented by the government nationally to help communities adapt to the impacts for climate change:

Water Sector

- Construction of pipelines and connection to existing ones to transmit water to demand centres
- Reduce water loss during transmission by investing on telemetric monitoring systems
- Enhance conjunctive groundwater-surface water use

Agriculture Sector

- Improve genetic characteristics of the livestock breed such as Musi breed
- Improve livestock diet through supplementary feeding
- A switch to crops with the following traits:
 - Drought resistant,
 - Tolerant to high temperatures
 - Short maturity

Health

- Public education and malaria campaigns
- Malaria Strategy
- Control of Diarrhoea Diseases

4.1.2.3 Ethiopia

Ethiopia signed the Paris Agreement in April 2016 and ratified the agreement on March 2017 with it entering into force in April 2017 (see Nationally Determined Contributions below). Ethiopia

prepared its First National Communication to the UNFCCC in 2001, its Second National Communication in 2015 and a National Adaptation Program for Action (NAPA) in 2007. In the NAPA, which was developed with support from the LDCF (Nakhooda, *et al.*, 2014), the Ethiopian government identified key climate impacts and described 11 priority projects needed to address these impacts. The majority of the projects were not implemented (Virtanen, *et al.*, 2011). The Ethiopian Programme of Adaptation to Climate Change (EPACC) (2010) updated and replaced the NAPA. The objective of EPACC was ‘to contribute to the elimination of poverty and to lay the foundation for a climate resilient path towards sustainable development.’ It also aimed at mainstreaming climate change throughout government sectors by ensuring climate change is embedded within government policies and plans through Sectoral Climate Programmes and Action Plans. Its components included to:

- identify and prevent worsening and emerging animal, crop and wild land diseases and pests;
- prevent land degradation and thus reduce soil loss to its natural equilibrium rate;
- prevent biomass and soil nutrient accumulation by taking waste to farmlands as fertilizer;
- counter the agricultural productivity reduction from climate change through research/development;
- manage water effectively to make it always available to humans, animals and crops;
- reduce the impacts of severe droughts by cloud seeding to induce rain;
- store food and feed in good years for use in bad years;
- develop an insurance scheme for compensation from damage from bad weather (G/Egziabher, *et al.*, 2013).

In addition to the NAPA, EPACC and NAMAs, Ethiopia integrated climate change objectives in broader national plans and policies. The first 5-year Growth and Transformation Plan (GTP I, 2010-2015) aimed for the country to reach middle-income status by 2025. In the second Growth and Transformation Plan (GTP II, 2015/16 – 2019/20) the framework from GTP I was developed further and the country’s Climate Resilient Green Economy (CRGE) strategy mainstreamed into the GTP II. While the GTP II recognized Ethiopia’s need for establishing food security (<http://dgethiopia.org>), adaptation and mitigation programmes were prioritized to achieve sustainable economic growth (and achieving lower-middle income status) without net increases in GHG emissions relative to 2010 levels.

Ethiopia’s Climate Resilient Green Economy (CRGE) Strategy is considered fairly unique in terms of its integration of economic and climate change goals. The CRGE Secretariat, with both a technical and financial unit at the Ministry of Environment, Forest and Climate Change and the Ministry of Finance and Economic Cooperation (MOFEC) develops standardized guidance and provide ad hoc, sector specific support to CRGE line ministries that implement the strategy.

The CRGE Strategy consists of a Climate Resilience (CR) component and a Green Economy (GE) component. The CR component, launched in August 2015, focuses on adaptation to climate change effects in two sectors: agriculture & forestry, and water & energy (<http://gggi.org/ethiopia>). These climate resilience strategies focus on three tranches of work (FDRE, 2015a): 1. Identification of impact of current and projected climate and climate change (*the challenge*); 2. Identification of options to build and reduce impact of weather variability and climate change (*the*

response); 3. Mapping of steps necessary to fund and implement measures for climate resilience (*making it happen*).

Mitigation measures in Ethiopia's NDC are built on four pillars that target agriculture (livestock and soil), forestry, transport, electric power, industry (including mining) and buildings (including waste and green cities):

- Improving crop and livestock production practices for higher food security and farmer incomes, whilst reducing carbon emissions;
- Protecting and re-establishing forests for their economic and ecosystem services (including as carbon stocks);
- Expanding electricity generation from renewable sources of energy for domestic and regional markets;
- Leapfrogging to modern and energy-efficient technologies in transport, industry and construction.
- Ethiopia has also submitted NAMAs to the UNFCCC. All four of the NAMAs currently in the registry focus on railways and transit development.

The country's climate resilience strategy for water and energy identified 4 responses to challenges of climate change (FDRE, 2015b):

- i) Power generation: diversifying energy mix and improving energy efficiency;
- ii) Energy access: improving efficiency of biomass use and accelerating non-grid energy access;
- iii) Irrigation: accelerating irrigation plans, supporting resilience of rain fed agriculture, balancing water demands;
- iv) Access to WASH: accelerating universal access to WASH and enhancing climate resilience of self-supply.

Also, two cross cutting themes (data systems for decision support and accelerate delivery of existing plans) are specified. Total costs of implementation are expected to be USD 895 million.

The **green economy (GE) component** was launched in parallel with the launching of the overall CRGE vision in 2011, and focuses on carbon-neutral economic growth (mitigation). The GE strategy is based on four pillars:

- Improving crop and livestock production practices for higher food security and farmer incomes, whilst reducing carbon emissions;
- Protecting and re-establishing forests for their economic and ecosystem services (including as carbon stocks);
- Expanding electricity generation from renewable sources of energy for domestic and regional markets;
- Leapfrogging to modern and energy-efficient technologies in transport, industry and construction.

Moreover, four priorities have been developed to fast-track the implementation of the GE element: hydropower development, rural cooking technologies, livestock value chain, and forestry development. The GE part of the strategy is intended to lead to, among others, annual savings of USD 1 billion from the use of more efficient stoves; increasing livestock productivity; fuel cost

savings of over USD 1 billion per year by 2030; and renewable electric power generation of over 67 TWh (FDRE, 2011).

For the GE's forestry priority, the national REDD+ programme has been made an integral part of the strategy (see below) in order to reduce emissions from the vast deforestation that takes place in Ethiopia (total forest area has declined from 167,000 km² in 1990 to 120,000 km² in 2012).

The EPA, which was recently changed into the Ministry of Environment and Forests (MEF), acts as the national flagship institution on climate change where among others it has overseen the CRGE strategy development. Now being a Ministry, MEF has gained enhanced authority to play a leading role in climate change matters – which shows the government's determination to address climate change as a priority area. The Ministry of Agriculture plays a major role in implementation of the CRGE Strategy, since agriculture-related priorities (livestock, soil and forestry) account for over 80% of the estimated 255 Mt CO₂ abatement potential of the CRGE. Implementation of the CRGE is sector-based according to an approach known as the sectoral reduction mechanism (SRM), consisting of an Inter-Ministerial Council, a Technical Committee, and a Facility Secretariat. CRGE units have also been set up in various line ministries to streamline CRGE activities, but it has been noted that the capacity of these units is restricted by a lack of knowledge on climate change, combined with limited financial resources.

Ethiopia's Adaptation measures are built on three pillars:

1) Droughts: a) increase agricultural productivity, minimize food insecurity and increase incomes, b) protect humans, wildlife and domestic animals from extreme droughts, c) improve and diversify economic opportunities from agroforestry and sustainable afforestation of degraded forests, d) enhance irrigation systems through rainwater harvesting and conservation of water, e) ensure uninterrupted availability of water services in urban areas, f) improve traditional methods that scientifically prevent deterioration of food and feed in storage facilities, g) create biodiversity movement corridors, h) enhance ecosystem health through ecological farming, sustainable land management practices and improve livestock production and i) expand electric power generation from geothermal, wind and solar sources.

2) Floods: a) enhance adaptive capacity of ecosystems, communities and infrastructure in the highlands of Ethiopia, b) build additional dams and power stations for energy generation potential in rivers and c) develop and implement climate change compatible building /construction codes.

3) Cross cutting interventions: a) develop insurance systems for citizens, farmers and pastoralists, to rebuild economic life following exposure to disasters, b) reduce incidence and impact of fires and pests through integrated pest management, early warning systems, harvesting adjustments, thinning, patrols, public participation, c) effective early warning system and disaster risk management policies, d) strengthening capacity to deal with expansion of humans, animal and crop diseases, e) strengthening and increasing capacity for breeding and distribute disease resistant crops and fodder varieties.

Ethiopia' Nationally Determined Contributions

Ethiopia submitted its First NDC⁶ to the UNFCCC in September 2017. In its NDC Ethiopia commits to reducing GHG emissions⁷ by 2030 to 145 Mt CO₂e. This means a 64% reduction of emissions compared to a BAU scenario in 2030. A very ambitious target, which if reached, will enable Ethiopia achieve carbon neutrality by 2030. The NDC states that full implementation is contingent upon an ambitious multilateral agreement being reached among parties that will enable Ethiopia to get international support and stimulate investments in climate action. Ethiopia grounded its NDC in its Climate Resilience Green Economy Strategy (CRGE), focusing on (i) reducing GHG emissions and (ii) reducing the vulnerability of the Ethiopian population to the adverse effects of climate change.

4.1.2.4 Gabon

Over the years the government of Gabon has initiated a number of studies, plans and issued laws related to sustainable development and climate change. While work has been done the government as of yet does not have an overarching integrated planning process to deal with the effects of climate change. Lessons from the formulation of these policies/strategies such as convening a technical working group with experts from the public, private, and non-profit sector, will be built upon future adaptation purposes. The previous processes have also been used to identify current barriers and gaps to adaptation planning in Gabon.

The government of Gabon has set-out a specific mandate to undertake adaptation planning. In 2014, the government went through a process to develop an overarching National Climate Plan, and embedded within this plan is a specific article for the country to undertake adaptation planning: Article 45 in Chapter 2: "A plan for adaptation to climate change shall be drawn up on the responsibility of the Minister for the Environment and submitted to the opinion of the competent advisory body in accordance with the provisions of the United Nations Framework Convention on Climate Change on Climate Change. " While the National Climate Plan provides a basis for both mitigation and adaptation planning – little has been done to realize the goals of developing a comprehensive adaptation plan for the country.

A set of national plans, laws, policies and measures have been developed to address the climate change risks in Gabon and enable the integration of climate issues. Through Gabon's National Development Plan (PSGE) and National Climate Plan the government has laid out climate change as an ever-important part of its planning processes both from the mitigation and adaptation perspective. The government is however, cognizant of the fact that the current set of plans and policies are not sufficient to deal with the ever-increasing threat of climate change and are therefore in the process of requesting access to Readiness Funding from the GCF to undertake systematic, scientifically-based adaptation planning.

Gabon has developed an overarching iterative proposal for developing a robust National Adaptation Plan for the country that has been divided into two phases. **Phase 1** will build on the existing National Adaptation Plan for Coastal areas and develop an enabling environment to better collect, capture, and analyze climate data across the country. **Phase 2** will utilize the

⁶ <http://www4.unfccc.int/ndcregistry/>

⁷ <http://www4.unfccc.int/submissions/INDC/>

implementation of the coastal plan as a model to roll out to other sectors to develop a comprehensive adaptation plan that strengthens the country's overall resilience by planning to address prioritized climate impacts. The anticipated main outcomes of the combined proposal are:

- **Outcome 1:** An improved scientific and technical knowledge base to better inform adaptation planning at the national and sub-national levels
- **Outcome 2:** The prioritization of coastal adaptation investments in Gabon and the development of a funding strategy
- **Outcome 3:** Gabon's Adaptation Plan and associated processes developed and strengthened to identify, prioritize, and integrate adaptation strategies and measures

The three outcomes combined are anticipated to lead to building a strong system across Gabon to better inform and undertake adaptation planning as well as prioritizing critical investments across sectors nationally and sub-nationally to increase the resilience and adaptive capacity of Gabonese communities. Table 2 below gives a summary of Gabon's National Plan Strategies.

Table 2: Gabon's National Plan Strategies

Country Plan	Description
National Climate Plan-2014	<p>A strategic plan outlining the vision of low carbon development and improved resilience to climate change for Gabon:</p> <ul style="list-style-type: none"> • An inventory of short and medium-term development strategies for sectors with a strong impact on climate change (carbon footprint, energy footprint); • Sectoral strategies for controlling GHG emissions; • A macro adaptation strategy of the country to the effects of climate change; • The implementation and follow-up of actions of the climate plan; and • Major options for financing the plan.
Law on Sustainable Development -2014	<p>The content of sustainable orientation Act:</p> <ul style="list-style-type: none"> • Ensure that programme and project policies comply with the basic principles of sustainable development • Recognize inventory, records and control of all sustainable development assets • Establish a national sustainable development registry to record programmes and project policies • Establish necessary monitoring and control systems • Establish mechanisms to offset negative impacts of activities detrimental to sustainable development.
1 st National Communication-2004	<p>The first National Communication stems from the signature of the UNFCCC convention. The document shows the national situation in terms of Gabon's climate, mangroves, forest cover etc. The report provides:</p> <ul style="list-style-type: none"> • Inventory of GHG emissions • Assessing the potential impacts of climate change • Analyze possible measures to reduce GHG emissions increase in Gabon and adapt to climate change.

National Coastal Adaptation Plan-2011	<p>The coastal environmental profile was Gabon's first diagnostic document that describes and analyses more densely the characteristics of the coastal environment, its population, the human activities practiced and the framework that governs this space.</p> <p>It describes the methodology to be used to establish a long-term planning and spatial planning strategy. It gives the different phases of work to be adopted in order to achieve a result.</p>
Emerging Gabon Strategy Plan (PSGE)-2012	<p>The PSGE defines the vision of the Head of State by 2025. It defines three main challenges that are:</p> <ul style="list-style-type: none"> • Ensure sustainable management of resources for future generations • Reducing poverty and social inequalities • Accelerate economic growth and diversify its sources
2 nd National Communication	<p>The second national communication includes:</p> <ul style="list-style-type: none"> • A Gas emissions inventory in line with the guidelines adopted by the COP and developed by the IPCC • An assessment of the potential impacts of climate change in Gabon • An Analysis of possible actions to reduce GHG emission growth and adapt to climate change (specifically the case of Mandji Island)
INDC - 2015	<p>The Intended Nationally Determined Contributions (INDC) includes Gabon's commitment to reduce GHG emissions by 50% in key sectors:</p> <ul style="list-style-type: none"> • Forest : deforestation, degradation • Energy : 80% hydroelectricity 20% Gas (100% clean energy by 2020) • Reduction of flaring in the petroleum sector • Adaptation to coastal erosion <p>"The ambition of the country is to reduce, by the 2025, more than half of the emissions of greenhouse gases produced by each Gabonese ".</p>
Plan of Land Use-2015	<p>It defines the planning process that provides direction for the sound management of land and resources in the domain of the state.</p> <p>The objective is to ensure rational planning and sustainable use of its territory.</p>

As is evidenced from the table above, most of the focus of planning to date has been around climate change mitigation issues as the government seeks to diversify its economy and reliance on the oil and gas sector. There have, however, been two key plans that are more closely tied to adaptation:

a) The National Plan of Land Use developed in 2015, while not directly related to adaptation planning does provide a basis for which a stakeholder mechanism can be established and the plan brought together several line ministries that will need to work together for undertaking a comprehensive national adaptation plan.

b) Gabon's National Coastal Adaptation Plan 2011, is the most comprehensive planning work to date and as a primary concern for the country can serve as a model for future planning.

Related to Gabon's National Coastal Adaptation plan, is a regional program implemented by UNDP –“Implementation of integrated and comprehensive approaches to adaptation to climate change in Africa (AAP)”. Through this program Gabon undertook the project “Institutional Capacity Building for Adaptation in Coastal Areas in Gabon” – the objective of the project was to promote the establishment of an institutional framework for coastal zone management that will allow resilient development for Gabon. The project included measures to strengthen scientific and technical capacities and demonstrate innovative technologies and practices for the rehabilitation

and sustainable management of coastal areas. The project also supported the development of an integrated planning framework for the coastal zone and the exploration of financial mechanisms to cover the costs of adaptation in the short and long term. One critical lesson from this work is that Gabon will need to down-scale its analysis of the coastal zone to better target investment at the community and sub-regional levels.

4.1.2.5 Zambia

Zambia has put in place climate relevant policies and strategies which include the NAPA of 2007, INDC, 2015, National climate change response strategy, 2010 and the national policy on climate change 2016. There are other policies and sectoral strategies that contribute to environment, climate change adaptation and mitigation, including the National Policy on Environment (NPE, 2007); National Forestry Policy of 2014; National Energy Policy of 2008, The National Agriculture Policy of 2014 and Transport Policy of 2002; National Strategy for Reducing Emissions from Deforestation and Forest Degradation (REDD+, 2015); Second National Biodiversity Strategy and Action Plan (NBSAP2); Technology Needs Assessment (TNA, 2013); Nationally Appropriate Mitigation Actions (NAMAs, 2014); Second National Communication (SNC, 2015). However some of the additional policies focus more on environment leaning towards mitigation and less on adaptation. This is despite the fact that adaptation is a key developmental issue/challenge for a developing country such as Zambia. There are still policy gaps at sectoral level to enable integration of climate change adaptation as a cross cutting issue. Table 3 gives a summary of Zambia's Climate Change Policy Priorities.

Table 3: Zambia's Climate Change Policy Priorities

Policy Name	Priorities
National policy on climate change 2016	<ul style="list-style-type: none"> • Vision; a ‘prosperous and climate resilient economy by 2030’ • Focuses on the principle of resilience building as an integral part of the development process • Policy objectives; • Strengthening implementation of adaptation and DRR measures to reduce vulnerability to CC • Promote and implement sustainable land use management practices – reducing GHGs from land use and land use change and Forestry • Mainstreaming of climate change into policies, plans and strategies – assessment of risks and opportunities in decision making and implementation • Strengthening institutional and HR capacity – efficiency and effectiveness at all levels • Promote communication and dissemination of climate change information to enhance awareness and understanding of its impacts • Promote Investment in climate resilient and low carbon development pathways • Foster research and development for informed decision making in regard to CC response • Engender climate change programmes and activities to enhance gender equality and equity in the implementation of climate change programmes

	<ul style="list-style-type: none"> • Develop and promote appropriate technologies & build national capacity to benefit from CC technology transfer
Nationally Determined Contribution 2015	<p>Mitigation; Sustainable Forest Management, Sustainable Agriculture and Renewable Energy and Energy Efficiency.</p> <p>Adaptation; Adaptation of strategic productive systems (agriculture, forests, wildlife and water); Adaptation of strategic infrastructure and health systems; and Enhanced capacity building, research, technology transfer and finance.</p> <p>The NDC has a 2030 focus with the budget estimated at \$50B for both mitigation (USD 35 billion for domestic efforts with substantial International support) and adaptation (USD 20 billion) actions across the programs up to 2030. Of this, USD.</p>
National Climate Change Response Strategy (NCCRS), 2010	<p>Adaptation and Disaster Risk Reduction- Priority sectors for adaptation based on their economic vulnerability and national development priorities include; Agriculture, food security, fisheries, water, forestry, wildlife, health, mining, tourism, human settlements, and physical infrastructure.</p> <p>Mitigation and Low Carbon Development - mitigation actions are implemented in the most GHG-intensive sectors & using low carbon pathways – land use, energy, transport & mining sectors</p> <p>Cross- Cutting Issues - capacity building; research & development; technology development and transfer; climate change communication, education and awareness; Gender and HIV Aids.,</p> <p>Governance of Climate Change; climate change activities' coordinating institutions, policy formulation</p> <p>Finance and Investment Framework; additional financial resources to implement the proposed actions.</p>
The National Adaptation Programme of Action (NAPA) 2007	<p>The NAPA identified four sectors are the most vulnerable to climate change impacts which include; Agriculture, Water and energy, Natural Resources (forests and wildlife); and Human health. Key activities include;</p> <ul style="list-style-type: none"> -Improving Early Warning System to facilitate timely dissemination of weather information -Promoting better land and critical habitat management. - Diversifying crops and livestock to improve nutrition and food Security. - Promoting alternative sources of livelihood to reduce vulnerability to climate change - Enhancing water management to withstand erratic rains through water harvesting, water conservation, and small-scale irrigation. - Renovating and rehabilitating existing health infrastructure. - Climate-proofing sanitation in urban areas.

National Strategies, Plans and Institutions Relevant to Climate Change National Strategies and Plans

- **Initial National Communication (2004):** Provides resources for the inventory of greenhouse gases and initial vulnerability and adaptation assessments. The Second National Communication is currently being prepared.

- **National Adaptation Programme of Action (NAPA) (2007):** Identifies the sectors most vulnerable to climate change and recommends relevant stakeholders, policies, programs, and projects that can help address the impacts of climate variability and change in the country.
- **National Climate Change Response Strategy (NCCRS) (2010):** Provides a comprehensive national institutional and implementation framework through which climate change adaptation, mitigation, technology, financing, public education, and awareness-related activities in Zambia can be coordinated and harmonized. It also emphasizes the importance of focusing on the most vulnerable sectors of the economy and mainstreaming climate change into development plans.

Climate Change Related Institutional Framework

- The Department of Environment and Natural Resources, under the Ministry of Tourism, Environment and Natural Resources (MTENR), is the climate change focal point under the United Nations Framework Convention on Climate Change.
- The Climate Change Facilitation Unit, established by the MTENR, serves to strengthen national coordination of all efforts related to climate change, including integrating climate change into national strategic planning.
- The Disaster Mitigation and Management Unit, housed by the Office of the Vice President, focuses on strengthening national capacity for effective disaster preparation, response, mitigation, and rehabilitation.
- The Zambia Meteorological Department (ZMD) is the country's primary provider of meteorological services. The department is charged with monitoring, predicting, analyzing, and providing weather and climate change-related data and information, as well as providing advice and assessments for related policy formulation.

Zambia Government Adaptation Priorities

Zambia's NCCRS identifies agriculture, food security, fisheries, water, forestry, wildlife, health, mining, tourism, human settlements, and physical infrastructure as priority sectors for adaptation based on their economic vulnerability and national development priorities. Priority projects presented in the NCCRS and NAPA include:

- Improving the ZMD's Early Warning System to facilitate timely dissemination of weather information so as to enhance preparedness.
- Promoting better land and critical habitat management.
- Diversifying crops and livestock to improve nutrition and food security.
- Promoting alternative sources of livelihood to reduce vulnerability to climate change and vulnerability.
- Enhancing water management to withstand erratic rains through water harvesting, water conservation, and small-scale irrigation.
- Renovating and rehabilitating existing health infrastructure.
- Climate-proofing sanitation in urban areas.

The NCCRS and NAPA highlight the following as priorities for Zambia's adaptation planning efforts: increasing technical capacity at all levels of the government to conduct adaptation planning; promoting adoption of adaptation efforts among line ministries; improving national data collection and monitoring, with greater investment in meteorological services; increasing knowledge management in technical areas; and increasing stakeholder participation and the

dissemination of climate change information. These investments will allow for greater understanding of country-specific vulnerabilities. They will also provide increased capacity to assess sector-specific as well as sub-regional vulnerabilities necessary to support better prioritization of adaptation resources.

In 2007, the Government of Zambia adopted the NAPA. Implementation of the specific aspects of the NAPA included a Least Developed Countries Fund (LDCF) adaptation project in the agricultural sector and the development of a draft National Climate Change Response Strategy (NCCRS) focusing on capacity development for mainstreaming climate change into policy and programs. The country also formulated a Comprehensive Communication and Advocacy Strategy on climate change. The Low Emission Capacity Building (LECB) project sought to support the Government of Zambia in achieving its main development goals as defined in the Sixth National Development Plan (SDNP) (2011—2015), Vision 2030, Millennium Development Goals (MDGs) and the draft NCCRS. The specific country needs that were identified and prioritized through the LECB project were the following: developing a more sustainable GHG inventory system to support future National Communications; enhancing national capacity to implement mitigation measures to attain low carbon development pathways, developing up to four NAMAs and to design the associated measuring, reporting and verification (MRV) systems for the identified NAMAs.

At the implementation stage of LECB in 2012, the Government of Zambia was in the process of developing a Climate Resilient Low Emission Development (CRLED) programme as well as a policy, legal and regulatory framework for climate change – the National Policy on Climate Change was eventually launched in March 2017. Other relevant policies, all of which address climate change, include the National Disaster Management Policy and Act of 2010, the National Policy on Environment and the Environmental Management Act of 2011, as well as the National Water Resources Management Act of 2011.

The Zambian Environment Management Agency (ZEMA) was appointed as the coordinating institution for the national GHG inventory. ZEMA established a Climate Change Unit (CCU) with a dedicated GHG inventory team. This team focuses on establishing a robust and high quality GHG inventory system. With the support of LECB a GHG IT platform was developed. This platform helps to streamline communication between ZEMA and sector lead institutions by allowing sectors (agriculture, energy, and waste, industrial processes) to work offline and upload data remotely. LECB also developed management tools to enable data collection protocols to be more efficient and systematic.

LECB, together with significant input and leadership from national consultants, developed five NAMA proposals, for small hydro, integrated waste management, sustainable charcoal production, sustainable agriculture, and sustainable transport, and applications for funding for all of these (except the NAMA for integrated waste management) were submitted to the NAMA Facility. Tools, guidelines and protocols for conducting measurements of metrics were developed to support each NAMA. LECB also engaged with the Zambia Development Agency (ZDA) to facilitate resource mobilization and investment promotion of the NAMAs. One notable NAMA supports sustainable agriculture, which is one of the key drivers for low emission development and growth in Zambia. The NAMA focuses on improving yield from crops and from livestock

management that will encourage improved animal husbandry. A core objective is the promotion of the use of fertilizers with high nutrient efficiencies and supporting the practice of conservation agriculture. The five NAMAs covered were in the energy, industrial process, agriculture, transport, and waste management sectors.

The project helped build the technical capacity required for implementing monitoring, reporting and verification (MRV) systems for NAMAs, including establishing the scope indicating reporting and verification mechanisms and time frames.

LECB developed and enhanced the technical and institutional capacity to establish a national GHG inventory system. The tools and structures put in place will be utilized for the preparation of future National Communications. The project focused on strengthening capacity across a range of stakeholders in government, private sector and civil society to ensure the sustainability of the results achieved so far. The GHG units established in a number of line ministries as a result of the project will help to ensure stronger collaboration between sectors and a multi-sectoral approach in implementing future climate change projects.

Mainstreaming climate change in the Seventh National Development Plan (2017-2021) for Zambia is spearheaded by the Ministry of National Development Planning and other government institutions. LECB helps support this mainstreaming, which will ensure stronger collaboration between various ministries that play a role in climate change mitigation. In addition, mainstreaming will ensure that there is coherence between national development plans and climate change programs. Training workshops were organized on Utilizing Scenario Assessments to Support National NAMA Development Processes.

LECB raises awareness on both the broad issues of climate change and the more detailed issues of NAMAs, mobilizing finance and national MRV system capacities and needs. This awareness creation and sensitization focused on government, the private sector and civil society. The LECB project strengthened the institutional, technical and financial capacity required to develop and implement mitigation actions to enable Zambia to attain a low emission pathway.

Zambia's Nationally Determined Contribution

Despite emitting only 0.26% of the world's greenhouse gases, Zambia submitted an ambitious NDC with a pledge of reducing GHG emissions by 25% to 47% by 2030, against a base year of 2010, depending on the availability of international support. Zambia's mitigation targets are focused on three programmes: (1) sustainable forest management, (2) sustainable agriculture, and (3) renewable energy and energy efficiency.

As noted in the NDC, climate change is recognized as a particularly urgent issue due to the major threat it poses to Zambia's sustainable development pathway. For this reason, Zambia's 7th National Development Plan (2017-2021) integrates national goals set through Agenda 2030 for Sustainable Development, the Sendai Framework for Disaster Risk Reduction, and the Paris Agreement on Climate Change. Zambia has further cemented climate change as a national priority in 2017 with the launch of the National Climate Change Policy, which provides a framework for coordinating climate change programmes to advance Zambia's Vision 2030.

With support from the NDC Support Programme, Zambia will create institutional arrangements for NDC implementation; develop a monitoring and reporting system; and enhance finance strategies. The Programme places a strong focus on gender empowerment and equality in NDC-related activities, taking into account the disparity in opportunities and vulnerability to climate change effects, as noted in the National Climate Change Policy. Zambia's focus areas in NDCs implementation include:

Monitoring and Transparency System

- Establish a data management system for MRV;
- Assess policy, institutional, and data gaps, build consensus, conduct training, and develop MRV guidelines;
- Facilitate data sharing between ministries.

Governance

- Establish stable institutional arrangements to coordinate and implement the NDC.

NDC Finance Strategy

- Assess NDC investor risks and map climate finance flows;
- Identify financing mechanism opportunities;
- Develop NDC Finance Strategy, incorporating findings from assessments.

Gender-Responsive NDC Planning and Implementation

- Launch Climate Change and Gender Action Plan (ccGAP);
- Ensure gender aspects are incorporated into NDC activities, including the MRV system and GHG inventory;
- Conduct gender governance and policy scan to identify gender entry points.

Systems and Capabilities Established to facilitate the Implementation of Zambia's NDC

- Establishing a sustainable National GHG Inventory Management System with formalized institutional arrangements to serve as the cornerstone of Zambia's long-term GHG emission reporting structure;
- Building technical capacity and awareness on GHG inventories and mitigation/adaptation projects.
- Developing five mitigation actions (NAMAs) with MRV Systems, derived from 30 project ideas from inputs from all 10 provinces;
- Introducing conservation farming and REDD pilot projects;
- Strengthening adaptive capacity for rural areas and the agriculture sector, e.g. through improved access to weather-related data;
- Establishing national focal points for Climate Technology Centre and Network (CTCN) and the GCF. The latter facilitated the funding of two projects in adaptation and renewable energy in 2018;
- The ccGAP, which was launched in 2018, will build on lessons from the Pilot Programme on Climate Resilience supported by World Bank and AfDB.

- The 7th National Development Plan, close linkages were made between development and climate change (including Zambia's NDC and NAMA target activities), which positively reflects greater climate change mainstreaming.

4.1.2.6 Kenya

In 2010 Kenya developed the National Climate Change Response Strategy (NCCRS), whose main components included Understanding the international climate change regime; Assessment of evidence and impacts of climate change in the country; Adaptation and mitigation needs; Communication, education and awareness programmes; Vulnerability assessments, GHGs and climate change impacts monitoring, and capacity building framework; Research, technology development and transfer needs; Climate change governance, and; Action plan and resource mobilization plan. The objectives of the strategy are to:

- Enhance understanding of the global climate change regime: the negotiation process, international agreements, policies and processes and most importantly the positions Kenya needs to take in order to maximize beneficial effects of climate change,
- Assess the evidence and impacts of climate change in Kenya,
- Recommend robust adaptation and mitigation measures needed to minimize risks associated with climate change while maximizing opportunities,
- Enhance understanding of climate change and its impacts nationally and in local regions,
- Recommend vulnerability assessment, impact monitoring and capacity building framework needs as a response to climate change,
- Recommend research and technological needs to respond to climate change impacts, and avenues for transferring existing technologies,
- Recommend a conducive and enabling policy, legal and institutional framework to combat climate change, and
- Provide a concerted action plan coupled with resource mobilization plan and robust monitoring and evaluation plan to combat climate change.

In 2016, Kenya released “Kenya National Adaptation Plan 2015-2030 - Enhanced climate resilience towards the attainment of Vision 2030 and beyond”. The NAP builds on the foundation laid by the NCCRS and the National Climate Change Action Plan (NCCAP). Additionally, the NAP is the basis for the adaptation component of INDC that was submitted to the UNFCCC Secretariat.

The aim of this NAP is to consolidate the country's vision on adaptation supported by macro-level adaptation actions that relate with the economic sectors and county level vulnerabilities to enhance long term resilience and adaptive capacity. This NAP presents adaptation actions that cover the time frame 2015-2030.

The NAP builds on the Adaptation Technical Analysis Report (ATAR) developed under the NCCAP. The ATAR provided a detailed analysis of sectors and vulnerabilities in the various counties, identified adaptation needs in various economic processes, and developed a long list of potential adaptation actions. The ATAR was informed by a highly participatory process that included meetings with the adaptation thematic working group (TWG), NCCAP task force, civil society and the private sector; as well as consultations with counties. Finalization of the NAP was

the first priority action in the ATAR and the adaptation TWG was tasked with completing this action using the NAP consultation and analytical guidelines of the UNFCCC.

The NAP is anchored in the Constitution of Kenya and Vision 2030 – Kenya’s blueprint for development. It also aligns itself with the Medium Term Plan (MTP) and Medium-Term Expenditure Framework (MTEF) planning processes. The NAP is also aligned with the Climate Change Act that was enacted into law in May 2016. In the MTP II sectors, climate change adaptation is represented in the drought risk management and ending drought emergencies, environment, water, energy, agriculture, livestock, and fisheries sectors. Several programmes under these sectors aim to enhance resilience and reduce vulnerabilities of communities and systems affected by climate hazards.

The NAP provides a background of Kenya’s national circumstances, including socio-economic circumstances; and future climate scenarios that the country needs to consider in decision making, planning and budgetary processes. A vulnerability analysis is also presented against the identified hazards in the NCCAP, namely drought, floods, and sea level rise.

The NAP recognizes the governance and institutional arrangements for implementation of adaptation actions as stipulated in the NCCAP and Climate Change Act, 2016. With drought being the main hazard, the NAP recognizes that the National Drought Management Authority (NDMA) is a key institution in enhancing adaptive capacity. Established in 2011, NDMA is mandated to establish mechanisms to ensure that drought does not become famine and that impacts of climate change are addressed.

This NAP proposes macro-level adaptation actions and sub-actions in 20 planning sectors that categorizes them into short, medium, and long-term time frames. For each sector, the NAP identifies gaps, estimates costs of the macro-level actions projected to 2030, and identifies key institutions required for their implementation. Prioritized actions that have not yet been mainstreamed into Kenya’s development plans are expected to be integrated in the third MTP (2017-2022). Thereafter the actions will need to be revised in each MTP to ensure that Kenya’s development will be resilient to climate shocks.

The NAP proposes adaptation indicators at county, sectoral and national levels for monitoring and evaluation (M&E). These indicators will guide the collection of data and information on adaptation outcomes, which will be aggregated at the national level. These indicators are derived from an adaptation theory of change that is based on the macro-level adaptation actions and the adaptation vision. Adaptation data will feed into the national Monitoring, Reporting and Verification plus (MRV+) system – a framework for adaptation and mitigation reporting recommended in the NCCAP.

The vision of the NAP is “enhanced climate resilience towards the attainment of Vision 2030”. Enhanced climate resilience includes strong economic growth, resilient ecosystems, and sustainable livelihoods for Kenyans. It will also result in reduced climate-induced loss and damage, mainstreamed disaster risk reduction approaches in various sectors, reduced costs of humanitarian aid, and improved knowledge and learning for adaptation and the future protection of the country.

The objectives of the NAP are to:

- Highlight the importance of adaptation and resilience building actions in development;
- Integrate climate change adaptation into national and county level development planning and budgeting processes;
- Enhance the resilience of public and private sector investment in the national transformation, economic and social and pillars of Vision 2030 to climate shocks;
- Enhance synergies between adaptation and mitigation actions in order to attain a low carbon climate resilient economy; and
- Enhance resilience of vulnerable populations to climate shocks through adaptation and disaster risk reduction strategies.

In May 2016, Kenya Government gazetted “*Kenya Climate Change Act 2016*” in a move that put in place legislations to guide and regulate climate change activities in the country. In the same year, the country released Sessional Paper No. 3 of 2016 on National Climate Change Framework Policy. This Policy was developed to facilitate a coordinated, coherent and effective response to the local, national and global challenges and opportunities presented by climate change. An overarching mainstreaming approach has been adopted in the policy to ensure the integration of climate change considerations into development planning, budgeting and implementation in all sectors and at all levels of government. The Policy therefore aims to enhance adaptive capacity and build resilience to climate variability and change, while promoting a low carbon development pathway

Kenya has adopted the “Climate Change Governance Approach” in the Sessional Paper No. 3 of 2016 on National Climate Change Framework Policy. Under the approach, the response to climate change in country must adhere to the constitutional governance framework and commitment to sustainable development, while addressing the goal of attaining low carbon climate resilient development. To attain the latter, this policy focuses on appropriate mechanisms to enhance climate resilience and adaptive capacity, and the transition to low carbon growth.

Enhancing Climate Resilience and Adaptive Capacity

Key economic sectors in Kenya are particularly susceptible to climate change impacts and this threatens to undermine Kenya’s recent and impressive development gains. It is therefore important that the country builds and enhances its climate resilience and adaptive capacity. Building climate resilience requires that Kenyan systems of governance, ecosystems and society have capability to maintain competent function in the face of climate change. This would aid a return to some normal range of function even when faced with adverse impacts of climate change. Adaptive capacity is key to improving socio-economic characteristics of communities, households and industry as it includes adjustments in behaviour, resources and technologies, and is a necessary condition for design and implementation of effective adaptation strategies. There is mutual reliance in that the national adaptive capacity depends on the resilience of its systems.

The sustainable development of Kenya therefore significantly depends on the design and implementation of mechanisms that trigger and enhance climate change resilience and adaptive capacity. Devolved governments present an opportunity to diversify and implement appropriate

climate change responses to build resilience, as each level of government performs distinct functions while pursuing cooperation with the other level of government, where necessary.

Low Carbon Growth

While Kenya currently makes little contribution to GHG emissions, a significant number of priority development initiatives outlined in Vision 2030 and its Medium Term Plans will impact on Kenya's levels of GHG emissions. Actions that will positively impact GHG emissions include increased geothermal electricity generation in the energy sector, switching movement of freight from road to rail in the transport sector, reforestation in the forestry sector, switch from kerosene to solar powered voltaic lamps, and agroforestry in the agricultural sector. In order to attain low carbon growth, the government will take steps outlined in this Policy by implementing regulatory mechanisms that mainstream low carbon growth options into the planning processes and functions of the national and county governments.

Mainstreaming Climate Change into the Planning Process

Climate change mainstreaming is necessary to equip various coordinating and sectoral agencies of the Kenyan national and county governments with the tools to effectively respond to the complex challenges of climate change. In this context, mainstreaming implies the integration of climate change policy responses and actions into national, county, and sectoral planning and management processes. This requires explicitly linking climate change actions to core planning processes through cross-sectoral policy integration. This integration operates horizontally by providing an overarching national guidance system, such as through this Policy and national climate change legislation; and vertically by requiring all sectors and levels of government to implement climate change responses in their core functions. This is done, for instance, through the Medium Term Expenditure Framework for budget making, and converting policies and plans linked to climate change into expenditure and action. Mainstreaming is a process that encourages cooperation across government departments in planning for a longer-term period; rather than fragmented, short-term and reactive budgeting. County governments are, for instance, required by law to prepare and implement County Integrated Development Plans, through which climate change actions can be mainstreamed. To attain this climate change mainstreaming, the government will develop a framework and tools to integrate climate change responses into national and county planning processes, including economic planning, development policies, performance contracting, and the budget making process.

Enabling Regulatory Framework

Kenya has legislative, policy and institutional frameworks that provide a regulatory architecture comprising the vital components of climate change governance. It is imperative to ensure compliance with the constitutional framework of public administration, especially the devolved system of government. The Constitution has set up a renewed structure of public administration, with one national government and 47 county governments. These two levels of government, while distinct, are interdependent and expected to function consultatively in a cooperative manner to discharge their respective and concurrent mandates. The national government is mandated to make policy on climate change. Various functions assigned to county governments are integral to fulfilment of actions required to address climate change. In certain instances, there may be concurrent performance of climate change related functions by the two levels of government. It is therefore necessary to review the overall legislative and institutional arrangements that govern

climate change actions. Various sectoral laws and policies that will provide the legislative basis for specific actions need to be analysed for potential amendments to enhance their capability to tackle climate change challenges and exploit emerging opportunities. This complex undertaking forms a foundation for attainment of low carbon climate resilient development, and sets the basis for climate change mainstreaming. It therefore requires the government to undertake various core interventions, including the enactment of overarching climate change legislation to provide the framework for coordinated implementation of climate change responses and action plans. It is also necessary to have an institutional coordination mechanism with high-level convening power to enhance the inter-sectoral response to climate change; and a technical institutional framework to guide policy and functional implementation of climate change legal obligations of the national and county governments.

The eventual climate change regulatory framework must observe the requirements for gender equality mandated by the 2010 Constitution. The adoption of a gender mainstreaming approach involves assessing the implications for women and men of any planned climate change action, including legislation, policies or programmes, in any area and at all government levels to achieve gender equality. It is also important that the policy and law account for the youth when planning and executing climate change responses because the youth represent a crossover between the present and future generations, and play a critical role in socio-economic development. The overarching climate change legislation and amendments to sectoral laws must therefore carve out specific roles and opportunities for the youth to participate in decision-making in climate change governance and pursue opportunities that arise through climate change actions.

Climate change is a global challenge, and Kenya has been a key participant in the UNFCCC and Kyoto Protocol processes, and also regionally within the East African Community. The national governance approach to climate change is consistent with national strategic interests, while also linking with global and regional approaches.

Kenya has enacted policies seeking to expand electricity access through the use of renewable energy sources. Two important programs: the feed in tariff scheme and the creation of the Rural Electrification Authority. These policies and the use of clear targets have increased access and the use of renewable energy.

Kenya's NDC Implementation

Kenya's GHG emission level is estimated to be 70 MtCO₂e in 2010 – about 0.1% of total global emissions. The NDC sets a target of abating GHG emissions in Kenya by 30% by 2030 relative to the business as usual scenario of 143 MtCO₂e. Achievement of this target is hinged on financial and technological support from development partners. Adaptation is the main priority in Kenya, informed by the fact that despite being a low GHG emitter the country disproportionately bears the brunt of climate change. Historically, Kenya has had little contribution to climate change given that its past and current GHG emission levels are insignificant compared with global emission levels. However, the country is highly vulnerable to the impacts of climate change which are already being experienced in various sectors of the economy. To this end, the first NCCAP considered climate change adaption to be the main priority of the country. This priority is reflected in the second NCCAP which is geared towards achievement of low-carbon and climate resilient development in ways that priorities adaptation. At the county level, investment in adaptation is

expected to enhance the resilience of vulnerable groups such as women, youth and people with disabilities to the impacts of climate change.

4.1.2.7 Tanzania

The government of Tanzania has undertaken a number of efforts that have contributed to better understanding of the present and future impacts of climate change and possible opportunities. In this regard a need for a better institutional arrangement has been underscored. These efforts include a Quick Scan on impacts of climate change in 2009; preparation of the National Adaptation Programme of Action in 2007, Clean Development Mechanism (CDM) Guide for Investors in 2004 and the Initial National Communication to the UNFCCC in 2003. In the year 2012, Tanzania developed its National Climate Change Strategy.

The Strategy outlines initiatives to build a critical mass of climate change experts to address adaptation challenges and proactively exploit available opportunities to address both adaptation and mitigation, thereby enhancing Tanzania's participation in the international climate change agenda.

This Strategy also reiterates Tanzania's commitment to address climate change in consideration of the fact that the country is amongst the highly vulnerable group of countries globally. The strategy recognizes that the challenge of climate change mitigation requires the commitment and participation of all countries. The United Republic of Tanzania commits to effectively participate in addressing challenges posed by climate change under the auspices of the UNFCCC, provided there is adequate and sustained support.

The Strategy underscores the fact that, all countries have to play a role in addressing climate change consistent with their unique national circumstances. In the strategy, Tanzania commits to its part, in particular by improving the energy availability to reduce deforestation, improve energy diversification and efficiency of her major energy consuming sectors, including, power generation, manufacturing, and transportation. Sustainable production and use of coal will remain central to ensuring the availability of affordable and reliable energy sources in the country.

In the strategy, Tanzania foresees having its over 33.5 million hectares of forestry reserves and sizable rural land under forest cover as a sink of greenhouse gases produced elsewhere. The Strategy provides strategic interventions to ensure that the communities and the nation as a whole benefit from such global services.

The Strategy aims at providing more insight that will enable Tanzania to effectively adapt to climate change and participate in global efforts to mitigate climate change with a view to achieving sustainable development in line with the national efforts and development goals. In the strategy the government of Tanzania commits to effectively meet the objectives of the Strategy and engage in the international processes in order to support the implementation of the same from the international context.

The goal of the Strategy is to enable Tanzania to effectively adapt to climate change and participate in global efforts to mitigate climate change with a view to achieving sustainable development in line with the Five Years National Development plan; the Tanzania Development Vision 2025, as

well as national sectoral policies. It is expected that this Strategy will reduce vulnerability and enhance resilience to the impacts of climate change. The implementation of the Strategy will enable the country to put in place measures to adapt to climate change and mitigate GHG emissions in order to achieve sustainable national development through climate resilient pathways.

The specific objectives of the Strategy are:

- a) To build the capacity of Tanzania to adapt to climate change impacts.
- b) To enhance resilience of ecosystems to the challenges posed by climate change.
- c) To enable accessibility and utilization of the available climate change opportunities through implementation.
- d) To enhance participation in climate change mitigation activities that lead to sustainable development.
- e) To enhance public awareness on climate change.
- f) To enhance information management on climate change.
- g) To put in place a better institutional arrangement to adequately address climate change.
- h) To mobilize resources including finance to adequately address climate change.

In the strategy, adaptation is emphasized as the highest priority for Tanzania being a Least Developed Country (LDC). Adaptation strategies identified in this section are built on and extend beyond National Programme of Adaptation to climate change (NAPA) as they have been prepared in a strategic approach that covers key sectors of social-economic growth of the country. The overall objective of this Strategy is to enable Tanzania to effectively adapt to climate change and participate in global efforts to mitigate climate change with a view to achieving sustainable development in the context of the Tanzania Development Vision 2025, Five Years National Development plan, as well as national cross sectoral policies in line with established international climate change agenda.

Although the country is not obliged to reduce GHG emissions, since it has minimal contribution to global GHG concentrations, this Strategy establishes a case for achieving sustainable development while participating in mitigation initiatives, such as the CDM, NAMAs, REDD+, and other carbon markets or trading activities.

This Strategy has identified the need to build the capacity of key economic sectors and relevant institutions to address climate change adaptation and mitigation. Cross-cutting issues, including the establishment and implementation of awareness creation programmes to sensitize the public on climate change impacts, as well as adaptation and mitigation options; establishment of adequate research capacity for various R&D and training institutions to address issues related to climate change; building sufficient capacities of social facilities to address climate change related health risks; supporting acquisition of appropriate disaster risk management technologies (for example, enhancing early warning systems and weather forecasting systems); and promoting effective documentation of indigenous knowledge on climate change adaptation and mitigation in diverse sectors.

The implementation arrangements that were required to effectively implement the Strategy are summarised below: National Climate Change Technical Committee (NCCTC) and National

Climate Change Steering Committee (NCCSC) to guide the coordination and implementation of this Strategy. The NCCTC to provide technical advice to the National Climate Change Focal Point (NCCFP), while the NCCSC to provide policy guidance and ensure coordination of actions as well as cross sectoral participation.

Notably, the Strategy followed the government financial management guidelines and systems established under the Ministry of Finance to ensure effective resource and financial mobilization. However, special arrangements were made to cope with emerging complexity in accessing additional financial support for addressing climate change.

Policy environment for climate change in Tanzania

The Tanzania government has put in place several policies, strategies and plans that are directly addressing issues pertaining to climate change and their impacts on various sectors. These sectors, which are highly affected by climate change, have put in place policy statements and directives that seek to provide the remedies to the impacts of climate change. These policies, strategies and plans further provides policy directives, guidelines and steps towards addressing adaptation and mitigation priorities by the various sectors that are affected by climate change.

The draft version of the revised Forest Policy reiterates how climate change is poised to affect forests as climate is projected to shift towards drier regimes. Key policy areas relevant to climate change include Forest Land Management and Ecosystem Conservation and Management. Several policy statements related to climate change and REDD+ are instituted. These policy statements are instrumental in putting forward the roadmap for engagement of activities beyond the forests to address both mitigation and adaptation measures.

Tanzania developed the National Agricultural Policy of 2013 under this policy sustainable development of the agriculture is given as the priority of the government of Tanzania and it should be based on the safeguarding of the environment. Agricultural intensification spearheaded by the government should entail a low carbon pathway in order to contribute to mitigation of climate change. The following policy statements have been put forward by the government in the policy to address environment and climate change issues pertaining to the agricultural sector;

- i) In collaboration with relevant ministries, coordination of sustainable environmental early warning and monitoring systems shall be strengthened;
- ii) The Government in collaboration with other stakeholders shall strive to improve adaptation measures to climate change effects and deal with all the risks involved;
- iii) Public awareness on sustainable environmental conservation and environmental friendly crop husbandry practices (sustainable agriculture) shall be promoted;
- iv) The Government shall enforce environmental laws and regulations that minimize environmental degradation as of result of agricultural activities;
- v) Activities that enhance the carbon storage capacity such as conservation agriculture and agro-forestry shall be up-scaled;
- vi) Public awareness on the opportunities of agriculture as potential carbon sink and mechanism to benefit from carbon market shall be established according to international protocols; and
- vii) Efficient use of renewable natural resources shall be strengthened.

Tanzania established a REDD+ Strategy in 2013 after long process of consultations on how to address climate change mitigation in the forest sector. As part of the global efforts to reducing emission of green-house gases, REDD+ package is a standalone effort focusing on forestry sector. Institutionalization of the REDD+ initiative is based on the long term commitment of the Tanzania government on forest management and address issues of climate change. The REDD+ Strategy give additional thrust to the Forest Policy on management of forest resources in the country especially those under private, community and general lands that previously received little attention from the government. The REDD+ strategy identified eight key factors responsible for deforestation and forest degradation that need to be dealt with. These included;

- i) Charcoal and firewood demand for domestic and industrial use
- ii) Illegal and unsustainable harvesting of forest products
- iii) Forest fires
- iv) Agricultural expansion
- v) Overgrazing and nomadic pastoral practices
- vi) Infrastructure development
- vii) Settlement and resettlement
- viii) Introduction of alien and invasive species

In making the REDD+ initiative ready for the implementation phase, two key instruments have been put in place with the assistance of the clear strategy; i) Establishment of the National Carbon Monitoring Centre (NCMC), and ii) Establishment of the MRV system.

Furthermore, the REDD+ Strategy formulated an institutional arrangement for coordination of REDD+ activities that is entrenched into existing government structure. Tanzania developed the NAPA and endorsed in 2007 in adherence to the guidelines of UNFCCC as agreed by COP in 2001 and as a tool towards sustainable development as envisioned by country's National Development Vision 2025. Agriculture is the backbone of the economy by providing raw material for direct consumption and industrial use. Assessment of the vulnerability of various sectors to impacts of climate change and their adaptation strategies (existing and potentials) revealed that agricultural sector is the most prone. Therefore, in the NAPA, agriculture and food security have been ranked as first priority for adaptation. This is due to the fact that agriculture affects the majority of the country's population in terms of livelihoods and food security.

The National Climate Change Strategy of Tanzania, proposed mitigation actions that cover eight sectors which include energy, industry, transport, mining, waste management, forestry and agriculture. Each sector is envisioned to develop its own NAMA together with other interventions.

By virtue of the NAMAs definition itself (*'set of policies and actions undertaken by developing country Parties in the context of sustainable development, supported and enabled by technology, financing and capacity-building, aimed at achieving a deviation in emissions relative to 'business as usual' emissions'*), the country has already engaged in low-emission development pathways. The enabling policies and strategies that have been erected and contain statements showcase implementation of the NAMA. In relation to mitigation, Tanzania is implementing an initiative titled *'Low emission capacity building program'* aimed at strengthening the national capacity.

4.1.2.8 Nigeria

In Nigeria, national efforts to address climatic change are guided by a number of principles including the following: (1) Strategic climate change response is consistent with national development priorities; (2) Climate change is addressed within the framework of sustainable development, which ensures that climate change response must be sensitive to issues of equity, gender, youth, children and other vulnerable groups; (3) The use of energy as a key driver for high economic growth is pursued within the broad context of sustainable development; (4) Mitigation and adaptation are integral components of the policy response and strategy to cope with climate change; (5) Climate change policy is integrated with other policies to promote economic and environmental efficiency; (6) Climate change is cross-cutting and demands integration across the work programmes of several government ministries/agencies/parastatals and stakeholders, and across sectors of industry, business and the community; (7) Climate change response provides viable entrepreneurship opportunities.

Since the submission of its first national report to the UNFCCC in 2003, Nigeria has made considerable progress on climate change governance. In its current national development plan (Vision 2020), the government recognizes climate change as threatening its economic prosperity and future development. For improving policy formulation and co-ordination in this area, the Ministry of the Environment created a Special Climate Change Unit which recently has been transformed into the Department of Climate Change. The Department managed to sign a co-operation agreement with Germany and nine other West African Countries (Benin, Burkina Faso, Cote d'Ivoire, Ghana, Gambia, Mali, Niger, Senegal, and Togo) to collaborate in the review and development of climate change policies. In 2013, the Federal Executive Council (Cabinet) approved the agreement for ratification. The collaboration takes place within the framework of the newly created West African Science Service Centre on Climate Change and Adapted Land Use (WASCAL).

Overview of Nigeria's NDC

The Paris Agreement is unquestionably a tremendous opportunity for Nigeria to toe the line of Low Carbon Development with great optimism for the future of the country. Nigeria's NDC unconditionally pledged a 20% emissions reduction below Business as Usual (BAU) by 2030, and a 45% conditional commitment which can be achieved with financial assistance, technology transfer and capacity building from the more advanced and more willing international partners that care a lot about issues of climate change. These ambitious pledges to the Paris climate conference in December 2015, demonstrated Nigeria's commitment to play the lead role on sustainable development. The SDGs are integral to Nigeria's development and fit into her Economic Growth Plan. The mission of her government and her NDC is fully aligned with the SDGs main focus on reducing poverty, increasing food security, creating jobs by diversifying the economy, providing a healthy environment and, importantly, driving economic development by providing access to energy.

Nigeria's has converted the NDC ambition into action plan and she is committed to transforming her climate action plans into results by turning international debate into pragmatic steps. Full ownership and commitment to the NDC by relevant MDAs is in fact crucial to delivering on pledges, and essential in order to mobilize the international support, which was part of the Paris package. With this spirit in mind Nigeria prepared an implementation roadmap, and have been

working with key MDAs to develop sectoral action plans for the NDCs five critical sectors in Nigeria's economy: Agriculture, Forestry and Other Land Use (AFOLU), Oil and Gas, Power, IPPU and Transport. This is in line with Nigeria's Economic Recovery and Growth Plan (ERGP) aimed at bringing the country out of economic recession and leading it to the path of sustainable development.

Internationally, Nigeria has pledged to support the Montreal Protocol, as well as removing ozone-destroying pollutants from our atmosphere, which offers the opportunity to further alleviate planetary warming. The Paris Agreement is succeeding as the climate change and development agenda can no longer be set by the global north for the global south, it has to be set by and for all - and the NDC is Nigeria's own plan of action to contribute to this international discourse by using the Paris Agreement to promote a low carbon but high growth development agenda.

There is an ongoing inclusive approach, which recognizes the importance of national development priorities vital to maintaining the political support needed for NDC realization and there is great optimism in the with fantastic stories of innovation coming from Nigeria, such as the rapid emergence of so many off-grid solar initiatives many led by youthful entrepreneurs who think differently and embrace innovation. In the same vain, the government is looking to matching this entrepreneurial thinking with innovative approach to mobilize finance and investment. For instance, Nigeria launched her first ever Sovereign Green Bond in 2017 to fund a pipeline of projects all targeted at reducing emissions towards a greener economy.

Nigeria is committed to tackling climate change, and the NDC sets out the ambition of sustainably growing Nigeria's economy while reducing carbon pollution. The policies and measures set out in the NDC are development-focused: they contribute to poverty alleviation, increase in social welfare and inclusion, as well as improvement of individual well-being, which includes a healthy environment.

Nigeria has been actively engaged in international climate policy negotiations since it became a Party to the UNFCCC in 1994. The country is host to a number of Clean Development Mechanism Projects, as well as projects funded by the Global Environment Facility.

National Development Strategy and Planning

In recent years, two development strategy documents have directed the development process in Nigeria:

- i) ***Vision 2020-*** The Federal Government's economic growth plan published in 2009 recognizes climate change as a threat to sustainable growth in the coming decades. It sees climate change as a potential driver of *“damaging and irrecoverable effects on infrastructure, food production and water supplies, in addition to precipitating natural resource conflict”*.
- ii) ***Transformation Agenda 2011-2015-***The agenda converts the full suite of priority policies into projects in order to ensure consistency and commitment of national development efforts. It identified 1613 projects across 20 ministries.

Climate Change Policy Framework

In order to reflect the increasing importance of climate change issues in Nigeria, the Federal Executive Council adopted the Nigeria Climate Change Policy Response and Strategy (2012), with the aim of fostering low-carbon, high growth economic development and building a climate resilient society.

The 2014 World Climate Change Vulnerability Index classifies Nigeria as one of the ten most vulnerable countries in the world. The impacts of climate change in Nigeria vary in extent, severity and intensity, with the north east of the country being the most vulnerable area and the south east the least. Climate change poses a significant threat to the achievement of the country's development goals, and the impacts are strongly felt in the economic sectors and areas of agriculture and food security, water, floods and drought, soil erosion, sea level rise, energy, tourism, and ecosystems.

The National Adaptation Strategy and Plan of Action for Climate Change Nigeria (NASPA-CCN 2011) describes Nigeria's adaptation priorities, bringing together existing initiatives and priorities for future action. A set of thirteen sector-specific strategies, policies, programmes and measures have been identified. Additionally, the National Agricultural Resilience Framework (NARF 2014) sets the policy options for this key sector of the country's economy.

Climate Change Mitigation

GHG emissions are projected to grow 114% by 2030 to around 900 million tonnes – around 3.4 tonnes for every Nigerian. This scenario assumes an economic growth at 5%, population growing at about 2.5% per year, all Nigerians to have access to electricity (on-grid or off-grid) and demand is met, and industry triples its size. Nigeria's NDC includes an unconditional contribution to reduce GHG emissions by 20% below BAU projections by 2030, and a conditional contribution of 45%, based on commitment of international support.

Through modelling and stakeholder engagement, priority measures identified the following five priority sectors:

A. Energy

- Renewable energy, particularly decentralized such as Off-grid solar PV
- Multi-cycle power stations
- Scalable power stations of 20-50MW
- Enforced energy efficiency, 2% per year (30% by 2030)
- Use of natural gas rather than liquid fuels

B. Gas flaring

- Improved enforcement of gas flaring restrictions

C. Agriculture and Land Use

- Climate Smart Agriculture and reforestation
- Stop using charcoal

D. Industry

- Benchmarking against international best practice for industrial energy usage

- Adoption of green technology in industry

E. Transport

- Modal shift from air to high speed rail
- Moving freight to rail
- Upgrading roads
- Urban transit
- Toll roads/ road pricing
- Increasing use of CNG
- Reform petrol/ diesel subsidies

The Nigeria's NDC also highlights the importance of keeping major fast-growing cities (Lagos, Kano, Abuja) liveable, and that new policies and measures need to be assessed against their ability to bring social inclusion and be culturally and gender appropriate, as well as improve livelihood security, increase resilience and reduce emission

Measures to Mitigate Climate Change

The Nigeria's mitigation efforts include the following sectors: energy; forestry and land use; agriculture; mitigating in the savannahs and rangelands and service. Some other issues in the climate change mitigation efforts in Nigeria include: financing climate change mitigation; national policies on climate change mitigation; natural gas flare out policy; mainstreaming climate change into sustainable development; relevant national development plan to climate change; and uncertainties. Mitigation component of the National Communication provides information about options and action to reduce future GHG emissions in a country without compromising opportunities for sustainable development.

Energy supply

Under its current development plan (Vision 2020), the government has set targets to promote the production and use of renewable energy. These include wind, solar, hydro, and biomass. The Vision 2020 includes plans to construct several solar and hydro power plants. The Ministry of the Environment has announced plans to increase the share of renewable energy to 20% by 2020. Several government documents and sources also mention the development of a Renewable Energy Master Plan for Nigeria. However, the process of realizing the above targets is still under way. The government adopted a national biofuel policy in 2007, which aims to create an enabling environment for the country's biofuel sector. A Biofuel Energy Commission and a Biofuel Research Agency have been established, as well as tax exemptions and other incentives for biofuel producers. More recently, the Federal Government announced that it had concluded plans to launch a National Policy on Renewable Energy and Energy Efficiency. Once finalized, the Policy will provide the framework and create an institutional focal point for all national efforts on renewable energy and energy efficiency. As part of a wider effort to promote renewable energy, the President set an aspirational target of 30GW to be reached within the next decade.

Energy demand

In the past, Nigeria has worked with international donors to improve its energy efficiency. In 2011, the government entered a partnership with the United Nations Environment Programme and the Global Environmental Facility to promote energy efficiency in the residential and public sectors.

Concrete measures include outreach and training programmes as well as the distribution of 1 million compact florescent lamps in residential and public buildings. There has also been assistance to develop national legislation in the area of energy efficiency, including the Clean Technology Fund's (CTF) support of energy efficiency projects. The CTF Investment Plan envisages a total of USD1.3bn to support low-carbon growth objectives.

REDD+ and LULUCF

Nigeria has one of the highest deforestation rates in the world. According to the Food and Agricultural Organisation, the country lost 55.7% of its primary forests between 2000 and 2005. To protect its forests, Nigeria has adopted a number of acts and laws. The legislation that most directly addresses deforestation is the Natural Conservation Act of 1989. Nigeria's Vision 2020 includes measures to reduce the rate of deforestation such as a target to increase forest cover from currently 6% to 10%. However, no clear timeframe is provided. The 2012 Appropriation Act called for the provision of clean stoves and cooking fuels to discourage tree felling for use in traditional cooking methods. The country also entered into a partnership agreement with the United Nations REDD Programme in 2010.

Climate Change Adaptation

The constitution states that "the State shall protect and improve the environment and safeguard the water, air and land, forest and wildlife of Nigeria". However, there is currently no explicit climate change adaptation legislation in place. Recently the Ministry of the Environment has joined forces with civil society actors and international donors for the Building Nigeria's Response to Climate Change (BNRCC) project. In 2011, the BNRCC produced the NASPA-CCN, which identifies climate change vulnerabilities and contains guidance to develop a comprehensive climate change adaptation strategy. Vision 2020 also includes a number of concrete adaptation targets such as the establishment of a 1,500km "green wall" in 11 states bordering the Sahara to reduce the rate and speed of desertification. A number of policy approaches will provide an organizing framework to develop and implement sectoral strategies, measures and initiatives for effective adaptation responses. These include: (1) Generate adequate energy from a mix of sources for rapid socio-economic development without significantly increasing the country's GHG emissions; (2) Continuously reduce GHG emissions in all sectors, particularly in the oil and gas, and transportation sectors; (3) Enhance food security, reduce poverty and promote healthy living for all Nigerians; (4) Integrate disaster risk management of climate-related hazards into development. There are a number of existing policies in Nigeria that could be adapted and implemented in anticipation of climate change to reduce its potential adverse effects.

Towards meeting the challenges of addressing the key environmental problems and challenges of land degradation (deforestation, desertification and coastal and marine environment erosion), and air and water pollution, urban decay and municipal waste, as well as hazards of drought, coastal surges, floods and erosion, the Nigerian government elaborated a *National Environmental Policy* in 1989. The policy was revised 1999 to accommodate new and emerging environmental concerns. The goal of the revised policy is to achieve sustainable development in Nigeria and, in particular to (i) secure a quality of environment adequate for good health and well-being; (ii) promote the sustainable use of natural resources; (iii) restore and maintain the ecosystem and ecological processes and preserve biodiversity; (iv) raise public awareness and promote understanding of linkages between environment and development; and (v) cooperate with government bodies and other countries and international organizations on environmental matters.

Nigeria has also enacted a number of specific policies and action plans for the implementation of the National Environment Policy. These policies that could be adapted to support national climate change mitigation and adaptation response efforts include (i) National Policy on Drought and Desertification; (ii) Drought Preparedness Plan; (iii) National Policy on Erosion, Flood Control and Coastal Zone Management; (iv) National Forest Policy; and (v) National Biodiversity Strategy and Action Plan. In addition, Nigeria has many laws and regulatory measures to promote sustainable environmental management in many sectors of the economy. Some of the critical laws that may have influence on climate change response, particularly as they relate to ecosystem adaptation, include (a) *National Park Service Act* – retained as Cap N65 LFN 2004 (for conservation and protection of natural resources (wildlife and plants) in national parks; (b) *Endangered Species (Control of International Trade and Traffic) Act*- retained as Cap E9 LFN 2004 (conservation of wild life and protection of threatened and endangered species).

Greenhouse Gas Emissions Inventory in Nigeria

Since the submission of the First National Communication in 2003, Nigeria has updated its national GHG inventory. The procedure involved the use of the default methodology of the “Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories” (IPCC, 1996) and the “Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories” (IPCC, 2000). The inventory covers all of the major sectors presented by IPCC (1996) with the exception of Solvents and Other Products Use, which was not available electronically from the downloaded software. Emissions of GHG in the energy, industrial processes, agriculture, land use change and forestry, and wastes have been estimated and the production and consumption of energy under different sectors evaluated with data from national and international sources. Based on these and emission factors mainly drawn from default IPCC emission factors database supported with some national estimates where available, the estimates of gross national emissions from the different energy production and consumption activities were derived.

Activity data for the national GHG inventory was compiled from published data by the Nigerian National Petroleum Corporation (NNPC), National Bureau of Statistics (NBS) and Central Bank of Nigeria (CBN). The majority of emission factors used is default values taken from the Revised 1996 IPCC Guidelines. Estimates have been made for the base year 2000 with sectors, as sources of GHG emissions, categorized according to their percentage contributions to the national GHG inventory. Sectoral (bottom-up) approach has been used to estimate the GHG emissions and removals from (i) energy; (ii) industrial processes; (iii) agriculture; (iv) land use, land-use change and forestry (LULUCF); (v) waste; and (vi) solvent and other product use sectors.

4.2 Climate Financing

4.2.1 Overview of Climate Financing

It will require tremendous efforts and ingenuity to mobilize resources at scale, coordinate their delivery through a combination of policy and finance instruments, and maximize their leverage on much larger amounts of public and private investments⁸. At the same time, it is important that climate finance should be mobilized and delivered so as to complement – and not erode –

⁸ https://www.greengrowthknowledge.org/sites/default/files/downloads/resource/Climate_Finance_cdkn.pdf

development policy and finance, in order to sustain and further development gains in a changing climate.

Policymakers in charge of environmental policy and climate action are insufficiently aware of the various fiscal tools available to catalyze climate finance such as green bonds and transfer pricing. The latter is a mechanism for pricing transactions within and between enterprises under common ownership or control and which greatly boost implementation of climate laws when Article 6 of the Paris Agreement becomes operational. Article 6 is a key part of the Paris Agreement which allows Parties to voluntarily cooperate to meet their NDCs commitments, providing for international transfers of mitigation outcomes, a new mechanism for mitigation and sustainable development, and non-market approaches. Article 6 establishes the foundation for a post-2020 carbon market, but there are still many complex issues to be discussed and decided among Parties to finalize the Paris Agreement work programme.

4.2.2 Review of the Country's status with regard to Climate Finance Landscape

Finance is critical for the implementation of the mitigation and adaptation actions set out in the specific country NDCs. The quality of the available information on NDC financing, in addition to the sophistication of financing plans, vary considerably from country to country. Below is a country by country analysis of the climate finance landscape.

4.2.2.1 Nigeria

An assessment of financing needs and sources required to implement Nigeria's NDC is still incomplete. Already, there are funding successes, which include: Bus-based mass transport support for Abuja, Kano and Lagos; Financial intermediation for clean energy and energy efficiency projects; Utility-scale solar PV; and the Nigeria Erosion and Watershed Management Project (NEWMAP). There have also been considerable progress in market-based financing, as evidenced by the launch a 'Green Bond' scheme in 2017. Therefore, to develop a complete NDC financing strategy for Nigeria, it is necessary to:

- Estimate financing needs
- Identify financing sources
- Understand financing gaps
- Assess the requirements to close the gap.

The estimated investment need for mitigation in all developing countries is US\$ 180 – 450 billions/annum, whilst a further US\$ 30-100 billions/year may be needed for adaptation. According to the NDC submissions, total financing needs (both unconditional and conditional) in submitted NDCs is estimated to be more than US\$ 4.4 trillion, or US\$ 349 billion annually. These numbers are, however, highly uncertain.

Assessing financing needs would need to include identifying the cost for components within each action, including upfront capital costs (e.g. infrastructure costs), ongoing maintenance costs, in addition to capacity building or training, and human resources needed to implement the action. It is expected that the approach for costing measures would differ by sector, and it is recommended that the process begins with a desk review. For example, costing of climate smart agriculture-related interventions will be based on an assessment of similar actions previously completed within the country (whether at national or sub-national level), as well as reviewing how relevant

peer countries may have costed similar actions, to inform the cost estimate. Costing of mitigation measures in other more technology-intensive sectors would rely on data being made available at the industry level.

It is also important to note that costs for some actions may change over time; it may be relevant to revise cost estimates when and as new information comes to light. For example, technology costs may decrease over time (a recent example are the rapid cost reduction and efficiency improvement of solar PV and wind turbine technology), or barriers to uptake of climate-friendly practices are being removed by relevant policies. It is recommended that once a financing needs assessment has been completed, there is a built-in update procedure. Nigeria's access to climate finance has been rather low relative to the country's vulnerability and emissions profile, as evidenced by the research illustrated below.

The measures included in the Nigeria NDC were the outcome of a multi-criteria prioritisation exercise, using the following eight criteria: Cost effectiveness; mitigation potential; Poverty alleviation and job creation; Feasibility of implementation; Short-term results; Gender and social inclusion; Health and air quality; Land (degradation) and water quality, including deforestation. This quantified assessment excluded significant non-economic and indirect benefits, such as improved health and productivity from reduced pollution. Yet, a full quantification of these development benefits or indeed a robust calculation of the gross costs and investments required for the unconditional contribution under the NDC were not possible on the basis of the existing data. The sector plans contain significant new information, based on comparative international data, on the investment needs of specific measures.

Further calculations concerning individual measures can be found in the 2013 World Bank report¹⁴. Significant new analysis would be required to draw economy-wide conclusions. For example, the efficiency of renewables technology has greatly improved in recent years, whereas the cost has significantly dropped. This has profound positive impacts on the electricity sector mitigation potential.

Cost as such is, however, not the greatest hurdle. Key to investment in climate action is a sustained enhancement of the enabling environment for investment in development in general, as well as reducing the cost of capital across the economy. This is particularly true in the energy sector, and further detailed in the relevant action plan.

Finally, the Nigeria NDC did not quantify the cost of climate inaction. Economists, however argue that the costs of climate action today will be dwarfed by the costs that lie ahead. They, therefore, recommend utilizing a social cost of carbon in assessing the long-term cost-effectiveness of policies and measures that are not cost-effective today, as these could deliver greater climate and other benefits in the medium to long term. The urgent challenge is that in the current fiscal situation those measures that require large upfront investment, even if cost effective over the life of the investment, need to be carefully reviewed before being implemented. Many projects can only be implemented with significant international support, including bilateral and multilateral support under the aegis of the Paris Agreement.

The ambitious goals of Agenda 2030 and the Paris Agreement on climate change have not yet been matched by an equally ambitious financing plan: both public and private financing for sustainable development are underperforming relative to expectations and needs. It is acknowledged that the global climate finance architecture is complex, as finance is channelled both through multilateral, bilateral and private channels. In addition, a number of countries have set up, with varying degree of success, their own national climate funds to access finance and to

channel it to different sectors and sub-national institutions (such as Rwanda's FONERWA, Bangladesh's Climate Change Trust Fund, Indonesia's Climate Change Trust Fund [ICCTF]).

As part of the Paris outcome, developed countries were urged to scale-up their level of support with a concrete roadmap to achieve the goal of mobilizing US\$ 100 billion/year by 2020 for climate action in developing countries. There are a number of ways to source and channel funds for mitigation and adaptation. Figure below maps out the different sources, actors, and instruments available to fund mitigation and adaptation measures.

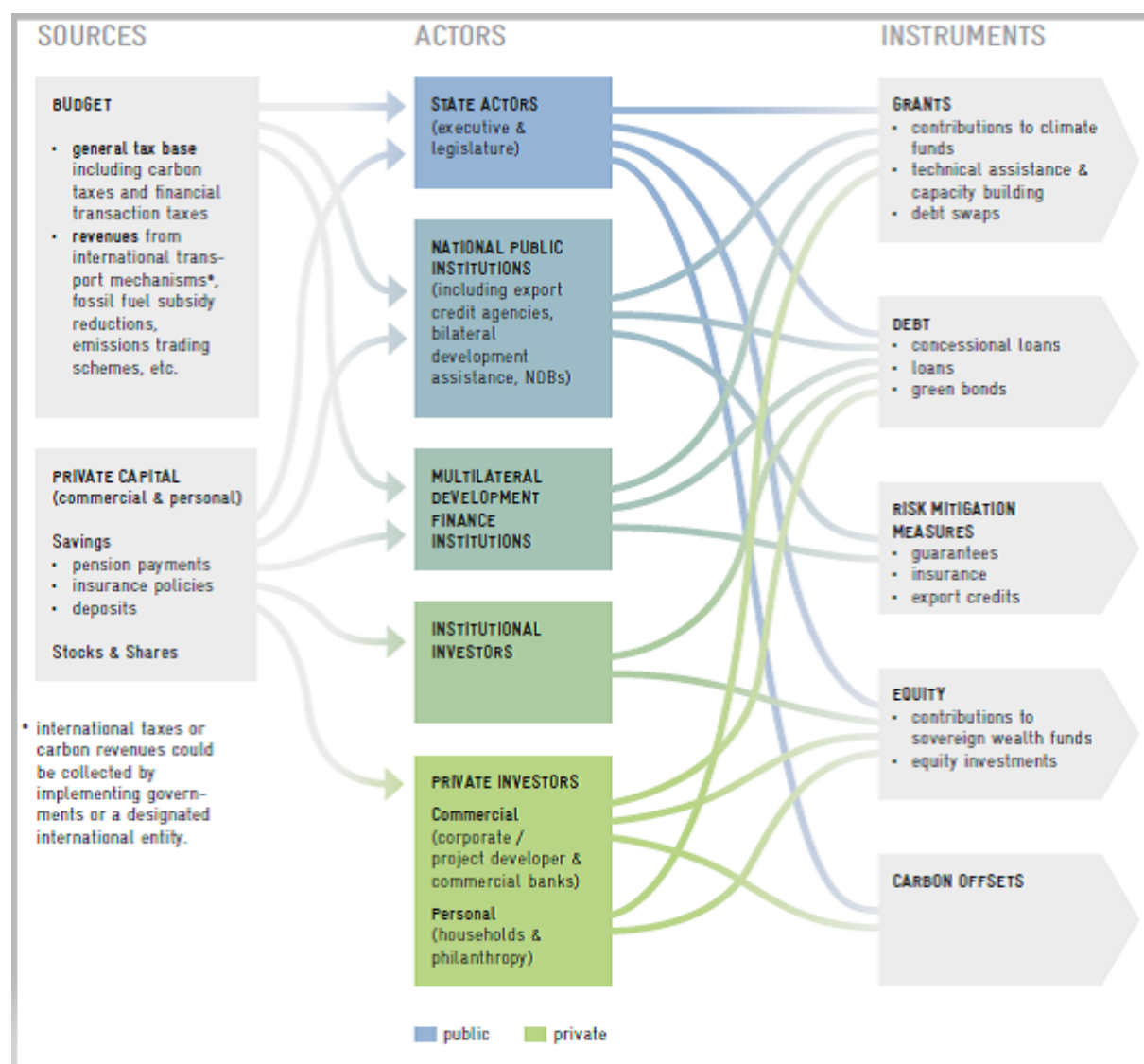


Figure 1: Mapping of climate finance channels (Cicero & CPI, 2015)

Sources are broadly divided into budget (general tax base or other) and private capital from commercial or personal sources. These sources blend in a number of ways to fund actors (state actors, national public institutions, multilateral development finance institutions, institutional investors, and private investors). Financing instruments vary from grants, to debt, risk mitigation measures, equity, and carbon offsets. In particular:

- Public finance is a fundamental driver for climate change financing and investment. It provides direct support to activities, and also allows the government to multiply its resources through leveraging private sector investment. In the case of a sovereign debt financed investment, the cost of capital will be significantly lower than if the investor were a private entity. Even without providing debt financing, government can significantly reduce investment cost / risk by acting as first loss guarantor or by taking a small equity share in the investment.
- Concessional loans by development finance institutions can reduce financing costs below the commercial rates available in many developing countries and play a catalytic role in triggering climate friendly investments without crowding out private actors. In fact, climate investments present the whole range of risk profiles and could, therefore, interest a variety of financial players, from investors with a low tolerance of risk, such as institutional investors like pension funds, to ones who are prepared to accept a high risk for higher expected gains, such as venture capitalists.
- Private sector investment is key to achieving climate change targets. Climate change cannot be managed without a strong engagement from the private sector – it is recognised that more than 80% of investments required for climate change will need to be privately funded. One important potential investor is the domestic pension fund industry, with an estimated US\$ 70 billion in assets. The Nigerian Pension Commission has stated that pension funds have to play a more active role in the economic development of the nation by, for instance, assisting in solving the huge infrastructure gaps in terms of roads, power supply and housing. However, such investments must be through safe investment vehicles.

Despite a drop in federal revenues Nigeria government has worked hard to attract private sector partnerships, in addition to support from development partners. Recall that Nigeria launched its first ever Green Bond in the first quarter of 2017, to fund a pipeline of projects all targeted at reducing emissions and to promote a greener economy. This was achieved against the backdrop of significant challenges facing the country, with the economy in recession, declining oil production and fuel availability, and its knock on impacts on public funds. Specifically, Nigeria has made some progress on mainstreaming climate change into the budgeting process, in alignment with planning. Public sector financing is the main source of funds for implementing development policy and plans and channelled through Government institutions, reflected in national MTEF and annual budgets. Initial work has been carried out to identify the climate change-relevant budget allocation for a number of sectors. A full Climate Public Expenditure and Institutional Review (CPEIR) has not been carried out yet.

Additionally, as part of its developmental role, the Central Bank of Nigeria (CBN) has established the Small and Medium Enterprises Credit Guarantee Scheme (SMECGS), for promoting access to credit by SMEs in Nigeria. The activities covered under the Scheme are: (i) Manufacturing; (ii) Agricultural Value Chain; (iii) Educational Institutions; and, (iv) Any other activity as may be specified by the Managing Agent from time to time.

Whilst a holistic approach is important, balancing allocation of public funds, attracting private finance and leveraging international climate funds, work carried out by Vivid Economics/NIAF has resulted in the identification of those climate funds representing the best immediate opportunity for Nigeria for a number of reasons:

- Dedicated climate funds typically allocate funding to projects via a transparent allocation process
- Recipient countries submit project proposals to the fund which demonstrate how the project contributes to achieving the fund's strategic objectives
- The fund reviews each proposal and those that score the highest in a given funding round are approved for finance
- They are also expected to grow significantly over time.

Whilst it is important to ensure that there is adequate *volume* of funds, recent work in Nigeria has also highlighted the importance of ensuring *quality* of funds. Quality funds have as criteria ensuring that development progress is made on the side of the beneficiary, and funders will see development goals achieved and will be more able to justify their support. Hence, quality influences the prioritisation of funding sources. Seven priority funds have been identified, based on:

- Eligibility of Nigeria to apply
- Explicit geographical focus on Nigeria and/or sub-Saharan Africa
- Amount of funding pledged and deposited
- Alignment of strategic objectives with MDA projects

The seven prioritized funds are: the GCF, Adaptation Fund (AF), NAMA facility, International Fund for Agricultural Development (IFAD), International Climate Initiative (German IKI), Global Environment Facility (GEF), and the Special Climate Change Fund (SCCF, GEF managed). The most appropriate fund for a particular project or program will depend on a number of criteria.

There are a number of other potential instruments and funds that Nigeria is considering or could potentially consider. They include:

- i) Issuing Green Bonds.
- ii) Microfinance, despite its potential shortcomings, is considered a good funding mechanism in particular for climate change adaptation. There is some localized evidence that microfinance facilitates coping by reducing sensitivity to environmental and climate hazards.
- iii) The Climate Finance Lab is a global initiative that supports the identification and piloting of cutting edge climate finance instruments. It aims to drive billions of dollars of private investment into climate change mitigation and adaptation in developing countries.
- iv) The Federal Government of Nigeria (FGN) has established the Nigeria Sovereign Investment Authority, which makes significant long-term investments, including in infrastructure, through three funds. These could be leveraged to support the objectives of the NDC.

Five key concepts under Financing: Access to Climate Finance; Climate Finance Sources; Climate Finance Instruments; International Climate Finance and Lighthouse Project Funds. A detailed assessment of the financial landscape for NDC development across Nigeria's five priority sectors AFOLU, Power, Oil and Gas, IPPU and Transport) is required in order to effectively match the funding needs with available or potential sources.

i. **Access to Climate Finance:**

Finance is critical because of the need to understand the cost involved so as not to overestimate or underestimate. Therefore the need to identify bankable projects

- especially those that will enable us meet Nigeria's 20% unconditional commitment across the sectors. There is need to understand how to tap into international climate finance such as the Global Climate Funds pointing out the required criteria, prioritizing projects, processes required to directly access funds from funding organizations, and to directly access the funding and not through a third party.
- ii. **Climate Finance Sources:**
The following climate finance windows available domestically and to be accessed were identified: They include the Green Bond, Pension Fund (PenCom), Treasury Single Account (TSA), Sovereign Wealth Fund (SWF), and Ecological Funds. It was observed that Nigeria is rich and does not need external funding at least for projects under the 20% unconditional commitment pointing out the need for organizations to leverage on these funds.
 - iii. **Climate Finance Instruments:**
The following climate finance instruments identified in Nigeria to support the mitigation and adaptation projects targeting the year 2030 include the Green Bond; Central Bank of Nigeria (CBN) Anchor Borrower Fund; Lagos State Employment Trust Fund which recently launched an N8 billion scheme for women and targeted towards climate action projects; C40 Cities which helps cities to develop in a green way. It is proposing a green bank across Africa; Youth Climate Innovation Hub; Climate Innovation Centre; Renewable Energy Roundtable; Concessional and Non-concessional instruments; Loans/Equity lending; Utilization of Corporate Social Responsibility (CSR) for climate action; Renewable Energy Fund (\$150 million) from the World Bank.
 - iv. **International Climate Finance**
It was noted that Nigeria has accessed international climate finance such as GCF, Adaptation Funds, IFAD, Climate Investment Fund, FCPF (World Bank), UN-REDD+ Programme, UNDP-NDC Support Programme. Nigeria in most cases does not directly access these funds. It comes through a third party.
 - v. **Lighthouse Projects:**
Possible Lighthouse projects in Nigeria across the five priority sectors have been proposed. These could be mobilized quickly to realize emissions reductions, energy security and economic development benefits within 12-18 months.

4.2.2.2 Tanzania

Although the actual cost of implementing Tanzania's National Climate Change Response Strategy has not been established, the key determinant in estimating the cost of climate change impacts can be indirectly derived from the climate change interventions outlined, that is, adaptation, mitigation, capacity building, technology and cross-cutting interventions. Without an accurate and static future scenario, it is difficult to cost the necessary strategic actions needed to address climatic changes. This challenge is demonstrated by a UNFCCC report that provides a range as opposed to specific numbers that estimate the additional funding needed for adaptation by 2030. The report projects a need equivalent to between USD (\$) 49 to 171 billion per annum globally (UNFCCC, 2007). Moreover a recent study estimates that the cost of building adaptive capacity and enhancing resilience against future climate change in Tanzania is USD (\$) 100 to 150 million per year. The Stockholm Environment Institute report projects that an additional USD (\$) 500 million per year (but probably more) is required to address current climate risks, in reducing future impacts and

building resilience to future climate change. The report further states that aggregate models indicate that net economic costs could be equivalent to a further 1 to 2 % of GDP per year by 2030.

The financing of climate change actions in Tanzania appears to be treated primarily as a budgetary rather than a policy issue, with the national strategy providing only the briefest of references to the financing mechanisms required implementing climate change actions. Mention is made of the leadership required from the Ministry of Finance, whilst at the same time suggesting that a national climate fund may be necessary to manage all sources of finance efficiently. Secondly, Tanzania's institutions are still at an early stage in responding to the challenge of climate finance delivery. The lack of delineation between climate change and environmental-related issues has brought about some confusion, as they tend to be treated as one and the same thing. This is reflected in the current institutional architecture, which has been inherited from one that was designed to address environmental issues. This may not be sufficiently robust to allow for the integration of climate change into the plans, programmes and projects of all relevant sectors of the economy.

A detailed assessment of the financial landscape for NDC development across Tanzania's mainland and Zanzibar priority sectors: Agriculture, Livestock, Coastal and Marine Environment, Fisheries, Water Resources, Forestry, Health, Tourism, Human Settlement, Energy and Transport and Transport so far show that there is no dedicated operational mechanism for climate finance in both Tanzania Mainland and Zanzibar. In addition, in national budget system the code for climate change is not yet developed. Thus, the current operational mechanism is based on usual budget allocation on different sectors which also compliment climate action but not reflected with specific code in budget.

In Zanzibar, Ministry of Finance is developing dedicated mechanism for climate finance. However, this assignment has been slow due to limited budget in the meantime some of development partners are showing interests to support the initiative. Tanzania managed to access international finance for mitigation and adaptation projects indirectly through donor funded agencies and is looking forward for accessing more as demand is growing rapidly. National budget allocation will be more on adaptation goals as these are immediate challenges which pose high risks to majority of Tanzanians.

4.2.2.3 Gabon

There are five sectors covered under Mitigation in the the Gabonese NDC . They are Energy, Oil and Gas, Agriculture, Forest and Infrastructure. Respondents expressed the wish that Gabon should have sector-by-sector financing model to enable effective monitoring and evaluation. They also pointed out that they would also like to see Gabonese efforts in preserving the environment and more transparency and accountability from climate finance windows that are coming from donor agencies for the various projects.

Government and private investors have had difficulty in accessing the GCF with most of the fund coming into the country through a third party organisation. In the absence of the donor funds respondents were of the view that government should look inwards for a judicious and effective mobilization of domestic resources to finance mitigation and adaptation projects across sectors in the country's NDC. These include annual budgetary allocation for the projects, pension funds and so on. They also were in agreement that various ministries saddled with the responsibility of

executing project should account for those funds so as to ensure transparency and accountability in governance. There was also the need for training and capacity building for government officials, private sectors and the civil society alike on how to access these climate funds.

The number of climate change projects underway in Gabon is very low relative to other Central African Countries. The country has no national climate change related project underway but it is part of the following two regional programs.

- a) Gabon is one of the four Central Africa Countries participating in the JICA supported program dubbed “Supporting Integrated and Comprehensive Approach to Climate Change Adaptation in Africa”. This Multi-national project is a US\$ 92 million initiative that was launched in 2010. The Gabon component of the program is US\$ 2.465 million project focused on supporting institutional capacity for better adaptation in the county’s coastal zones. This is the largest adaptation activity underway in Gabon.
- b) As a member of the Central African Forests Commission (COMIFAC), Gabon will benefit from COMIFAC’s current project on climate change scenarios for Congo Basin. The extent of activities to be carried out in Gabon is still not yet known. But it is hoped that these scenarios will enable decision makers in Gabon and throughout COMIFAC region to adapt and prepare natural resources management strategies to meet regional challenges associated with climate change.

Gabon’s National Climate Council is currently receiving support from the GCF for readiness support to (i) Strengthen the capacities of Gabon's Designated National Authority and (ii) Prepare a country program, a global and strategic document on priorities investment in climate change and their financing by different partners depending on the added value of each.

4.2.2.4 Ethiopia

Ethiopia has established an innovative funding mechanism to support CRGE Strategy implementation: the CRGE Facility. The Facility is a single, national funding mechanism, intended to manage and coordinate international climate funds, donor funds and domestic funds. The Facility is managed by MEF and the Ministry of Finance and Economic Cooperation (MoFEC, previously known as MoFED) (Eshetu, et al., 2014). In 2016 the CRGE Facility was accredited as a National Designated Authority (NDA) for the Green Climate Fund and as a National Implementing Entity (NIE) of the Adaptation Fund (<http://www.greenclimate.fund>).

For implementation of the NDC in which the CRGE strategy provides the framework and actions, an estimated total expenditure of around USD 150 billion will be needed by 2030 for mitigation of GHGs. This is equal to 25% of Ethiopia’s current GDP. A strong role is anticipated for a dynamic private sector to mobilize some of the much-needed resources. Ethiopia’s domestic climate change-relevant spending is much lower than this at US\$ 440 million per year (Nakhooda et al., 2014). The government primarily depends on its own resources; of its climate change-relevant expenditures in 2011-12, 80% originated from government funding and 20% from donor support (NB: this excludes ‘direct support’ from donors that does not go through government budgets). At the local level, climate change funding is limited and mainly comes from federal transfers through the regions and is budgeted according to national/regional GTP targets (Eshetu, et al., 2014).

To close the budget gap for CRGE Strategy implementation, the Strategy foresees mobilization of international climate finance from public and private sources, including development grants, ‘pay for performance’ greenhouse gas mitigation deals, and sale of emission credits in offset markets such as the CDM and the Emissions Trading System (ETS). Currently, such funding is not sufficient to finance NDC/CRGE Strategy implementation. However, Ethiopia has been proactive in seeking climate finance for priority actions (see below), e.g. Ethiopia was recently awarded a US\$ 50 million grant from the Green Climate Fund for a climate resilience project.

4.2.2.5 Cote d’Ivoire

Cote d’Ivoire has 7 NDC priority sectors that have the potentials to access climate finance. They are Energy, Agriculture, Waste, LULUCF/ Forestry, Coastal Zone and Water. Unfortunately her NDCs do not adequately respond to climate finance requirements as there are very limited establishment by way of institutional arrangements for the supervision and coordination of climate change financing in the country. However, climate financing is done according to the climate windows and there are focal points per climate window. But the country is creating a platform within the Economic and Finance Ministry to integrate the focal points of climate financing found in the Inter-ministerial Committee on Climate Financing process and ensuring the provision of direct access to international climate funds to national and sub-national institutions.

With respect to the overall costs for the implementation of the NDC the country has undertaken a desk study review, identified and quantified key sub-actions in each mitigation and adaptation action. But the results have not been published and so the sub-actions in each mitigation and adaptation action have not been encrypted. On the funding gaps, the country has been to assess the funding status of each of the identified priority actions of the NDC and has been able to evaluate the financing. For now there is no information on the numbers. But the country has not been able to get direct access to international climate funds to national and sub-national institutions. Such funds as Green Climate Fund, the Adaptation Fund, the Global Environment Facility and the Directorate General for International Cooperation and Development, European Commission for development and so on are gotten through the Global Environmental Facility (GEF) for national communications. The GEF is financing Cote D’Ivoire Readiness Framework. In Cote D’Ivoire the development of pipeline projects and financing proposals that can be submitted to different sources of funding because at the moment the climate investment plan does not yet exist. It will be put in place after the review of NDCs. But the country has been able to strengthen the technical and relational capacities within ministries to develop pipeline projects with a capacity-building secretariat that is doing it.

With respect to developing funding proposals the Ivorian government through the Ministry of the Environment is anchoring a workshop on the involvement of the private sector in climate financing and has put in place mechanisms to improve the environment for climate related national investments with the initiation of climate insurance.

The National Climate Change Programme (NCCP) has organized a capacity building workshop for the mobilization of funds. The Agency has taken any initiatives to strengthen the capacity of relevant departments to identify and develop financially viable opportunities / proposals for the private sector, identifying capacities that are in place that can help government officials identify

and develop financially viable opportunities for the private sector. The GCF also organized workshops for the mobilization of funds in climate finance.

The country has indeed made deliberate efforts to increase private sector participation in policies, strategies, coordinating committees and national climate finance organizations by promoting a more in-depth public-private dialogue on climate financing through forums and institutions such as sectoral associations, investor platforms and public consultations. This is usually done through the Ministry of Environment and Development with collaboration with the private sector. It organizes very often meetings to present them the opportunities to participate in international meetings and to support the national position.

4.2.2.6 Kenya

Kenya's NDC has five priority sectors: Agriculture, Energy, Forestry, Transport and Waste. The country has a robust climate finance policy and it has the capacity to help its vision 2030 agenda by increasing the country's adaptive capacity and resilience to climate change while promoting low carbon sustainable development. In order for the country to effectively take advantage of these opportunities, right institutional and financial mechanism has been put in place so that the resources are directed efficiently towards national climate and development priorities, hence the National Policy on Climate Finance. Therefore mobilizing climate finance has the potential to support priority actions in these sectors at the national and county levels.

Kenya developed the National Green Climate Fund Strategy that provides a roadmap for harnessing the resources from the GCF. As at August 2017, the National Treasury, which is responsible for administering the fund in Kenya, had received 15 proposals and five concept notes for funding. Of these, three proposals had been approved for funding. Another funding opportunity available under the UNFCCC is the Global Environment Facility (GEF). The GEF provides financing to climate change mitigation and adaptation projects prioritized at the country level.

At the regional level, policy frameworks developed under the Africa Union and the East African Community (EAC) shape climate change investments in Kenya. These include the African Climate Change Strategy, 2011 and the EAC Climate Change Policy, strategy and master plan, 2011. Furthermore, the EAC Protocol on Environment and Natural Resources Management has been developed to guide the partner states in their cooperation in matters related to environment and natural resource management within their jurisdictions

At the national level, climate finance is underpinned by a range of policy and legal frameworks covering public finance and climate change, as well as sectoral policies that have an implication for climate change mitigation and adaptation. Climate finance mobilization is supported by the Constitution of Kenya, 2010; Public Finance Management (PFM) Act, 2012; Climate Change Act (CCA), 2016; National Policy on Climate Finance, 2018; national and county government tax legislation; Kenya National Green Climate Fund Strategy and Climate Change Policy, 2018.

The Constitution of Kenya, 2010 provides the basic principles and framework that form the foundation of public finance management, which in turn informs mobilization and spending of climate finance. Chapter 12 of the Constitution includes provisions for equitable sharing of national revenue, public participation in decision-making processes related to public finance

management, public borrowing, powers to raise revenue, budgeting/spending, and financial control. These provisions are implemented through the PFM Act that regulates public budgeting processes, borrowing and debt management, as well as financial reporting and accounting to ensure effective and efficient management of public financial resources.

A national climate financing mechanism has been established, which is yet to be operationalized. The Climate Change Act, 2016, establishes the Climate Change Fund (CCF) to finance priority climate change interventions and incentives approved by the Climate Change Council, as well as provide technical assistance to county governments. Operationalization of the CCF is a key priority of the second NCCAP which is to be implemented in the period 2018–2022. As of July 2018, the National Treasury had prepared draft Public Finance Management (Climate Change Fund) Regulations to operationalize the CCF.

Coordination of climate finance mobilization and tracking its impacts is underpinned by the Climate Change Act (CCA) and the National Policy on Climate Finance (NPCF), 2018. The CCA designates the Climate Change Directorate (CCD) as the lead agency in coordinating climate change interventions while the National Treasury leads in the coordination of climate finance activities. The NPCF aims to create an integrated platform that brings together various stakeholders and facilitate the strengthening of institutional capacity to track the impacts of climate finance. Such efforts require political will and effective enforcement of accounting standards to facilitate timely reporting and accounting for climate finance received and utilized by the national and county governments, as well as civil society organizations.

At the county level, technical support is required to establish a robust legal framework including county climate fund regulations that address the local climate change investment needs. Best practice examples can be drawn from Makueni and Wajir counties which enacted county climate fund legislation in 2015 and 2016 respectively. In Makueni, the county climate fund legislation mandates the county government to invest 1% of its annual development budget in climate change interventions. In Wajir, the county climate fund legislation mandates the government to allocate a minimum of 2% of revenue from the national government, climate finance from international sources, grants and donations from development partners, fees and charges from climate finance activities to adaptation and mitigation projects. Investment projects supported by the county climate funds are identified and prioritized by ward level committees consisting of elected community members who have adequate understanding of the local context in terms of climate change adaptation needs. Establishing county climate fund is an opportunity for counties to mobilize and earmark adequate funding for their priority climate change actions.

Major progress is being made at the national and county level to mainstream climate change in sectoral planning and budgeting as required by the CC Act. However, implementation of priority interventions is slow. The NCCAP and the County Integrated Development Plans (CIDPs) are the mechanisms for implementing climate change interventions at national and county level respectively. These five-year plans set the priority areas for climate change-related investment, which in turn informs annual budgetary allocations. In the selected four counties, climate change adaptation and mitigation measures have been integrated in the second generation CIDPs covering the period 2018–2022. And the second NCCAP has integrated the national climate change adaptation and mitigation objectives. While this is laudable, experience shows that the

implementation of these plans is slow. For instance, the first NCCAP that covered the period 2013–17 had nine mitigation measures and 29 enabling actions – measures that facilitate achievement of mitigation and adaptation targets. However, as of May 2017 – the last year of the plan – only three of the nine mitigation actions had been completed while the rest were in progress. Similarly, only three of the 29 enabling actions had been implemented fully, whereas no progress had been made in implementing seven of the actions. 19 of the enabling actions were in progress and most of them have been carried over to the second NCCAP. At the county level, the achievement of climate change adaptation and mitigation targets is constrained by inadequate human resources, insufficient funding and technological constraints.

The institutional framework that supports climate change investment consists of both national and county level departments and agencies with a finance and climate change mandate. The National Treasury is the lead agency in coordinating and overseeing the implementation of climate finance strategies and policies. The National Treasury has also been designated as Kenya’s lead agency for accessing the GCF while the National Environment Management Authority (NEMA) has been accredited as the national implementing entity to the GCF. The National Treasury is supported by other departments of the national government such as the CCD and NEMA which provide technical support on climate change issues. At the county level, the county treasuries play a lead role in implementation of climate finance mobilization strategies and policies. A key challenge to effective functioning of these institutions is inadequate expertise in areas such as evaluating and selecting the most appropriate financing instruments, as well as limited knowledge on available funding opportunities. There is also inadequate coordination between national and county governments. This leads to duplication of roles and inefficiencies in the implementation of climate change projects.

4.2.2.7 Botswana

A significant amount of financial resources have been spent on incentives for alleviating climate change related stresses in the three NDC priority sectors (Water, Agriculture and Health). However, most of these funding comes from donor agencies and not sourced directly by the country. Botswana requires technical expertise to unlock climate finance opportunities.

Bilateral funding for Climate Change Adaptation (CCA) in Botswana has for a long time been limited. According to the Organisation for OECD, four donor governments (Australia, Germany, Japan, and Sweden) supported projects and programs with a focus on CCA between 2011 and 2013. Of the bilateral funding for CCA that reached the country, most was for projects or programs in which CCA was a significant, not principal, part of the activity. Most of the bilateral funding in which adaptation featured prominently went into general environmental protection and disaster prevention and preparedness. Sweden was the most consistent funder of CCA projects and programs over that time, but its support of activities in Botswana concluded in December 2013. As mentioned, the withdrawal of funding support to Botswana has been common in recent years due to the country’s strong development progress.

According to the Climate Funds Update website, which tracks financing through designated multilateral and bilateral climate funds since 2003, as of April 2015, Botswana had received approval for \$US3.6 million in climate finance for two projects, neither of which focused solely on CCA. Botswana received a grant of nearly US\$1 million from the Global Environment Facility

to prepare both its third national communication to the UNFCCC and its first biennial update report; with its inclusion in these reports, CCA will be partially supported by the grant. The remaining \$US2.6 million (also from the Global Environment Facility) is to go to a mitigation project focusing on the production of biomethane. Botswana is one of just four sub-Saharan African countries receiving no funding for CCA from international designated climate funds (the others being the Republic of Congo, Djibouti, and Gabon).

IDRC has been funding research activities in Botswana since 1976. Most recently, it supported the University of Botswana in a CA\$600,000 research project on climate change, food security, and health, which ran from 2010 to 2014. The projects aimed to help farmers working in the Okavango Delta develop coping strategies for addressing the impacts of climate change on their health, food security, and environment (IDRC, 2010). The Botswana Institute for Technology Research and Innovation is working with the Botswana College of Agriculture and other regional partners to develop decision support simulation tools, based on indigenous and traditional knowledge, to increase agricultural production and food security in Africa in the face of climate change.

4.2.2.8 Zambia

Zambia has seven NDC priority sectors which are critical for climate finance namely: Agriculture, Water, Forestry, Energy, Wildlife, Infrastructure and health. Zambia's NDCs cost estimates required for up to 2030 is projected at \$50 billion. Climate finance windows in Zambia's like in other pilot countries under this study usually come indirectly to the country through a third-party international donor agencies which results in mere palliative measures.

Zambia has continued to mobilize both the public and private climate finance flows and other related flows for mitigation, adaptation, technology transfer, capacity building and policy development. The sources of climate finance in Zambia are alienated into five areas: government's national budgets, sources that contribute to the national budget, dependent on national decisions, sources that contribute to the national budget dependent on international agreements. Several studies have indicated that Zambia has been successful in accessing some of the dedicated climate finance available from the public and the private portfolios. However, tracking climate finance inflows is very complicated for some reasons, which include poor alignment of international sources with national development objectives, fragmented policies and procedures on climate change management, knowledge management issues and oversights in the national budget process. The other feature which makes climate finance tracking complicated are politically driven development initiatives, rationalized within the premise of the significance of locally based development but which are not objectively defined development priorities.

While public climate finance inflows are growing at an average rate of 2.1%, private climate change inflows have been growing at 0.4% per year in the last three years. From a macroeconomic perspective, investment policy in Zambia has been effective at raising Foreign Direct Investments (FDI), as measured by tax/GDP ratios. The 18% percent tax/GDP ratio, which has been maintained over the past three years, is among the highest rates in Southern Africa Development Cooperation (SADC) region. The total private climate change finance inflows in the form of FDI, 2009 to 2011 amounted to US\$ 2.3million, 89% of which came through FDI and 10% philanthropy. Of the

entire climate finance inflows to Zambia, by far the largest source has been public inflows, with 97% of inflows.

A number of local and international NGOs, as well as government departments and agencies have received funding from philanthropic contributions. The philanthropic contributions to Zambia between 2009 and 2011 have been 0.03% of all the climate finance received, which given the number of projects supported by philanthropic contribution, the 0.03% contribution is a gross underestimation. This is because the system and methodology for capturing the philanthropic contribution are not systematic and are not well coordinated. Out of the US\$ 235 million of philanthropic contribution, 1% went to government and the rest went to other organizations. In most cases very little is known about receiving organizations and purposes, be it for climate-related activities or more broadly in climate-relevant sectors. The contributions identified are directed to water and sanitation projects and the distribution of agriculture inputs in drought and flooded area of Zambia. In Zambia, there are over 200 on-going adaptation projects supported by philanthropic resources. The financing type for those contributions is purely grants.

4.3 Measuring, Reporting and Verification (MRV) and Transparency

4.3.1 Overview of MRV and Transparency

MRV is the mechanism through which progress towards achieving climate change-related targets and commitments are tracked. It, therefore, refers to tracking the implementation of measures necessary to achieve the commitments/targets and the progress towards them. In turn, this provides a clear line of sight towards achieving GHG emissions reductions or strengthening adaptation action towards mitigating the impacts of climate change. Very specifically it relates to tracking the specific measures that have been identified within the respective country's NDC for each sector.

While the Paris Agreement specifies at a very general level which information should be reported regularly (at least biennially) from 2020, the detailed reporting requirements remain to be agreed. At the national level, there are no specific definitions for either what constitutes 'MRV' or indeed what specific provisions or parameters should be included within an MRV system or framework. This lack of a strict definition allows a great deal of flexibility in the way countries develop their MRV systems, enabling them to construct them to include tracking mechanisms and datasets that best suit their circumstances and culture of political decision-making. For example, this can include aligning with specific programmes or policy 'packages' (such as those defined within an NDC), specific structural or governance frameworks, stakeholders and available data.

The approach to defining the NDC MRV framework for Africa, therefore, seeks to use this flexibility to develop an approach which best suits the individual circumstances of the NDC, across each sector. It also seeks to ensure and enable linkage with respective African Countries National MRV framework expected to be developed.

Few provisions and reporting requirements have thus far been put in place by the UNFCCC, particularly for non-Annex 1 countries, as outlined above. However, several outline requirements were agreed at COP21 in Paris in 2015. Countries should report, at least every two years:

- A national greenhouse gas inventory (GHGI)

- Information allowing understanding progress towards their NDC target. This is generally interpreted as information on the implementation and impacts of mitigation actions – and adaptation actions as well, if the NDC included adaptation targets
- Information on support (climate finance, capacity building and technology transfer) received as well as support required in order to achieve the commitments in the NDC

While details of reporting remain to be agreed, it becomes apparent that the information required generally coincides with information already provided by non-Annex I countries in their BURs. The only exception is adaptation, which is not reported in BURs. The Paris Agreement also foresees a review process likely similar to the currently existing International Consultation and Analysis (ICA) process for BURs, which enables countries to share best practice and collaboratively build their capacity in relation to climate change assessment, policy development and MRV.

The detailed requirements to be agreed should consider experiences made with current MRV processes, like the reporting of National Communication, BURs and the ICA process. On this basis, it seems the best way forward to construct a system which allows Africa to track progress and steer actively towards its NDC targets in the most efficient way possible considering various countries national circumstances and institutional structures, while at the same time ensuring compliance with the likely international requirements.

4.3.2 Plan for Updating and Reporting

The most critical aspect of the process to update and report against the indicators which constitute the sector MRV framework is identifying *how* this will be done and *who* is involved. In other words, there is need to identify the organization(s) responsible for doing what, establish agreements and processes for gathering data from key stakeholders and data providers. Establishing such ownership is a key task towards the implementation of the MRV framework. Once in place it is suggested that a record of all such is made and that an overarching description of how and who data flows between stakeholders, data providers and the owning organisation for the MRV framework is compiled. Such a document can then be updated as these processes and flows of data change to fit the changing scope of policies/measures and the associated indicators over time.

Another key factor to consider is *what*. Our suggested approach would be for the existing table and spreadsheet-based approach developed under this project is adopted with data reported against each of the indicators (both for the baseline and reporting period). Data and associated information (for example details of data sources) can also be stored in this way. This provided a relatively simple and intuitive way to manage data. Presentation of data within an update report could also utilize a table-based approach, however, other data visualization tools may be used to emphasis key points or enable more effective consumption of the data by potential users.

A process for *when* the data is presented and how often it is updated should then be defined. The study teams' suggested approach is that updates should be sought to be done on a frequency of every one to five years. Such updates could be planned to coincide with or contribute to reporting to the UNFCCC (National Communications and Biennial Update Reports) or domestic reporting process against the Plan for Climate Change for the respective African countries. Reporting

requirements and frequency would also need to align with and adhere to reporting processes for the national MRV system.

This work recommends the compilation of a description of who is responsible for managing the MRV framework alongside the flows of data to the MRV system from data providers and stakeholders; Develop a format within which gathered data can be stored, managed and processed/analyzed to enable reporting. It is suggested this is based on the table-based approach developed in the project as well as defining the frequency of reporting cycle for the MRV framework and how this aligns with UNFCCC and domestic climate change reporting commitments.

4.3.3 Aligning Countries National MRV Framework with NDC MRV Framework

A comprehensive MRV framework for Africa should be set up though currently under development in most of the eight pilot countries under study as part of a wider project to develop the various countries BURs and NCs. For instance, as at the time of this study, out of the eight countries, it is only Nigeria and Cote D'Ivoire that have submitted their BUR to UNFCCC. Nigeria's second BUR is nearing conclusion. Similarly, all the eight pilot countries have submitted their First and Second National Communications (NCs), with the exception of Cote d'Ivoire, Botswana and Nigeria submitting the first, second and third National Communications even though Nigeria that submitted the third recently have not been uploaded in the UNFCCC website.

The expected development timeline for the various countries National MRV Framework is broadly the same as that for the NDC MRV framework being developed as all the countries under study are still at TIER 1, which is relying on secondary data (default values) in the Green House Gas (GHG) data collection process. With this being the situation, there is some difficulty in specifically aligning the two projects. Indeed much of the MRV thinking and development under this project is likely to shape the development of the national framework.

Ideally, the process would have taken place the other way around, with the national framework informing the structure of the NDC MRV framework. The national framework will set out the overarching structure, the governance framework and the associated roles and responsibilities of organizations involved, as well as reporting, data and information flow between these. The NDC MRV framework must then align with and be able to operate within this high-level structure. A good analogy to explain this might be to consider countries national MRV framework as the construction of a road network, whilst the NDC MRV framework involves choosing the vehicles to travel on the roads and erecting road signs to guide them. There is the need to undertake a review of the NDC MRV framework once various countries national MRV framework is developed to ensure there is alignment in terms of structure, governance, organizational roles and responsibilities, and data flows.

The challenge could be addressed in two ways: Firstly, to maintain close contact with the project that is developing the various countries national MRV framework. Secondly, the NDC MRV system itself will be developed so as to align with the generic structure for what a national MRV system will look like. Whilst there is no set 'requirements', a wide range of guidance on national MRV framework development exists which the study team are either aware of or have been

directly involved in developing. In addition, the study team has specific experience of helping a number of countries develop national MRV frameworks and hence can apply this knowledge here.

Crucially, the NDC MRV framework provides the granularity that will sit within the national framework including specific indicators and parameters for tracking action. It, therefore, does not seek to repeat the more structural development of the wider system that will be defined in the national framework. It is therefore anticipated that the NDC MRV framework developed can be integrated into the national framework in a relatively straight-forward manner and will require only minor modification thereafter.

Alongside the project to develop the respective countries MRV framework, another project, again forming part of the development of the BUR, is updating respective countries' national GHGI. The GHGI is very relevant to the development of the NDC MRV framework. It will form perhaps the most important source of data that will underpin the NDC MRV framework both in terms of its outputs (i.e. sector and sub-sector level GHG emissions data) and constituent datasets. Updating the respective countries GHGI may identify additional datasets that can either be applied to existing indicators or develop additional ones.

4.3.4 NDC Implementation Framework

In tracking progress towards a mitigation target one needs to understand how national and sectoral GHG emission levels develop – i.e. whether they develop in a way allowing to meet the target set. However, looking at emission levels alone does not provide an understanding of why emissions rise or fall and how mitigation actions have contributed to the development and – most importantly – if GHG emissions do not develop as desired, how existing mitigation actions might be adjusted or which new mitigation actions need to be introduced to ensure GHG emissions develop as desired. Calculating achieved GHG reductions for individual mitigation measures brings much uncertainty, as reductions are usually calculated against a baseline, i.e. a theoretical scenario. Within one sector there might also be several mitigation actions which overlap in some way, which calculates reductions for one single measure yet more uncertain.

For this reason, three levels or “tiers” of indicators could be used:

- Tier 1: GHG emission levels at the sectoral and potentially sub-sectoral level.
- Tier 2: Drivers of GHG emissions at the sectoral or sub-sectoral level, e.g. sectoral energy consumption, kilometres driven per year and person as an average. This information helps understand why the GHG emission levels have changed the way they have.
- Tier 3: Indicators related to the design and implementation of mitigation actions (e.g. the number of energy-efficient cooking stoves provided) and the design and implementation of the legal framework related to climate change (e.g. the design of a building code requiring energy-efficiency of buildings).

This approach was taken by some other countries, such as in the UK to track progress against delivering defined carbon budgets and in South Africa to track mitigation and adaptation frameworks under its Climate Change Monitoring and Evaluation System. Indeed the approach recommended here is aligned closely with the South Africa system.

4.3.5 The tiered approach to monitoring NDC sector action plans

Tier 1: High-level indicators on the development of sectoral or sub-sectoral GHG emissions over time. These seek to track sectoral level progress. The purpose of these is to inform the overall direction of travel within high-level sectors and subsectors that are most aligned with the NDC sectors, as they are defined by IPCC Common Reporting Format (CRF) Framework in the national GHGI (for example the agriculture sector or road transport sub-sector) or similar high-level classification for adaptation. Individual actions for achieving this that are specifically associated with the NDC will only form part of the overall influence on these high-level emissions. *Tier 1* indicators will primarily utilize data from the GHGI to show GHG trends across sectors.

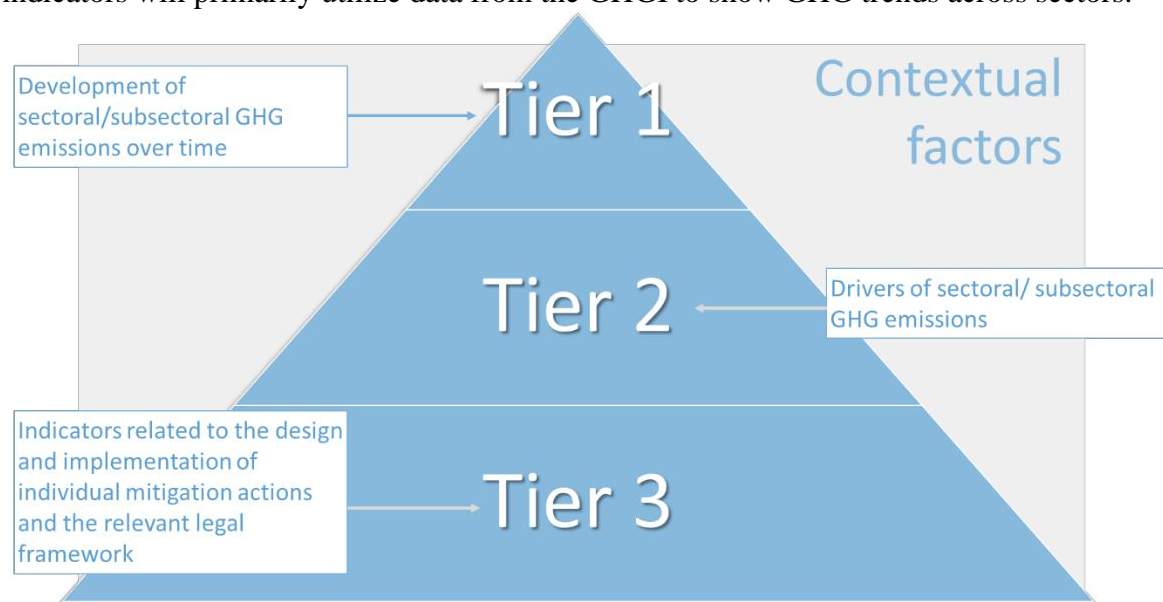


Figure 2: The tiered approach to monitoring NDC sector action plans

Tier 2: Indicators related to sectoral drivers of GHG emissions. They are generally directly linked to *Tier 1* and help explain the trends identified in *Tier 1*. In most cases, these will be GHGI data (the emissions factors and activity data used to calculate emissions), however, in some cases other overarching datasets can be used, such as the National Energy Balance. *Tier 2* indicators, therefore, act to both supplement those defined as *Tier 1* and – where possible, although dependent upon data availability – link these high-level indicators with individual response measures. In most cases, these indicators are derived from the range of sources that are used to compile datasets included in *Tier 1* and as such are directly linked to them.

Tier 3: Indicators that illustrate the progress and effectiveness of certain mitigation measures or groups of mitigation measures that are included in each NDC sector action plan. These indicators provide a bottom-up view helping to understand if and to which extent measures are contributing to the overall development one can see from the *Tier 1* and *Tier 2* indicators.

Contextual Factors

Whilst response measures may be focused upon achieving individual outcomes and collectively moving Africa towards a lower-carbon economy, other factors – such as economic conditions,

population growth etc. - will have a bearing on whether that transition is achieved. It is envisaged that a limited range of *Contextual Factors* will be required for the M&E Framework so that they can be incorporated into the analysis and outputs. The relevance of contextual factors will vary for each sector and hence the number and scope of these will vary from sector to sector. Applying a tiered framework approach provides a robust, comprehensive and useable evidence base for policymakers to track NDC sector action plans for Africa. When combined, alongside similar indicators to understand the role of contextual factors, tiers 1-3 provide a powerful MRV approach that is greater than the sum of its parts in providing both high level and policy specific progress to be identified. An overview of how the different parts of the framework operate as one is illustrated below using Nigeria as a specific example.

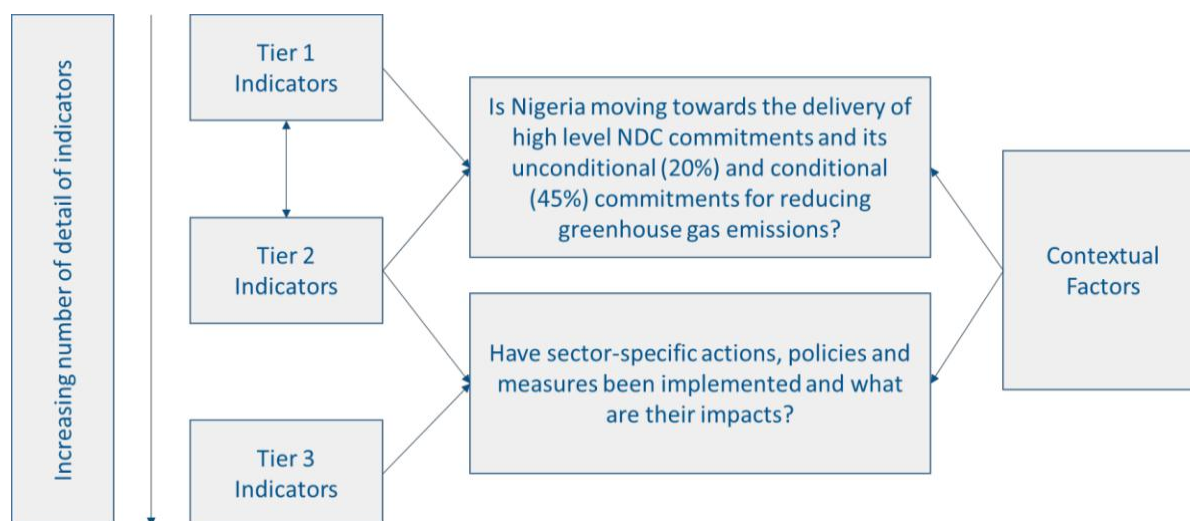


Figure 3: An Overview of the Conceptual Framework for NDC sector action plans

4.3.6 Tracking Implementation and Impact of Measures

Indicators included within the framework will track both the implementation and impact of measures. Implementation indicators are focused on determining whether measures are in place and if so to what extent. Put in simple terms, if a measure has not been implemented it will not have an impact. Implementation measures aim to see if this has happened. However, if they are and there is still little effect this may point towards the measure(s) themselves not working and hence they need to be modified or replaced. Impact indicators aim to track this effect, both in terms of if an effect is happening and by how much. These indicators may choose a range of different metrics to assess the impact of a policy or measure. In some cases this could be a quantitative assessment of reductions in GHG, however, often this is not possible. Other metrics, that either might be more viable to calculate or are associated with data that is more readily available, are generally used. Such metrics can be associated with reductions in GHG emissions. For example, by examining generation mix to determine if the contribution of renewables towards on-grid electricity generation is increasing or decreasing can be associated with an increase or reduction in GHG emissions. By seeking to track both implementation and impact, a greater level of evidence is available to understand that if progress is not being made.

4.3.7 A ‘Measured’ Approach to the Development of Indicators

The MRV framework associated with the NDC sector action plan is not intended to track the progress of every individual mitigation or adaptation measure. Rather it aims to strike a balance

between providing a robust evidence base to determine NDC implementation progress whilst not being too complex to understand or too onerous to maintain. Achieving this balance is extremely important to the successful implementation and maintenance of the NDC MRV framework.

Individual sector-based MRV frameworks have been developed with this in mind. As such a manageable (although useful and relevant) series of indicators have been defined and where possible these have been aligned with existing datasets or those that might be collected with minimal resource input. The logical structure, not overly complex or difficult to obtain datasets and through comprising only a limited number of indicators, is also aimed at ensuring future updating and modifications will not be an overly onerous and resource-intensive task.

4.3.8 Baselines

Setting the correct baseline is a very important part of the process in defining and implementing indicators. The baseline is the position from against which any progress within indicators – and therefore overall NDC implementation – will be measured. Baselines can be set in two ways. Firstly, they could use data from the period immediately preceding the implementation of a specific action or collection of actions. In this, it is normally the period (usually the year) immediately prior to the implementation of the NDC sector action plan as a whole, or a specific measure within that (not all actions will have the same implementation date). A crucial issue when taking this approach is to consider whether it is pertinent to select only data from the year immediately preceding implementation or an average of data from a number of preceding years. Substantial year-to-year fluctuations are often evident in datasets that may result in a specific baseline year not being representative of typical activity or conditions. To get around this it may be possible to use the average of a number of preceding years' data in order to remove such outliers or bias from the data. An example where this might happen is in the GHGI. Individual years can be impacted by specific activities or events, such as the fluctuations in activities at – and therefore emissions from – very large industrial sites. Variations in weather can also lead to abnormal trends in energy usage (e.g. very warm periods where significant additional electricity is required to increase air conditioner usage).

Secondly baselines can be set on the basis of purely what data is available. Data for the year immediately preceding the implementation of a measure or programme may not be available. It may only exist for a year afterwards or even may not be collected as yet. In such cases, the baseline is simply set as the first year for which it is available. This is perhaps not an ideal situation, however, it is very important to work with what data are available. It is better to have something from which progress can be assessed than either nothing or committing to an unachievable (and likely unnecessary) commitment to collect significant amounts of new data. This has been an important guiding principle to the development of indicators within the MRV NDC framework.

In reality it is highly likely that a combination of these two approaches will be adopted to account for the different types of indicators applied and variation in underlying data available. We recommend that a general approach towards setting multi-year baselines is adopted that also provide data for a period of time before a policy or target has been implemented. However, where such comprehensive datasets are not available this should not be a barrier to implemented indicators. If data is available for some years or only after policy implementation this should still be used to support indicators. In such circumstances consideration should be given and – if

required – described to illustrate potential year-to-year fluctuations that may not be obvious such curtailed baselines.

4.3.9 A ‘Live’ Framework - Continuous Evolution and Improvement

An integral principle of the indicator is that it is a ‘live’ process’ that must be continually reviewed and updated to ensure the indicators included and data that underpin them are as comprehensive and up-to-date as possible. Two key factors should influence how such updates are carried out. First is the suite of policies that are being tracked. The nature of policies is that it will change over time to reflect political or ministerial priorities. Policies may also be refined or adapted to improve their effectiveness in reducing GHG emissions. Secondly, new or additional data may become available. Existing indicators may be adapted, added to or replaced by new ones to accommodate such data.

However, whilst consideration of these factors is important they should also be balanced against the need to provide continuity in indicators, where possible. To determine longer-term trends, indicators and supporting datasets need to remain constant. Frequent changes in indicators can result in it being very difficult to see such trends and determine the effect of emissions reduction policies. Continuous management of the indicator framework is, therefore, a core requirement, once implemented. A balance needs to be struck between maintaining an up-to-date policy-relevant suite of indicators that are underpinned by the best available data whilst also ensuring such changes do not result in a confused picture that is not able to track the progress of policies over time.

4.3.10 Sector level indicators

A number of indicators, based in the approach and structure have been developed for each sector. These are presented in the respective sector action plans, one outlining each indicator for each tier, and in the accompanying spreadsheet, including Tier 1-3. Taken together this provides a basis for tracking progress on reducing GHG emissions for the sector and determining the effectiveness of policies in helping to achieve this.

Indicator Group: Where possible indicators have been grouped by areas so as to reflect a general area of action to reduce GHG emissions that may contain a number of specific actions or policies. An example is ‘renewable power generation’. This could include policies that may include actions as disparate as increasing the capacity of renewables contributing to on-grid electricity generation or incentivizing uptake of photovoltaic solar panels in the residential sector. Grouping indicators in the way enables those that are tracking similar policies to be viewed together and general progress in this group.

Indicator Title: This title simply describes more specifically what the indicator will track.

Unit: The quantifiable unit in which an indicator will be present and therefore progress tracked. For example this could be the GHG emissions in tonnes of CO₂ (equivalent).

Policy (Tier 3 indicators only): Tier 3 indicators aim to track specific policies and actions. In doing so a more granular picture can be established enabling policy owners to determine if and the extent to which measures are having an effect. This column, therefore, identifies which

policy/action is being tracked, thus allowing quick identification and assessment progress across a large range of individual policies for each sector.

Implementation or Impact (Tier 3 indicators only): Identifies if the indicator is seeking to track whether a policy has been implemented or the extent to which it has had an effect on reducing GHG emissions.

Additional Description: Further information describing the indicator if this may not be clear from that provided under other sections

Phasing: We have suggested a two-phased approach to the introduction of indicators. Those indicators identified as phase 1 are those we recommend should be introduced first, on the basis that the underlying datasets are most likely available and relatively easy to access. Phase 2 indicators are associated with datasets that perhaps either do not exist at present or could be difficult to access. Our rationale for setting this approach is to illustrate that it is most likely not possible to try and initiate all indicators simultaneously, however, also that there is no need to do so. It is more important to get started quickly and aim to develop and build a more comprehensive suite of indicators over time.

Datasets: Identification of datasets that can be used to underpin the indicator. For example, all Tier 1 indicators will use data from the GHGI. In a number of cases, particularly for Tier 3 indicators, we have not been able to find specific datasets. In such instances, we have identified the Ministry that is most likely to hold, be able to access or will have the responsibility for collecting this information.

4.3.11 Towards effective Implementation of MRV Framework in Africa

Our findings from the eight African countries under study show that MRV system is still not entrenched. Whilst we present a comprehensive suggested approach for MRV a number of further steps are required towards implementation. We recommend that the following actions are taken in order to achieve implementation:

- 1.) Undertake a policy/ measures review:** Our work has sought to identify the majority of existing or potential policies and measures that are either aimed at or will have an impact upon mitigating GHG emissions within Africa. A comprehensive review of policies and measures seeking to further engage and reinforce the involvement of stakeholders should be done continuously.
- 2.) Undertake a data review:** Whilst datasets or sources have been identified for individual indicators in some instances large number of data gaps still remain. A further more in-depth review to identify additional datasets should be conducted. In particular, few datasets to underpin Tier 3 indicators were identified. However, the relevant Ministry who may/should hold data has been identified and early discussions with officials of the Ministry is recommended as part of this review. The outcome of the discussions gives a better understanding of the climate change data landscape in Africa and the identification of a number of new datasets.

- 3.) Undertake a review of the final respective country's national MRV system:** The respective country's national MRV system should be completed at the time as the completion of this project. An early review of this system is recommended. Whilst the sectoral MRV frameworks have been designed in a flexible way and in the expectation that the national system will follow international best practice some need to adapt and linking the systems will be required.
- 4.) Based on the three reviews seek to adapt and update the indicator framework:** Having undertaken the reviews identified in steps 1-3 it is highly likely that some further development and adaptation of the system will be required. For example, new policies may have been identified, which could require additional indicators or indicators may be adapted so as to best fit newly identified datasets. In addition, this process should also seek to establish a number of indicators that can be effectively managed. It may be that, in order to achieve this, several indicators must be removed. An extremely important aspect of 'future-proofing' the framework is that it must contain a suite of indicators that can be effectively managed, updated and reported on in light of available resources. Removing indicators should, therefore, not necessarily be viewed as a negative action that will reduce the coverage or usefulness of the sector framework.

It is important to note that such an ongoing maintenance and development task for the indicator framework will be required to update the framework (see the section on updating and reporting). This should, therefore, be considered as the start of this process.

- 5.) Agree responsibility and ownership for the MRV framework:** An integral component of an MRV system is to identify which organisation or organizations have responsibility for compiling and managing it. This role will involve agreeing on the provision of data from network of stakeholders and data providers. Data management, analysis and reporting are also key tasks.

4.3.12 Country's status with regard to its MRV activities and processes

4.3.12.1 Nigeria

The MRVs were generally accepted to be key to the successful implementation of the country's NDC underlining the need to conduct GHG Inventory of gases such as CO₂, Methane and Nitrogen Oxide. Therefore, the current status in Nigeria's MRV effort is developed capacity on MRVs implementation in the Forestry/ REDD+ sector' completed MRVs in the Forestry Sector, and; Confirmed Forestry Emission Levels and Transition Matrix. Under the IPCC mode Nigeria is conducting GHG Inventories in Five (5) sectors: Energy, Waste, AFOLU and IPPU. Nigeria is utilizing secondary data (default values) in MRVs under the IPPU sector. However the Federal Ministry of Environment in partnership with the European Union are training Nigerians on how to generate and gather GHG Inventory data, and Nigeria is on transit from Tier1 to Tier 2 of the GHG Inventory.

Data availability is still within the domain secondary data though effort is being made now to generate primary data while policies addressing inventory issues are in place. The first draft of the second Biennial Update Report (BUR2) was submitted in September 30, 2019, while the country has planned to submit its final draft in October 2030. It is instructive to note that Nigeria's BUR1 was well received and got commendation from Bonn when it was submitted in March 2018. So

far Nigeria has trained about 20 MRV Experts and there is the urgent need to train the trainers as the country prepares for the collation of data from primary sources across the priority sectors. Nigeria has submitted her First and Second National Communications on the 17th November 2003 and 27th February 2014. Her Third National Communication is ready for submission.

4.3.12.2 Tanzania

The MRV system in Tanzania is still at its infant stage in terms of being rich with climate data. There will be a public access and special access to data. The system will be managed by National Carbon Monitoring Center hosted at Sokoine University of Agriculture, and Vice President Office Division of Environment (VPO DoE). The limited special access with passcode will be provided by Vice President Office Division of Environment. After launch, the VPO DoE will train government officials from different sectors and government level on quality data collection and reporting as part of national data collection for MRV. It is envisioned that collected data will be mainly for Energy, Transport, Waste, Industrial Production and Processes; and Land Use Change and Forestry. Tanzania has not submitted any BUR to the United Nations Framework Convention on Climate Change (UNFCCC). She submitted her First and Second National Communications on 4th July 2003 and 9th November 2015 respectively.

4.3.12.3 Gabon

Not much effort has been made towards greenhouse gases inventory in Gabon by putting in place an MRV system. The only notable effort at MRV in Gabon is her participation in the REDD programme capacity building for MRV in 2017 in Abidjan Cote D'Ivoire. The MRV programme was organized for 10 French-speaking African countries. Most secondary data that is usually not reliable (default values) comes from an international organization such as the Food and Agricultural Organization (FAO), World Bank, UNIDO, and GEF. Hence the clarion call by all respondents in Gabon on the need for all stakeholders (government, private sector and civil society) to come together to build capacity for the MRV system that will help drive her NDC now that it will be revised by 2020. Gabon submitted her First and Second National Communications on 22nd December 2004 and 8th December 2011 respectively and she is yet to submit any BUR to the UNFCCC.

4.3.12.4 Ethiopia

Ethiopia has been implementing REDD+ programme since 2012 and has since made significant progress in establishing a National Forest Monitoring System for the Measuring, Reporting and Verification of REDD+. Several milestones have been achieved including the acceptance of its Forest Reference Level by the UNFCCC and the completion of its National Forest Inventory. To ensure the credibility of MRV results, it is crucial that various reporting streams are consistent and linked with each other. Nevertheless, Ethiopia has yet to link REDD+ with other GHG measuring systems. The country needs to address the high turnover of trained experts and continued demand for additional capacity. Improving the participation of local communities and civil society in MRV is paramount in ensuring sustainability and accountability. Ethiopia is yet to submit any BUR though it has submitted the First and Second National Communication on 16th October 2001 and 11th May 2016 respectively.

4.3.12.5 Cote d'Ivoire

The success story of MRV in Cote d'Ivoire lies within the domain of the REDD+ programme. In 2017 there was a workshop on Training the Trainers for MRV within the context of REDD+ held in Abidjan for key institutions in ten (10) French-speaking African countries. The purpose of the workshop was to enable participants to combine the new MRV technology and expertise with the existing local knowledge of measurement techniques in the country and to deliver subsequent training to the broader groups of local stakeholders that are aligned with national needs and priorities. Cote d'Ivoire submitted her BUR 1 on the 19th July 2018 and First, Second and Third National Communications on the 2nd February 2001, 26th April 2010 and 31st December 2017 respectively.

4.3.12.6 Kenya

Kenya has put in place an MRV conceptual framework in the country's Climate Change Action Plan. This is based on Adaptation and Measuring Development (AMD) developed by the International Institute for Environment and Development. Despite robust MRV framework, Kenya has from records not submitted any BUR but has only submitted the First and Second National Communication in 22nd October 2002 and 11th December 2015 respectively.

4.3.12.7 Botswana

The MRV system has been established under the REDD+ programme in Botswana. But it is apparent that there is a gap in understanding IPCC guidelines, hence the need for building capacity among stakeholders for effective implementation. They have not submitted any BUR but has submitted the First, Second and Third National Communications in 25th May 1998, 31st January 2013 and 12th January 2017 respectively.

4.3.12.8 Zambia

Effective implementation of the country's NDC will be guaranteed through development and strengthening of existing MRV systems to track the progress of both mitigation and adaptation implementation programs. Zambia like other countries is still in Tier 1 that is using secondary data (default values) in the GHG data collection process. With respect to BUR to UNFCCC, Zambia is yet to submit any, while First and Second National Communications have been submitted in 18th August 2004 and 16th November 2016 respectively.

4.4 Governance

4.4.1 Overview of Climate Governance

Parties to the UNFCCC meeting in Warsaw in November 2013 agreed to each prepare an official statement of the greenhouse-gas emission reductions that the party was willing to undertake in the period up to 2030. The parties further agreed that these statements, which came to be known as INDCs, and which evolved into NDCs, should be made available ahead of COP21 in Paris, France – whose key milestone was “*the Paris Agreement*”. The Agreement includes a global goal for climate change mitigation (Article 2.1), namely “*holding the increase in the global average temperature to well below 2°C above preindustrial levels*”. In addition, the Agreement sets out a long-term, global goal on climate change adaptation (Article 7.1), namely “*enhancing adaptive capacity, strengthening resilience and reducing vulnerability to climate change, with a view to contributing to sustainable development and ensuring an adequate adaptation response in the context of the temperature goal*”.

By ratifying the Paris Agreement, the parties commit to submitting revised NDCs every five years (Article 4.9). The revised NDCs are to have an implementation period of five years and should be submitted five years in advance of the start date for implementation. These requirements respond to the Paris Agreement's call on all parties to increase progressively the level of ambition of their NDCs (Article 4.11). The implementation periods of the various NDCs vary: some parties have submitted NDCs that span a five-year period (2021 to 2025), whereas in other cases the NDCs span a ten-year period (2021 to 2030). Parties in the former situation are expected to communicate a revised NDC spanning the period 2026 to 2030 by 2020. Parties in the latter situation are not expected to submit a revised NDC by 2020. However, they are encouraged to do so and to submit a revised NDC with a higher level of ambition by 2020. By 2030, all parties are expected to have submitted revised NDCs spanning the period 2036-2040.

The Paris Agreement includes a provision for quinquennial global-level stocktakes of progress, the first of which is scheduled for 2023 (Article 14). Assessing the extent to which NDC commitments are sufficient to meet the Agreement's mitigation target is a key goal of these stocktakes. The periodicity of the NDC updates, with its five-year gap between the submission of a revised NDC and the start date for implementation, is intended to facilitate the successive global stocktakes.

4.4.2 Policy and Regulatory Frameworks

Like any other aspect of public policy implementation, implementation of NDCs necessitates an appropriate regulatory and policy framework. The extent to which a country's regulatory and policy framework meets the requirements associated with implementing current climate change policies gives an initial measure of its appropriateness. Nonetheless, NDC implementation is likely to present challenges that are distinct from those posed by current climate change policies, in that NDC goals typically require more rapid, more coordinated action compared to traditional climate change goals. For this reason, in most instances, only a case-by-case review of the specific regulatory requirements that NDC implementation may entail will provide a true measure of the appropriateness of the regulatory framework.

Primary legislation refers to the laws issued by a government's legislative powers. These laws introduce broad policy directions and principles and thus represent the framework within which that government's executive power operates. Secondary legislation, issued by a government's executive power, often consists of regulations and statutory instruments. Secondary legislation makes primary legislation operational by translating it into specific sectoral requirements.

The integration of climate change concerns into sectoral policies (or "sectoral integration") can be defined as the process through which sectoral policy plans and strategies are revised to achieve a satisfactory trade-off between the priorities driven by sectoral development goals and those that are driven by climate-change management goals. In addition to its horizontal dimension, within equivalent governance levels (notably ministries), sectoral integration processes have a vertical dimension spanning different levels of governance (Ahmad 2009). Integrating NDC priorities into sectoral strategies is a pre-condition for successful NDC implementation. This is because, in case of lack of such integration, sectoral strategies may include policy goals that undermine NDC goals. For example, a land-use management plan that contemplates constructing buildings in flood-prone

areas would run counter to adaptation efforts directed at reducing vulnerability occasioned by flooding episodes.

Calls to integrate climate change priorities into sectoral strategies are nothing new. NDCs are often based on planning documents such as low carbon development strategies or national adaptation plans of action, the development of which required – and in some instances promoted – sectoral integration. The improvements in institutional capacities that NDC implementation requires can help consolidate this trend. Integrating climate change priorities into sectoral policies, and evaluating the extent to which this has been done efficiently and effectively, is challenging. The literature on this topic builds on the experiences gained through a parallel concept – environmental policy integration – on which there is more empirical evidence. Drawing on this body of knowledge, five criteria have been put forward to assess (ex-ante) the degree of climate-change policy integration (Mickwitz *et al.* 2009). With a few adjustments, the same criteria can be used to evaluate (ex-post) integration efforts.

Bureaucracy and regulatory uncertainty can discourage integration. Consider, for example, an unclear land tenure policy. Efforts to revise local land-use plans to improve the compromise between climate change-driven concerns and agricultural development goals are less likely to proceed if the key stakeholders fear that the land may be taken away from them. This kind of institutional deficiency, which hampers integration, is also commonplace in many aspects of public policy: to cite but two examples, a cumbersome industrial licensing process or unclear agreements with utilities.

4.4.3 Mainstreaming NDCs in Development Plans

As with the implementation of any policy plan that affects multiple economic sectors and stakeholder groups across different governance levels, the implementation of a Nationally Determined Contribution (NDC) can be mainstreamed in sectoral development plans. The appeal of such mechanisms lies in their ability to increase both the efficiency and the effectiveness with which implementation takes place. Mainstreaming NDCs in development plans of sub Saharan countries can be done by setting clear roles and responsibilities for all relevant ministries, agencies and sectors and laying out the procedures that should guide these agencies in their work.

CHAPTER FIVE

5. NDC IMPLEMENTATION INDEX AND TRACKING TOOLS

5.1 Overview of NDC Implementation and Tracking Progress

The Paris Agreement established an ETF of action and support under which Parties are required to provide “information necessary to track progress made in implementing and achieving its nationally determined contribution under Article 4” (Article 13.7b). All Parties, except least developed country Parties and small island developing States, shall submit information reported under Article 13.7 “no less frequently than on a biennial basis” (paragraph 90, Decision 1/CP.21).

The Paris Agreement’s proposed system of tracking progress consists of a series of different informational elements to be provided by Parties. Articles 4, 6 and 13 of the Agreement broadly outline what these informational elements consist of and the ongoing negotiations of the so-called “Paris rulebook” will further define these elements. Article 4 mandates Parties to prepare and communicate an NDC every 5 years (Articles 4.2 and 4.9) against which progress will be tracked. Along with their NDCs, Parties will also communicate information for clarity, transparency and understanding (CTU, Article 4.8) of the NDC. Article 4 also requires Parties to account for their NDCs (Article 4.13).

Parties are to account for internationally transferred mitigation outcomes (ITMOs, Article 6) during the processes of accounting for and tracking progress towards NDCs. Article 13 negotiations will develop MPGs for a reporting and review system under the ETF through which Parties will provide information for tracking progress.

These Articles are each a core element of the system to track progress and there are significant linkages between them. Identifying substantive and procedural linkages between these Articles can help improve the coherence of a system for tracking progress.

5.2 Information needs for tracking progress towards NDCs Implementation

Tracking progress under Article 13 towards Parties’ NDCs requires information on the implementation and achievement of the NDC (e.g. indicators comparing current or projected and reference emissions) and information that facilitates the understanding of the NDC target (e.g. scope and coverage of the NDC). *Both quantitative (e.g. indicators such as percentage reduction of base year emissions) and qualitative (e.g. information on the implementation status of policies and measures (PaMs)) information are needed to allow a clear understanding of progress towards the NDCs.* Annex I Parties have experience reporting quantitative and qualitative information to track progress towards mitigation targets under the Kyoto Protocol and the Convention.

Quantitative information reported under this framework includes a summary of inventory information, mitigation actions and their effects and emissions projections to 2020 and 2030. Qualitative information includes a description of PaMs and information on changes in Parties’ domestic institutional arrangements. The majority of Non-Annex I Parties, however, have limited experience of reporting in this area, which may affect their reporting on tracking progress towards NDCs under the ETF.

One key difference between tracking progress under the Paris Agreement and the Kyoto Protocol is that *under the Paris Agreement “Parties will be tracking progress towards different types of*

mitigation targets in NDCs. The diversity of targets under the Paris Agreement means that different sets of information will be needed to track progress towards each specific type of target. For example, information needed to describe an economy-wide absolute GHG target will include levels of GHG emissions and removals at base year (Tier 1). Information describing intensity targets for GHG emissions per unit of GDP or per capita will include, besides information on GHG emissions and removals, information on the relevant socio-economic indicator (Tier 2).

Current textual proposals for the MPGs recognize certain informational elements as relevant for tracking progress. These include a description of the NDC; indicators comparing e.g. current to reference emissions levels; NDC accounting information; Article 6 information; PaMs; and GHG projections resulting from implemented policies. GHG inventories are mandated to be reported under Article 13.7a and are fundamental to accounting for NDCs and for tracking progress towards GHG emissions targets. Information on GHG emissions and removals in inventories are also key to inform GHG-based indicators and GHG projections. Annex I countries currently report on GHG inventories annually and provide GHG data for year X-2 at year X. Reporting on GHG inventories by Non-Annex I Parties has been irregular, and the vintage of inventory data relatively old. For example, out of 94 Non-Annex I Parties having submitted inventory data in NCs or BURs published in 2015 or later, 2% reported data on year X-2 and 46% on year X-6 or older. As GHG inventories are the basis for tracking progress towards most NDC targets (80% of all Parties submitted GHG targets in their NDC), it would be important for the MPGs to consider how this time-lag issue could be resolved.

Some NDCs lack transparent and clear information that allows for quantification of targets by a third party. Possible reasons for this insufficient information include the lack of clear guidance and technical difficulties in providing information (e.g. lack of in-country data). Information describing the NDC is similar in substance and linked to information needed for CTU of NDCs (Article 4). Information for CTU will be communicated along with the NDC and at any other time, the NDC is updated. The NDC description information is to be reported throughout the implementation period of the NDC as part of the biennial reporting on its progress. This information describing the NDC would re-iterate, complement or update CTU information and consistency across these sets of information will be important. For example, any updates made to e.g. the methodologies and assumptions during the NDC period (and reported under the ETF) would need to be captured within the next round of CTU information.

Given the diversity of NDC mitigation targets types, a range of different types of indicators are needed to track progress towards those targets. As indicators can be very diverse, it is crucial that they are accompanied by transparent information on definitions, data sources, methodologies and assumptions. To facilitate the use of indicators, MPGs could identify broad categories of indicators for different types of targets. Parties would then define which indicators within these categories they will use to track progress towards their NDCs. For example, Parties with GHG mitigation targets need to select indicators that are emissions-based while targets formulated as reductions from business-as-usual (BAU) would need to provide BAU reference levels.

It is however currently less clear how to account for non-GHG targets in countries' NDCs, and several options are available. For example, accounting for a renewable energy policy could involve reporting on the implementation status of the policy to account for the Gigawatt hours (GWh) of

renewable capacity installed, and/or the GHG impact of the renewable energy policy. The accounting tables need to accommodate these different NDC targets while facilitating comparability as this will facilitate aggregation for collective stocktaking purposes. Accounting guidance needs to consider that in order to add and subtract the flows in the tables they need to be expressed in the same unit of measurement.

The textual proposals for the MPGs are also considering that Parties report on mitigation actions and PaMs when tracking progress. Parties could report on mitigation actions in different ways. First, it could report on the implementation status of adopted policies. Secondly, an assessment of PaMs could quantify the emission reductions associated with policies that are being or will be implemented. Estimating the impact of PaMs could be a useful way to evaluate the implemented policies and to plan new climate policies. There can be some uncertainty in quantifying the effects of policies involving e.g. methodological challenges to calculate or estimate the impacts of one or more groups of policies.

Parties have experience in reporting on policies and measures and, to a lesser extent, on their impacts on current and projected GHG emissions. Annex I Parties have reported on domestic measures and GHG projections “with measures” in their BRs. This information was reported as contextual information on progress towards implementation of mitigation targets. Non-Annex I Parties have experience reporting on policies and measures in their National Communications (NCs) and their BURs, and some experience in reporting on emissions projections, although the number of Parties that do so is limited. MPGs could ask those Parties that have provided such information to continue to do so under the ETF to avoid backsliding.

5.3 Definition and Delineating Scope of NDCs Implementation Index

The detailed measures and activities for definition and delineating scoping of NDC implementation are set out in five components that guide NDCs Implementation namely: Governance; Mitigation; Adaptation; MRV and; Finance.

- (i) The Governance component is concerned with putting in place the appropriate institutional structures and processes to drive and coordinate climate action and to engage key stakeholders.
- (ii) Mitigation component addresses long-term mitigation strategies that are aimed at reducing GHG emissions through national and sector plans that are aligned with development priorities.
- (iii) The adaptation component is concerned with integrated adaptation planning that helps to build long-term resilience to the impacts of climate change by mainstreaming adaptation into national and sectoral plans.
- (iv) MRV also known as transparency comprises systems to track implementation and apply the lessons learned, thus enhancing understanding about which actions work best, and why.
- (v) Finally, the finance component comprises a climate finance framework that is designed to match a country’s needs against funding streams, and include strategies to access the funding streams.

As an integral part of the definition and delineating of scoping the NDC implementation index that includes measures/activities that are used and dimensions that are covered, the NDCs Implementation Gap Analysis as adopted from Ricardo/CDKN (2016) is summarized in Table 4 below.

Table 4: NDCs Implementation Gap Analysis

NDC Implementation Component	Activity
Governance	<ol style="list-style-type: none"> 1. Review current institutional arrangements 2. Establish an NDC implementation coordination team 3. Set up institutional arrangements 4. Build capacity within government 5. Engage external stakeholders 6. Develop legal frameworks
Mitigation	<ol style="list-style-type: none"> 1. Review the current mitigation policy landscape 2. Set up institutional arrangements for the coordination and oversight of mitigation activities 3. Analyze the national mitigation potential to identify priority sectors and mitigation options 4. Conduct a detailed appraisal of priority actions for key sectors 5. Design mitigation policies 6. Access financing for mitigation actions 7. Implement mitigation policies 8. Design and implement a mitigation MRV system 9. Prepare for future NDCs
Adaptation	<ol style="list-style-type: none"> 1. Review the current adaptation policy landscape 2. Undertake groundwork and governance 3. Undertake preparatory work for adaptation plans 4. Access financing for adaptation actions 5. Implement policies, projects and programmes 6. Monitor and report on progress and the effectiveness of adaptation actions
Finance	<ol style="list-style-type: none"> 1. Review the climate finance landscape 2. Establish institutional arrangements for the oversight and coordination of climate finance activities 3. Compile an overall costing for the NDC 4. Identify funding gaps and needs 5. Assess public and private financing options and develop a country climate investment plan 6. Develop a country climate investment plan 7. Secure direct access to international climate funds for national and subnational institutions 8. Develop a project pipeline and financing propositions that can be put forward to different financing sources 9. Increase private sector engagement and overcome barriers to investment 10. Design and implement a climate finance MRV system
Transparency/MRV (Measuring, Reporting and Verification)	<ol style="list-style-type: none"> 1. Review current MRV activities 2. Establish institutional arrangements for the oversight and coordination of MRV activities 3. Assess data gaps and needs 4. Design the MRV system for mitigation, adaptation and finance 5. Establish data management processes 6. Build MRV capacity 7. Improve the MRV system over time

Source: Ricardo/CDKN (2016)

5.4 NDC Implementation Indicators

Despite the availability of enormous volume of information on the number and type of NDC implementation indicators, from the more conceptual to the more detailed and technical, there are many gaps as regards the NDC implementation indicators. Based on the review of NDC documentation, as well as in-country experience, the development of additional knowledge and capacity development material, in the form of tools and guidance, is recommended under each of the five components of NDCs implementation as outlined below:

5.4.1. Governance

Under the Governance component, the likely qualitative and quantitative NDCs implementation indicators to be encountered include:

- Integration of NDCs into national and sub-national planning
- User-friendly tools and info-graphic material - especially to track emission reductions
- Terms of reference for NDC focal point and implementing stakeholders
- Development of a comprehensive stakeholder engagement plan
- Innovative stakeholder engagement tools, such as prototyping
- Innovative awareness tools, such as videos, documentaries, social media platforms - to move away from guidance only for practitioners and to open more widely to the public
- Development of messages for different audiences (from government to private and financial sectors, to schools and communities)
- Incentives for data sharing across implementing entities
- Coordination, integration, capacity building, stakeholder engagement, and development of legal frameworks
- Stakeholder mapping and Institutional responsibilities
- Link with NDC coordination
- Communication and outreach strategy

5.4.2. Mitigation

Under the Mitigation component, the likely qualitative and quantitative NDCs implementation indicators to be encountered include:

- Integration of NDCs with BURs and National Communications
- Development of low carbon emissions pathways (in a consultative manner)
- Appraisal of policy options and cost-benefit analysis tools
- Integration of actions into NDC and sectoral action plans
- Analyze mitigation potential and priority sectors
- Design mitigation policies
- Start preparation of future NDCs

5.4.3. Financing

Under the Finance component, the likely qualitative and quantitative NDCs implementation indicators to be encountered include:

- Costing of NDC actions (both direct and indirect or cross-cutting)
- Updated sources of finance mapping, especially for mitigation
- Breaking down of NDC information for the private and financial sector
- Repository of information on accessing finance
- Blended finance tools - with varying degrees of concessionality

- Ways to incentivize the private sector to participate in policy development, without creating conflicts of interest
- Development of a climate investment plan and project pipeline
- Review the climate finance landscape and assess costs and funding gaps
- Develop a climate investment plan and project pipeline
- Enhance private sector engagement
- Enhance private sector engagement
- Finance needs
- Finance sources
- Projects in pipeline
- NDC implementation framework
- Sector-level MRV framework
- Monitoring plan

5.4.4. MRV/Transparency

Under the MRV/Transparency component, the likely qualitative and quantitative NDCs implementation indicators to be encountered include:

- Two-way linkages to UNFCCC and COP websites and documentation
- Easy to use toolkit for Paris Rulebook (and perhaps tailor-made tools to serve specific needs like those of Africa), and considerations to keep in mind for the next negotiations.
- Development of an MRV/transparency system (adaptation, mitigation, finance) and improvement over time
- Establishment of institutional arrangements
- Assessing data gaps and needs
- Designing the sectoral MRV system
- Establishing a data management process
- Capacity building

5.4.5. Adaptation

Under the Adaptation component, the likely qualitative and quantitative NDCs implementation indicators to be encountered include:

- Creation of NAP-NDC linkages
- Design a (cross-)sectoral M&E system
- Establish coordination of finance activities
- Vulnerability and impacts
- Adaptation measures

5.5 The Award and Weighing Criteria for the NDC Indicators

The award and weighing criteria for the NDCs implementation indicators was guided by a number of underlying factors which among others include:

- The hierarchy of the indicator in the development of sectoral or sub-sectoral GHG emissions over time including tracking sectoral level progress in cutting down emissions.
- The extent to which the indicator is able to inform the overall direction of travels within high-level sectors and subsectors that are most aligned with the NDC sectors, as they are defined by IPCC Common Reporting Format (CRF) Framework in the national GHGI.

- The role of the indicator as a sectoral driver of GHG emissions in terms of serving as the emissions factors and/or source of activity data used to calculate emissions.
- The role of the indicators in illustrating the progress and effectiveness of certain mitigation measures or groups of mitigation measures that are included in each NDC sector action plan.
- Role of the indicator as source of institutional responsibilities for oversight of implementation and monitoring of progress including:
 - Mapping of existing institutional mandates
 - Determination of optimal alignment of institutions with implementation objectives, including links for finance and planning ministries
 - Devolution of implementation responsibilities to line ministries and agencies
 - Gap analysis of institutional capacity requirements
 - Integration of sector level information collection and reporting processes
- Role of the indicator in knowledge development and dissemination on Paris Agreement implications and benefits that include:
 - ✓ Understanding of long-term sector implications of the Paris Agreement
 - ✓ Analysis of potential benefits, related to sector development objectives and the key interests/objectives of influential stakeholders
 - ✓ Identification of links between mitigation targets and SDGs
- Role of the indicator in influencing planning for ambition through strategy alignment and long-term decarbonisation planning that include:
 - ✓ Complete alignment of sector-level strategy with a climate policy strategy
 - ✓ Stock-take and integration of subnational and non-state actions
 - ✓ Determination of long-term full de-carbonization targets for the sector
 - ✓ Translation of sector-level targets to sub-sector targets
- Role of the indicator in analysis of potential for ambition raising that include:
 - ✓ Analysis of regional best practice policies
 - ✓ Targets for sub-sectors not yet covered in climate strategy
- Role of the indicator in the collation of all information and targets into a target-based roadmap
- Role of the indicator in investment planning for resource allocation and determination of support needs including an evaluation of investment requirements for preferred measures that include evaluation of:
 - a) Private sector investment capacity;
 - b) Public finance requirements;
 - c) International support requirements.
- Role of the indicator in medium-term investment planning to align non-private capital requirements with existing national and multilateral financing rhythm
- Role of the indicator in analysis of persisting barriers to NDCs implementation that include (financial, political, institutional, cultural)
- Role of the indicator in identification of project concepts that address the barriers for NDCs implementation and/or international support (e.g. NAMAs)

5.6 Identifying the Target Groups and Sources of Data for NDC Implementation Index

The target groups for NDCs implementation index are: the supply side that comprise the government, while the demand side comprises the private sector, civil society, service providers,

and other stakeholders such as development partners that are involved in training and capacity building. The major sources of data are energy, AFOLU, IPPU, waste and transport. Tracking the NDCs performance indicators horizontally and vertically in a linear form will be implemented in the context of the roles and actions by the government policymakers (national, sub-national, and local levels); financial support and investment in tracking NDCs performance indicators; technology and innovations in the realm of tracking NDCs performance indicators; roles and activities of stakeholders involved in tracking the various NDCs performance indicators and the role of Civil Society as well as other Non-State Actors (NSAs).

5.6.1 Interpretation of the NDCs Implementation Scores

In the 8 participating countries with various NDCs types, the study looked at their various performance indicators in terms of NDCs preparedness. The five NDC components (Governance, MRV, Climate Financing, Adaptation and Mitigation) were assigned weights on the scale of 1% to 100%. Each of the indicators provided for each NDC component was scored between 1-5 based on the achievement compared to the baseline and the target set in the NDC implementation framework/plan. Using available literature and data collected, the 5 NDC Implementation components were weighted as provided in Table 5 below:

Table 5: Assigned Weights for NDC Implementation Components

NDC Implementation Component	Weight (%)	Justification
1. Governance	30	Policies, Strategies, Legislations, Programmes and Projects for NDCs Implementation already in place in the 8 study countries
2. MRV	25	All the 8 study countries have submitted at least one National Communication (NC) and 2 countries submitted Biennial Update Reports (BURs) MRV is key to the implementation of respective countries NDCs.
3. Mitigation	20	Mitigation actions have informed the content of National Communications. Mitigation actions are also key to the attainment of NDCs Implementation Targets. All countries are supposed to develop their Nationally Appropriate Mitigation Actions (NAMAs).
4. Adaptation	15	Adaptation is a sympathy measure based on services to vulnerable groups of people to help them build resilience to the impact of climate change. This explains why it is a priority intervention for most African countries because of the immediate impact on the most vulnerable
5. Finance	10	Although there is international commitment for climate financing by

Annex I countries, the flow of the resources to Annex II countries is not always direct but through other development partners, hence impact not directly felt.

Based on the country-specific outcomes of the analysis of the influences of activities/actions associated with each of the five macro-level indicators/components on NDCs Implementation, an award and weighting criteria for the indicators was developed. Based on the criteria and the justification articulated hereof, Governance was allocated a weighting of 30%⁹ MRVs 25%; Mitigation 20%; Adaptation 15%, and; Finance 10%. There is enough justification based on the literature encountered during the country-specific analyses for the higher weighting figure of 30% allocated to Governance because the potency of NDCs implementation is a function of first and foremost the strong institutional, regulatory, and legal frameworks. Private investors, for instance, cannot be attracted to invest in various projects in any country in the absence of legal and regulatory frameworks to back and protect their investments and other associated interests. All the eight study countries had developed and been at varying stages of operationalizing various climate-related policies, strategies, and legislation.

MRVs have been allocated weighting of 25% because they are mandatory in the development and submission of NCs and BURs that preclude the submission of NDCs. All countries that are signatory to Paris Agreement are thus, expected to be MRVs compliant - they must be involved in tracking progress in their GHG inventory. Apart from providing a clear line of sight towards achieving GHG emissions reduction, MRVs also seeks to guide adaptation actions towards mitigating the adverse impacts of climate change. MRV has three important components and processes entailed in their implementation which include: GHGI; NAMAs, and; Support (Funding, Technology Acquisition, and Training/Capacity Building). Mitigations have been allocated weighting of 20% because reducing emissions is one of the yardstick measures of adherence to NDCs. All countries are expected to develop NAMAs in order to qualify for participation in the multi-billion dollar business models expected therefrom. There is an already established annual NAMAs calls by UNFCCC, hence reducing emissions is critical and all countries are expected to reduce their emissions conditionally and unconditionally in respective percentages presented in their preceding NDCs. Adaptations have been allocated a weighting of 15% because measures for coping with adverse effects of the vagaries of climate change are key to the sustainability of climate resilience systems. At present, there are no regular/annual Nationally Appropriate Adaptation Actions (NAAAs) calls from UNFCCC. However, various countries have developed their National Adaptation Plans (NAPs).

Climate Financing has been allocated a weighting of 10% because both indirect and direct funding is required for operationalization of climate-related policies, strategies, programmes, plans, and legislation. However, despite the huge commitments for climate financing from mainly Annex I countries⁹ and other bilateral and multilateral donors, there is limited direct access to climate finances by most of the study countries. Most of the finances are accessed through third party agencies such as GEF and UN organizations with resultant minimal direct impacts on the ground among the targeted countries. For instance, most of these third party agencies come with their own technical support teams, which constrain local capacity building in climate-related issues. The

⁹ <https://unfccc.int/parties-observers>

funding through these third party agencies have been constant or declining and as such not sustainable in addressing climate-related issues, which points to the need for domestically generated resources in addressing climate-related matters. However, due to perennial financial constraints faced by most of the Sub-Saharan Africa Countries, such domestically generated financial resources are generally never adequate for effective support to the implementation of identified climate interventions as part of NDCs implementation. The country-specific analyses also helped to develop a guide on presentation and interpretation of scores and findings including generating of the ultimate NDCs Implementation Index as presented in Appendix II.

5.6.2 Analysis and Visualization of NDCs Implementation Index

The analysis and visualization of NDCs implementation index to guide policy direction was achieved in two steps. The first step involved detailed elaboration of the country-specific status with regard to achieving the NDC targets as regards Governance, Climate Financing, MRV, Mitigation and Adaptation Components of NDCs Implementation activities as captured and summarized in section 5.3. The outcome of this step provided the information that guided the rating of the achievements of desired targets in lieu of the identified component-specific indicators in each of the 8 study countries. The second step involved the use of the averaged indicator ratings and component weightings in the development of NDCs Implementation Indices.

Table 6 provides the scale of rating for the indicators and the description of each rating based on the progress of achieving the set targets for each of indicators while Table 7 provides the meaning/interpretation of the total average score/Index for the 5 combined components of the NDCs.

Table 6: Rating of achievement of Targets for each Indicator for the NDC Implementation Components

Scale of Rating		Description
1-	0-15% achievement of target	Very Poor
2-	>15%-35% achievement of target	Poor
3-	>35%- 50% achievement of target	Unsatisfactory
4-	>50%- 75% achievement of target	Satisfactory
5-	>75%- >100% achievement of target	Outstanding

Table 7: Total Score (Index) per country and its description in relation to NDC implementation

Index Rating (Total Score)	Description of Index (Total Score)
Below 30 Index	Poor
>30 to 50 Index	Unsatisfactory
>50 to 75 Index	Satisfactory
>75 Index	Outstanding

CHAPTER SIX

6. CONCLUSION AND RECOMMENDATIONS

6.1 Conclusion

The results presented in this report comprise data and information on NDCs Implementation generated from eight (8) Sub-Saharan African Countries namely Kenya, Tanzania, Zambia, Ethiopia, Botswana, Gabon, Nigeria, and Cote d'Ivoire. All the eight countries are signatories to the Paris Agreement of 2015 and are thus obliged by the commitment to submit their updated Nationally Determined Contributions every five years. The eight countries have prepared and submitted their National Communication to the UNFCCC at various periods starting with the year 2001. The countries have also prepared their NAPAs at various periods. A number of important economic sectors in all the countries studied are susceptible to climate change, which threaten to undermine the already attained development gains. It is therefore important that Africa builds and enhances its climate resilience and adaptive capacity through building of systems of governance, ecosystems and society that can maintain competent function in the face of climate change.

Although the study countries make a low contribution to global GHG emissions, a significant number of their priority development initiatives captured in their Medium Term Plans impact on levels of GHG emissions in the respective countries. In order to attain low carbon growth, the governments of the study countries have taken the deliberate effort of implementing regulatory mechanisms that mainstream low carbon growth initiatives into their planning processes and functions.

It is an accepted reality in all the study countries that Climate Change mainstreaming is necessary to equip various coordinating and sectoral agencies with the tools to effectively respond to the complex challenges of this climate crisis. Nearly all the study countries have purposed to integrate climate change policy responses and actions into their national and sectoral planning and management processes. In so doing, they have been able to link climate change actions to core planning processes through cross-sectoral policy integration. Climate change mainstreaming has been attained through the development of frameworks and tools to integrate climate change responses into national and sectoral planning processes, including economic planning, development policies, and the budget-making process.

To ensure smooth and coordinated NDCs implementation, various sectoral laws and policies that will provide the legislative basis for specific actions in different countries will need to be analysed for potential amendments to enhance their capability to facilitate the implementation of the actions in tandem with the dictates of Paris Agreement. This complex undertaking forms a foundation for the attainment of low carbon climate-resilient development and sets the basis for climate change mainstreaming. It, therefore, requires the government to undertake various core interventions, including the enactment of overarching climate change legislation to provide the framework for coordinated implementation of climate change responses and action plans. It is also necessary to have an institutional coordination mechanism with high-level convening power to enhance the inter-sectoral response to climate change; and a technical institutional framework to guide policy and functional implementation of climate change legal obligations of the national governments for each of the study countries.

It is prudent to observe that the eventual climate change regulatory framework in all the countries under review observed the need for gender equality. The adoption of a gender mainstreaming approach involves assessing the implications for women and men of any planned climate change action, including legislation, policies or programmes, in any area and at all government levels to achieve gender equality. The youth represent a crossover between the present and future generations and play a critical role in socio-economic development. The overarching climate change legislation and amendments to sectoral laws must, therefore, carve out specific roles and opportunities for the youth to participate in decision-making in climate change governance and pursue opportunities that arise through climate change actions.

All the study countries have continued to mobilize both the public and private climate finance flows and other related flows for mitigation, adaptation, technology transfer, capacity building and policy development. Information gathered in Zambia, Kenya, Cote d'Ivoire and Gabon revealed successful submission of readiness proposals to GCF. The sources of climate change finance in different countries are alienated into different areas that include: government's national budgets; sources that contribute to national budget dependent on national decisions, and; sources that contribute to the national budget dependent on international agreements. Most of the study countries have been successful in accessing some of the dedicated climate finance available from the public and the private portfolios. However, tracking climate finance inflows into these countries is very complicated for some reasons, which include poor alignment of international climate finance sources with national development objectives, fragmented policies and procedures on climate change management, knowledge management issues and oversights in the national budget process.

Systems and Capabilities to facilitate NDCs Implementation

This section presents systems and capabilities to facilitate NDCs Implementation within the context of the five components that guide the implementation process in the study countries and all other signatories to the UNFCCC's Paris Agreement namely Adaptation, Mitigation, MRVs, Governance, and Finance.

Adaptation

The study countries have come up with legislation for the development of a National Adaptation Plan. The laws adequately cover issues regarding implementation modalities of national policy in the areas of climate change and sustainable development; implementation of principles, and objectives of sustainable development; strategies for developing and implementing measures against climate change including a national strategy on climate change, national communications, a National Adaptation Plan, vulnerability assessments to climate change, and the inventory of greenhouse gas emissions.

To advance the NAP process, the study identified the following barriers to climate adaptation through a stocktaking exercise and stakeholders' consultations: roles and responsibilities on climate change adaptation are not clear within the government; technical capacities on adaptation planning and mainstreaming are limited; current data is insufficient to conduct risk-informed adaptation planning; no monitoring, reporting, and verification systems are in place for adaptation; no CCA-specific financial mobilization strategy exists; and the private sector's awareness of the

risks and opportunities of climate change is limited. This provides an output of monitoring and reporting on progress and effectiveness of adaptation actions.

Mitigation

To operationalize mitigation activities, governments of the study countries have come up with several policies, laws, programmes, projects, partnerships, and other interventions. The study countries, for instance, have updated emissions inventories since they started submitting their National communications. The procedure for revising involved the use of the default methodology of the “Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories” (IPCC, 1996) and the “Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories” (IPCC, 2000). The inventory covers all of the major sectors presented by IPCC (1996) with the exception of Solvents and Other Products Use, which was not available electronically from the downloaded software. Emissions of GHG in the energy, industrial processes, agriculture, land-use change and forestry, and wastes have been estimated in the study countries and the production and consumption of energy under different sectors evaluated with data from national and international sources. The mitigation efforts in the study countries include the following sectors: energy; forestry and land use; agriculture; transport; industry; and waste management. Some other issues in the climate change mitigation efforts in the study countries include financing climate change mitigation; national policies on climate change mitigation; natural gas flare-out policy; mainstreaming climate change into sustainable development; relevant national development plan to climate change; and uncertainties. Mitigation component of the National Communication provides information about options and action to reduce future GHG emissions in the study countries without compromising opportunities for sustainable development.

MRVs

All the study countries have been improving their national data generation and management on a continuous basis for transparency and accountability in the preparation of national communications. This includes the establishment of national and sectoral focal points for data management and mechanisms for improving data sharing among institutions. Due to their MRVs preparedness, the study countries have been able to submit not only their first but even second and third National Communication to the UNFCCC.

Governance

In all the eight study countries, climate change institutional arrangement is either domiciled in one Government Ministry or more than one Ministry. We have situations where climate change operations and climate finances are housed in two different Ministries. What is constant in almost all the study countries is that we have specific, directorates, units, or commissions that are responsible for the coordination of core climate change activities at the national level. Parliaments in the study countries have introduced and passed bills with the aim of improving the ability to set, coordinate, and implement climate change policies. Besides efforts to improve the institutional capacity to deal with climate change, there have been several policy initiatives with relevance to climate change in the study countries, for instance, cases where civil society organizations and international donor organizations have been working together to identify climate change vulnerabilities and develop comprehensive adaptation strategies.

Climate Finance

All the eight study countries qualify for access to GCF and most of them have established the Focal Point to the GCF and developed strategic framework for engagement with the fund including the preparation of country programmes. Other sources of Climate Finance in the study countries include the Global Environment Facility (GEF) and UNDP. Other bilateral financiers include DFID, USAID, IDRC, and GIZ. The World Bank and African Development Bank have also been actively involved in climate finance activities in the study countries.

6.2 Recommendations

1. Most of climate resilience interventions have targeted grassroots communities. Both adaptation and mitigation climate action interventions aimed at enhanced climate change resilience including capacity building and technology transfer should target both the actual stakeholders at the grassroots level as well as urban-based populations, especially within the informal settlements.
2. All countries signed the same Paris Agreement and the subsequent ratification. It is only in order that countries implement comparable activities within any of the five components of NDCs implementation for ease of tracking accountability and transparency. As things stand now, even neighbouring countries with similar agro-ecological zones, socio-economic dispensation, and demographic characteristics will be found implementing totally contrasting interventions in their NDCs implementation.
3. Using the same argument as in no. 2 above, it will be more prudent for countries that are signatories to the Paris Agreement to intervene with comparable NDCs Implementation climate action areas, particularly in situations where they are beneficiaries of international climate finance for purposes of ease of tracking and/or monitoring and evaluation.
4. Information gathered from the eight study countries gave a picture of a situation where most Government Ministries, Departments and Agencies together with the Civil Society and Private Sector climate action stakeholders could not access international climate finances directly but through intermediate international organizations who are also climate change stakeholders such as UNDP and GEF. We recommend that conditions for access to international climate finances be relaxed and the capacity of indigenous African stakeholders be developed for them to be able to get direct access to such climate finances.
5. Some of the climate change adaptation and mitigation actions related to NDCs Implementation will require technology transfer mainly from the developed to the developing countries. Such technology transfer will more often than not be associated with capacity building packages that even contribute to the increased cost of accessing the technology. We recommend that the production of such technologies and capacity building for their utilization be decentralized to Africa for ease of access and reduction in capacity building costs.
6. Sensitization, awareness creation and participation in climate action activities in most African Countries is not an all-inclusive activity as it is conducted in conferences away from the majority of rural-based youths, women and people living with disabilities. We recommend that all stakeholders involved in planning and implementing such activities consider adequate and effective participation of youths, women and people living with disabilities as they are the major participants in the implementation of Adaptation and Mitigation activities that result in climate resilience and emissions reduction.

7. As African countries begin preparation for the revision of their respective NDC types, there is need to adopt an economy-wide approach (inter-sectoral approach). This is to eliminate ambiguity and ensure that there is synergy across sectors in implementation.
8. Concerted efforts should be made to engage the various African governments to adopt the NDC implementation index as a working tool in the coming revision.
9. Critical stakeholders in Africa working on NDC implementation initiatives should sit down together under the auspices of the Africa Union and leverage on the milestones recorded by PACJA and its partners with the production of a harmonized NDC implementation index.
10. In view of the prevailing world situation, African countries should make concerted efforts to domestic resources mobilization towards NDC and SDGs projects. Funds from Overseas Development Assistance (ODA) are dwindling and will not be sustainable.

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Links

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APPENDICES

Appendix I: Data Collection Tools/Field Instruments

DATA COLLECTION TOOLS TO MONITOR IMPLEMENTATION OF NDC IN AFRICA

This Tool Targets Government Institutions involved in Implementation of NDCs (Government Officials, Climate Change/Environment Experts, and Climate Change Secretariat Staff), Key officers in the Private Sector, Civil Society Actors with deep knowledge and experience in Environmental Issues in the Country.

Background

We would like to understand the extent to which your government and other stakeholder institutions are prepared to implement their Nationally Determined Contributions (NDCs). This information will help us compile guidance on Measurements, Reporting and Verification (MRV) indicators associated with NDC implementation, which we are preparing on behalf of the PanAfrican Climate Justice Alliance (PACJA).

To this end we have prepared the present questions for tracking MRV Indicator Related Variables/Activities, which contains sets of questions for our discussion. We would be most grateful if you could take some time to spare to respond to each of the questions herein. We will apply this tool to a total of eight countries/governments in Africa, including: Kenya; Botswana; Zambia; Tanzania; Ethiopia; Gabon; Cote d'Ivoire; and Nigeria.

(a) Questions for Tracking MRV Indicator Related Variables/Activities

Question 1: Reviewing Current MRV Activities

- 1.1. Based on existing MRV system in your country which areas in context of mitigation, adaptation, climate finance, SDGs or any important co-benefits of climate actions (e.g. energy access, job creation), require further reviewing?.
- 1.2. In the context recent Biennial Update Reports and/or National Communication submissions (i) how were data concerning various indicators were generated for these reports, (ii) how was the frequency of data collection and, (iii) who were involved in data collection? (e.g. statistical offices, sectoral ministries and their affiliated institutions).

Question 2: Establishing Institutional Arrangement for oversight and Coordination of MRV activities

- 2.1. Has the MRV steering group been set up in your country?
- 2.2. Has your country settled on an overall lead institution for the MRV system?
- 2.3. Have the appropriate rules and guidance for MRV been developed in your Country?
- 2.4. Has your Country developed plans for NDC reporting?

Question 3: Assessing Data Gaps and Needs

- 3.1. Has your country been able to assess and prioritize data gaps in MRV?
- 3.2. To what extent can the existing MRV systems in your country be extended to address the identified data gaps?

Question 4: Designing the country MRV system for mitigation, adaptation, and finance

4.1. Has the Country-specific MRV system for mitigation, adaptation and finance been developed for your country?

Question 5: Establishing data management processes

- 5.1. Has your country developed systems to improve data quality on MRV? What is the number of approaches, ranging from the robust independent verification of data, to internal data audits and quality checks, and consultation with stakeholders with regard to MRVs that have been developed and operationalised in your Country?
- 5.2. Has your country developed MRV data management systems? Does there exist clear and transparent archiving of data for MRV in your country? Does there exist online data management systems that are accessible to all or to certain individuals through password-controlled access?
- 5.3. To what extent has your country addressed data gaps in MRVs? Has your country embarked on using generic data factors or international benchmarks, until the acceptable data can be improved?
- 5.4. To what extent has your country developed data improvement plans for MRV? Has your country developed plans for improving MRV data sets as necessary, with suggested responsibilities, timings and resource requirements?

Question 6: Building national MRV capacity

- 6.1. To what extent has your country built the National MRV Capacity?
- 6.2. What capacity-building needs have been identified and addressed in terms of the design and implementation of various elements of MRV capacity building?
- 6.3. What steps have been taken by the subnational and local governments in your country towards enhancing coordination of cohesive tracking of development plans linked to the SDGs and NDC?
- 6.4. To what extent has your country succeeded in giving capacity-building support, both within the central MRV team and across stakeholders involved in the implementation of the MRV system?

Question 7: Improving the national MRV system over time

- 7.1. Has your government and other relevant stakeholders put in place mechanisms to ensure that country-specific MRV reports are relevant to NDC implementation? Is there mechanism in place to ensure that the outputs from the MRV systems can inform regular updates of the mitigation, adaptation and climate finance planning processes, and lessons learned can be integrated into subsequent actions within the implementation of the NDC?
- 7.2. Has your government and other stakeholders put in place a mechanism for continuous improvement of MRV system across the temporal scale? How effective is the established MRV system in collating and reporting relevant data, and adjusting the implementation plan and the systems according to any lessons learned?

(b) Questions for Tracking Finance Indicator Related Variables/Activities

Question 1: Reviewing existing climate finance landscape

- 1.1. Has your current country NDC adequately addressed requirements for international climate financing?
- 1.2. How adequate and appropriate are the current climate finance strategies in your country?

- 1.3. What is the status of existing climate investment plans and policies in your country at the national, subnational, and sectoral levels?
- 1.4. What is the status of climate finance work programmes established with specific bilateral or multilateral funders, Clean Development Mechanism project in pipelines, and Nationally Appropriate Mitigation Action (NAMA) in your country?

Question 2: Establishing the institutional arrangement for oversight and coordination of climate finance activities

- 2.1. Using a scale from 1 (very limited establishment) to 5 (very well established), to what extent has the institutional arrangements for oversight and coordination of climate finance been established in your country?
- 2.2. Has your country established a team within government to lead on national climate finance coordination? In which Ministry is the climate finance coordination team domiciled within the government? To what extent is the team gender balanced?
- 2.3. Using a scale from 1 (very limited mainstreaming) to 5 (very well mainstreamed),
 - a) To what extent has your country mainstreamed climate change financing into national budgeting processes?
 - b) To what extent are NDC implementation priorities reflected in national budgets of your country for purposes of helping existing policies, programmes and project pipelines to be *'green'*?
- 2.4. What is the level of domestic, as well as international, fiscal support for climate change initiatives in your country?

Question 3: Compiling an overall costing for NDC implementation

- 3.1. Has your country undertaken a desk review to identify and cost the main sub-actions within each mitigation and adaptation actions?
- 3.2. Does your country climate finance coordination teams make regular checks with relevant national experts and stakeholders on validity of desk-based estimates?

Question 4: Identifying funding gaps

- 4.1. Using a scale from 1 (very limited scoping and prioritizing) to 5 (very well scoped and prioritized), to what extent has your country scoped and prioritized the actions to be undertaken during NDC implementation?
- 4.2. Has your country been able to assess the funding status of each of identified priority NDC actions?
- 4.3. What are the level and type of support needed to address funding gaps for each of priority NDC actions?

Question 5: Assessing public and private financing options

- 5.1. What potential exist in your country for further domestic fiscal support for each of priority NDC actions?
- 5.2. What is the eligibility of each of priority NDC actions in your country in context of bilateral and multilateral funding sources?
- 5.3. What options are there in your country for private sector investment for each priority NDC action?

Question 6: Developing Country Climate Investment Plan

- 6.1. At what stage is the development of your Country Climate Investment Plan?
- 6.2. Does your country have a climate investment plan that sets out the programme of investments required to implement each priority action in the NDC, as well as a strategy for meeting those financing needs?
- 6.3. Does your country review how peer countries deliver and finance similar projects and what lessons can be learned when developing the climate investment plan?

Question 7: Securing direct access to international climate funds for national and sub-national institutions

- 7.1. Has your country been able to secure direct access to international climate fund? Has your country been able to secure direct access to some of the international funds that include the Green Climate Fund, the Adaptation Fund, the Global Environment Fund and the European Commission Directorate-General for International Cooperation and Development (**Specify**)?
- 7.2. If ever received direct access to international climate fund, which national and /or subnational institutions received such finance from funding sources and disburse them to relevant projects, i.e. without an international agency managing and overseeing the funds as an intermediary?

Question 8: developing project pipelines and financing propositions that can be put forward to different financing sources

- 8.1. Has your country been able to build technical and relational capacities within government ministries to develop a project pipeline?
- 8.2. Does your country develop funding proposals that can be shared with bilateral and multilateral funders? Does your country submit climate related project concepts to bilateral and multilateral financing sources for initial feedback on the eligibility and viability of the project, before preparing a full funding proposal?
- 8.3. Has your country been in business of developing funding proposals that can be shared with potential private sector financing sources? Does your country make deliberate effort to meet private sector investors to receive early feedback on project ideas, for example through roundtable discussions and consultations?

Question 9: Increasing private sector engagement in climate financing and overcoming barriers to investment

- 9.1. Has your country put in place mechanisms to enhance climate related domestic investment environment?
- 9.2. Has your country had deliberate initiatives to strengthen the capacity of relevant departments to identify and develop financially viable opportunities/proposals for the private sector? Which capacities are in place that can support government officials to identify and develop financially viable opportunities for the private sector?
- 9.3. Has your country made deliberate effort to increase private sector engagement in national climate policies, strategies, coordinating committees and national financing bodies? Does your country promote greater public–private dialogue on climate finance through regular forums and institutions such as sectoral associations, investor platforms and public consultations?

Question 10: Designing and implementing country level climate finance MRV system

- 10.1. What is the position of climate-related spending across all relevant finance flows in your country? Has your country, based on any finance MRV systems that are in place (e.g. for Biennial Update Reports), developed standard methodologies and key performance indicators for a climate finance MRV system, including agreeing a definition – with all relevant stakeholders – of what constitutes climate change-related activities?
- 10.2. Does your country have tracking and reporting system on climate-related spending across all relevant finance flows? Has your country introduced regular reporting on climate activities for government ministries and implementing entities, using standard key performance indicators to ensure data comparability? Has your country developed a central tracking system that allows users to input data using standard templates?
- 10.3. Has your country been able to expand and improve the MRV of climate finance? Has your country been able to refine the MRV system based on the lessons learned, and extended the scope of funding tracked to all donors and all relevant institutions over a number of years?

(c) Questions for Tracking Governance Indicator Related Variables/Activities

Question 1: Reviewing current institutional arrangement

- 1.1. What aspects of your country's NDC have been reviewed with respect to the 'Planning processes' for implementation?
- 1.2. Has your country reviewed its NDC with a view to identify any current or planned arrangements for NDC implementation, for instance, will it be coordinated through existing structures, or will something new be established?
- 1.3. Has your country reviewed how the Intended Nationally Defined Contribution (INDC) was developed, for example the process that was followed and what the key drivers and demand for the NDC have been (e.g. mitigation or adaptation, public interest or political compliance, etc.), in order to position and priorities aspects of implementing the NDC appropriately?
- 1.4. Has your country ever reviewed the existing governance landscape for NDC implementation?

Question 2: Establishing an NDC implementation Coordination Team

- 2.1. Is your country's central NDC coordination team established within government as a new unit or, an existing unit with an expanded remit, or a unit that already exists and is already carrying out a similar function, and has gender balance within the team?
- 2.2. Have the roles and responsibilities central NDC coordination team been well defined with regards to NDC implementation?
- 2.3. Does the composition of central NDC coordination team adhered to the principle of gender equity and equal access of women to decision-making, and whether the team should also be mandated with the development and delivery of SDG 13 on climate action or other relevant SDGs for more information)?
- 2.4. Are the central NDC coordination team's roles and responsibilities clearly documented complete with legislation to provide the team with the maximum mandate and authority?

- 2.5. Are approaches/mechanisms for cooperation within key government ministries, departments and agencies on NDC implementation already in place in your country?
- 2.6. Is the level of budget and other resources allocation for NDC implementation in your country, including promoting equal access for women to decision-making, and identify adequate?

Question 3: Setting up institutional arrangement

- 3.1. To what extent has the NDC implementation been integrated with existing government processes?
- 3.2. To what extent has the integration of NDC implementation in existing processes included wider government ministries, agencies and subnational authorities?
- 3.3. Is there adequate and effective communication across government on NDC implementation?

Question 4: Building capacity within government

- 4.1. Which specific capacities across the government are needed to enable NDC implementation?, and which ongoing programmes need support?
- 4.2. In your country, which skills and capabilities need to be developed across government, including core departments and committees coordinating NDC implementation within specific sectors, as well as national climate change funds?
- 4.3. Are there mechanisms and processes for retaining climate related knowledge or institutional memory in your country?
- 4.4. Has your country put in place mechanisms and established processes to retain climate related knowledge within institutions, including robust archiving of data and the recording of decisions taken and the rationale for them?

Question 5: Engaging External Stakeholders

- 5.1. Has your country ever mapped the key national stakeholders and their potential roles in NDC implementation, including the private sector, academia and civil society including women's organizations?
- 5.2. Has your country ever mapped the key organizations that are already engaged in the NDC process?
- 5.3. Has your country been able to assign responsibilities to individuals for climate related stakeholder engagements?
- 5.4. Has your country developed a clear climate-related stakeholder engagement plan?

Question 6: Developing Legal Framework

- 6.1. Has your country developed NDC Implementation Guiding Legal Framework?
For instance: (Tick appropriately)
 - Is there clearly defined mandate for the central NDC coordination team? Yes ☐ No ☐
 - Are the roles and responsibilities of relevant government ministries and agencies well defined? Yes ☐ No ☐
 - Is the decision-making and coordination processes well defined? Yes ☐ No ☐
 - Are the long-term mitigation and adaptation targets to guide discussions about ambition? Yes ☐ No ☐
 - Is the process for the five-yearly NDC updates already in place? Yes ☐ No ☐
 - Is there legislation on powers to obtain information or data relevant to climate policy? Yes ☐ No ☐
 - Is there legislation on powers (specific or generic) to make secondary legislation to achieve climate actions, for mitigation or adaptation? Yes ☐ No ☐

(d) Questions for Tracking Mitigation Related Variables/Activities

Question 1: Reviewing existing mitigation policy landscape

- 1.1. Is the NDC implementation in your country proposing additional mitigation interventions? Yes ☐ No ☐
- 1.2. Is your country reviewing the existing mitigation related policies? Yes ☐ No ☐

Question 2: Setting up institutional arrangement for coordination and oversight of mitigation activities

- 2.1. Has your country managed to set up institutional arrangement for coordination and oversight of mitigation activities? Yes ☐ No ☐
- 2.2. Does your country have a focal point or coordinating entity within government for both policy (or NAMA) design and implementation? Yes ☐ No ☐
- 2.3. Is this same focal point or coordinating entity the same entity which is responsible for oversight of NDC implementation as a whole?

Yes ☐ No ☐

Question 3: Analyzing the national mitigation potential to identify priority sectors and mitigation options

- 3.1. Which are priority sectors in terms of tracking mitigation indicators in your country? (List)
- 3.2. Which co-benefits of low-emission and explicitly mitigation-oriented approaches exist in your country?
- 3.3. Which sectors in your country (e.g. power, transport, industry, buildings, waste, agriculture) are the most significant from a greenhouse gas perspective, both now – based on the country's greenhouse gas inventory – and in the future, including sectors that are key to economic development and employment or contribute a significant percentage of GDP, provide opportunities for other co-benefits, provide links with achieving SDGs?
- 3.4. How is mitigation being, or will be, integrated into wider economic and development actions in your country, to ensure that implementation of the NDC demonstrates its impact and contribution to core developmental goals and targets, as enshrined in the SDGs?
- 3.5. Which mitigation options exist across priority sectors and what are the associated costs for implementing each option? Please give figures on estimated costs in US\$
- 3.7. What are the drivers for emissions growth in each key sector in your country (e.g. the effect of population growth on transport or energy demand) and nationally (e.g. urbanisation, industrialization, an expanding middle class)?
- 3.8. To what level of detail is data on drivers of emissions growth in your country collected? For example, for the building sector, countries could collect data on building energy demand or the drivers of energy demand, such as persons per household, GDP per capita, etc.?
- 3.9. To what level of detail is data on drivers of emissions growth in your country collected? For example, for the building sector, countries could collect data on building energy demand or the drivers of energy demand, such as persons per household, GDP per capita, etc.?

- 3.10. Has your country been able to carry out a data collection exercise including but not limited to reviewing existing studies and surveying key data holders?
- 3.11. What is the scope for gender-disaggregated data collection to allow for the analysis of gender impacts?
- 3.12. Does your country have the capacity to calculate the abatement potential and produce marginal abatement cost curves, where possible?
- 3.13. Does your country have potential to collect international benchmark data where national data are not available, or are not sufficiently robust?
- 3.14. Which priority emissions reductions are needed by your country to meet the unconditional and conditional mitigation contributions in the NDC?
- 3.15. Has your country been able to determine the costs of mitigation within particular priority sectors or industries within the country? (This can set a shadow price for carbon, which could help countries to tender for projects that provide the best value in terms of mitigation. This will also build experience of results-based payment systems ahead of the development of a new financing mechanism, as identified in the Paris Agreement)
- 3.16. Does your country have the potential to develop a 'long list' of potential mitigation actions for each key sector? (This could include technology actions, which some countries may have reviewed already as part of their Technology Needs Assessment. Behaviour-change actions can also be considered)
- 3.17. What are the upfront investment and ongoing costs needed for each priority mitigation action in your country?
- 3.1.8. Which priority mitigation actions in your country require donor and/or private sector financing? *(Note that expectations may need to be adjusted around value for money frameworks to ensure that environmental and social equity aspects are appropriately balanced against other considerations of efficiencies, economics and impacts)*
- 3.1.9. Has your country been able to shortlist and priorities mitigation options?
- 3.20. Has your country conducted barriers analysis for each shortlisted priority mitigation option?
- 3.21. Has your country been able to model greenhouse gas emissions under a business-as-usual scenario and emissions-reduction scenarios?
- 3.22. Has your country been able to allocate national mitigation efforts across sectors?
- 3.23. Has your country been able to build capacity and improve the evidence base for identifying priority sectors and mitigation options?

Question 4: Conducting detailed appraisal of mitigation priority actions for key sectors

- 4.1. Which additional strategic priorities are needed for each key mitigation sector in your country?
- 4.2. Which further analysis and prioritisation are required for mitigation priority actions for key sectors in your country?
- 4.3. Has your country been able to conduct an appraisal of mitigation policy options?
- 4.4. Has your country been able to prepare a mitigation-sector action plan?

Question 5: Designing mitigation policies

- 5.1. Does your country have the capacity to design policy options to deliver identified mitigation actions?

- 5.2. Does your country have the capacity to design and deliver policies with broad set of outcomes that the policy should achieve, including supporting SDG implementation and gender equity?
- 5.3. Does your country have the capacity to design, develop and deliver policy that articulates targeted financing mechanisms such as payment plans and pay-as-you-use models to facilitate the provision of energy services for poor households?
- 5.4. What are the agreed upon arrangements in your country, such as MRV arrangements and mitigation implementation plan, for ongoing implementation of mitigation policies?

Question 6: Accessing financing for mitigation actions

- 6.1. Has your country put in place mechanisms and processes for accessing climate financing?
- 6.2. Has your country put in place mechanisms and processes for compiling overall costings of climate-related activities; identifying the level and type of support needed, and assessing financing options?

Question 7: Implementing mitigation policies

- 7.1. Does your country have the capacity to implement mitigation policies?
- 7.2. What resources and support are required for implementation of the mitigation policy?
- 7.3. Do existing mitigation policies, structures and processes require any further improvements?

Question 8: Designing and implementing a national mitigation MRV system

- 8.1. Does your country have capacity to design and develop a greenhouse gas inventory system?
- 8.2. Has the system for monitoring and evaluation of mitigation actions been designed and operationalised in your country?
- 8.3. Does your country have the capacity to develop projections for greenhouse gas emissions to show whether future emissions are on track to meet any outcome-based contributions?
- 8.4. Does your country have the capacity to develop interim milestones for mitigation actions? (e.g. greenhouse gas targets or carbon budgets)

Question 9: Preparing for national future NDCs

- 9.1. Is your country adequately prepared for future NDCs?
- 9.2. Are the NDC implementation related staff members in your country given responsibility for updating the NDC, and are they trained in or have access to appropriate technical skills on mitigation and adaptation? Please indicate the level of training and type of skills all desegregated by gender

(e) Questions for Tracking Adaptation Indicator Related Variables/Activities

Question 1: Reviewing existing adaptation policy landscape

- 1.1. Does the proposed NDC for your country propose any additional adaptation activities compared to the existing adaptation strategies or plans? (e.g. National Adaptation Plans, or climate change action plans)

- 1.2. Is the National Adaptation Plan underway in your country? And what actions are proposed or are already in place?

Question 2: Undertake groundwork and governance

- 2.1. Has your country 'laid the groundwork and addressed gaps and thereafter described how to initiate and launch the NAP process and address capacity gaps and weaknesses in undertaking the National Adaptation Plan process
- 2.2. Has your country been able to incorporate additional or enhanced activities into the National Adaptation Plan process to make the link with the NDC, as appropriate?

Question 3: Undertaking preparatory work for adaptation plans

- 3.1. Has your country covered the 'Preparatory elements' which describe how to analyse current and future climate change scenarios, assess climate vulnerabilities and identify adaptation options at sector, subnational, national and other appropriate levels, review and appraise adaptation options, including costing compile and communicate National Adaptation Plans, and integrate climate change adaptation into national and subnational development and sectoral planning? Yes ☐ No ☐
Elaborate
- 3.2. Has your country been able to incorporate additional or enhanced activities into the National Adaptation Plan process to make the link with the NDC, as appropriate?

Question 4: Access financing for adaptation actions

- 4.1. How and where does your country access funds for adaptation?

Question 5: Implementing Adaptation Related policies, projects and programmes

- 5.1. How does your country rate adaptation in national planning in terms of prioritizing?
- 5.2. Has your country already developed long-term national adaptation implementation strategy?
- 5.3. Has your country already put in place mechanisms, institutions, and processes that support enhancing local capacity for planning and implementing adaptation?
- 5.4. Has your country already put in place mechanisms, institutions, and processes promote coordination and synergy of adaptation related interventions at the regional level, and with other multilateral environmental agreements?
- 5.6. Has your country been able to incorporate additional or enhanced activities into the National Adaptation Plan process, to make the link with the NDC, as appropriate?
- 5.7. Has your country made deliberate effort of enhancing existing strategies and/or design new ones to achieve the adaptation activities set out in the NDC, efficiently and effectively?
- 5.8. Has your country made deliberate effort of integrating resilience across national planning, and coordinating with development programming for purposes of delivering adaptation?
- 5.9. Have the current adaptation strategies in your country demonstrated achievement of stakeholder buy-in – both horizontally (i.e. to mainstream adaptation in sectoral and development planning) and vertically (i.e. to integrate national planning down to subnational, city and community levels, and with implementation partners)?

- 5.10. Has your country been able to assign timelines and owners to key adaptation related activities in sectoral strategies and action plans, indicating short-, medium- and long-term actions, and making explicit links with wider NDC governance?
- 5.11. Does your country promote gender sensitivity and gender transformational outcomes in the implementation of national adaptation policies and programmes (e.g. non-discriminatory access to, and use of, land resources, equitable participation in decision-making processes in the context of food security)?
- 5.12. To what extent do adaptation projects in your country demonstrate their contribution to core developmental targets as enshrined in the SDGs, and that development projects show how they are bridging adaptation deficits and enhancing the adaptive capacity of communities? Please explain with examples of success stories,
- 5.13. Has your country ever considered using macroeconomic impact assessments of adaptation policies, using computable general equilibrium modeling or other tools for purposes of assessing their impact on economic growth, the distribution of income, poverty, government revenues, trade balances, and investment, among other issues?

Question 6: Monitoring and reporting on progress and the effectiveness of adaptation actions

- 6.1. As part of its adaption activities related ‘Reporting, monitoring and review’ process, does your country participate in collecting information on the National Adaptation Plan process, assessing it through a national M&E system and providing outputs for reporting on progress to the UNFCCC?
- 6.2. Has your country ever incorporated additional or enhanced activities into the National Adaptation Plan process to make the link with the NDC, as appropriate?
- 6.3. Has your country put in place mechanisms to ensure that monitoring activities are implemented throughout the National Adaptation Plan process, starting with the design and launch of the monitoring and evaluation (M&E) system for adaptation actions alongside the launch of the National Adaptation Plan process?

Appendix II: NDC Implementation Index and Tracking tool

	NDC Implementation Components	Major Indicators	*Country Target	Evidence of the Achievement/ Implementation of the Indicators (Justification)	% Achievement of target	Rating (x) Score for each indicator on a 5 point scale (1=Very Poor & 5=Outstanding)	Weight (y)	Weighted rating (z) $z=xy$	Average Rating
A	Monitoring Reporting and Verification (MRV)								25
i)	Review of MRV Activities e.g. BUR, National Communications	National Communications and BURs prepared and Submitted in Time							
ii)	Establishing Institutional Arrangement for oversight and Coordination of MRV activities	No. of new institutional arrangements for MRV activities							
ii)	Assessing Data Gaps and Needs	Gaps Analysis Reports							
iv)	Designing the country MRV system for mitigation, adaptation, and finance	No. of completed country MRV system for mitigation, finance and adaptation							
v)	Establishing data management processes	Institutionalized data management processes							
vi)	Building national MRV capacity	Continuous capacity building activities on MRV							

vii)	Improving the national MRV system over time	Changes in quality of MRV system along the temporal scale							
	Sub Total Score								
B	Governance								30
i)	Review the current institutional arrangement	Improved institutional arrangement for climate governance							
ii)	Establish an NDC implementation Coordination Team	Presence of an inclusive and multi-sectoral NDC coordination team							
iii)	Set up institutional arrangements	No. of institutional arrangements for climate governance							
iv)	Build capacity within government	No. of beneficiaries in climate governance capacity building							
v)	Engage External Stakeholders	Level of external stakeholders involvement and consultation in climate governance							
vi)	Develop Legal Framework	Presence of a legal framework							
	Sub Total Score								
C	Mitigation								20
i)	Review existing mitigation policy landscape	Number of reviewed mitigation policies							
ii)	Setting up institutional arrangements for coordination and	No. of institutional arrangement for coordination and oversight of mitigation activities							

	oversight of mitigation activities								
iii)	Analyze the national mitigation potential to identify priority sectors and mitigation options	No. of identified mitigation priority sectors and options at national level							
iv)	Conduct detailed appraisal of mitigation priority actions for key sectors	No. of appraised mitigation priority actions in key sectors							
v)	Design mitigation policies	No. of new mitigation policies							
vi)	Access financing for mitigation actions	No. of successful negotiations for mitigation financing							
vii)	Implement mitigation policies	Extent of success in implementation of mitigation policies							
viii)	Design and implement a national mitigation MRV system	No. of successfully developed and implemented National MRVs systems							
ix)	Preparing for national future NDCs	State and level of national preparedness for future NDCs							
	Sub Total Score								
D	Adaptation								15
i)	Review existing adaptation policy landscape	No. of reviewed adaptation policy documents/Review reports							

ii)	Undertake groundwork and governance	Level of preparedness for initiating and implementing adaptation governance activities							
iii)	Undertake preparatory work for adaptation plans	Level of preparedness for undertaking development of adaptation plans							
iv)	Access financing for adaptation actions	Level of success in negotiating for finances to support adaptation actions							
v)	Implement policies, projects and programmes	No. of successfully implemented adaptation policies, projects and programmes							
vi)	Monitor and report on progress and the effectiveness of adaptation actions	The extent of progress and effectiveness in implementation of adaptation actions							
	Sub Total Score								
E	Finance								10
i)	Review existing climate finance landscape	No. of climate finance policies, plans of action, programmes that are successfully reviewed							
ii)	Establish the institutional arrangement for oversight and coordination of	No. of established institutional arrangements for oversight and coordination of climate finance							

	climate finance activities								
iii)	Compile an overall costing for NDC implementation	Cost Estimates for NDCs Implementation							
iv)	Identify funding gaps	No. of successful funding gaps analysis conducted							
v)	Assess public and private financing options	No. of identified and documented public and private climate financing options							
vi)	Develop Country Climate Investment Plan	Level of development of County Climate Investment Plan							
vii)	Secure direct access to international climate funds for national and sub-national institutions	Level of official effort in negotiating and accessing climate financing							
viii)	Develop project pipelines and financing propositions that can be put forward to different financing sources	No. of bankable project pipelines and financing propositions developed							
ix)	Increase private sector engagement in climate financing and overcoming barriers to investment	No. of private sector players involved in climate financing							
x)	Design and implement country level climate finance MRV system	Successfully developed climate finance MRV system							
	Sub Total Score								

	Total Score [A+B+C+D+E](Index)	100
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Key

***Country Target** is the set specific achievement either qualitative or quantitative for each of the parameters under each of the components.

Scale of Rating	Description
1- 0-15% achievement of target	Very Poor
2- >15%-35% achievement of target	Poor
3- >35%- 50% achievement of target	Unsatisfactory
4- >50%- 75% achievement of target	Satisfactory
5- >75%- >100% achievement of target	Outstanding

Index Rating (Total Score)	Description of Index (Total Score)
Below 30 Index	Poor
>30 to 50 Index	Unsatisfactory
>50 to 75 Index	Satisfactory
>75 Index	Outstanding