COMPREHENSIVE ACTION FOR CLIMATE CHANGE INITIATIVE

CACCI REPORT

Zambia Nationally Determined Contribution (NDC) and National Adaptation Plan (NAP) Country Profile and Assessment

ANAPRI/IAPRI and Zambia CACCI Technical Team

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About CACCI Reports

ANAPRI CACCI Reports are publications stemming from implementation of the Comprehensive Action for Climate Change Initiative (CACCI) pilot project in Zambia and Ghana. CACCI is committed to expediting the implementation of Nationally Determined Contributions (NDCs) and National Adaptation Plans (NAPs) by addressing the need for data and analytics and bolstering institutional and coordination capacities. In Africa, CACCI collaborates closely with the African Union Commission, the African Network of Agricultural Policy Research Institutes (ANAPRI), AKADEMIYA2063, and climate stakeholders in selected countries. This partnership aims to inform climate planning and enhance capacities for evidence-based policymaking, advancing progress toward climate - related objectives.

ANAPRI's involvement in the CACCI contributes to the provision of technical expertise, strengthening national, regional, and continental capacities for NDCs and NAPs implementation. In close collaboration with its two-member centers, the Indaba Agricultural Policy Research Institute (IAPRI) in Zambia and the Institute of Statistical Social and Economic Research (ISSER) in Ghana, ANAPRI, through CACCI, supported the Climate Change Technical Working Groups within respective countries and the ministries responsible for coordinating these working groups by offering data and analytical support.

Jointly published with ANAPRI member centers (IAPRI and ISSER) and the Country Climate Change Technical Working Group, the CACCI reports catalogue the key deliverables under the project. The data shared through these reports aim to provide evidence based insights to practitioners and policymakers spearheading climate action in countries where CACCI is being implemented. CACCI is generously supported by the U.S. Agency for International Development (USAID) through the Feed the Future Innovation Lab for Food Security Policy Research, Capacity, and Influence (PRCI), led by Michigan State University (MSU). It is important to note that the views expressed in this publication do not necessarily reflect those of the funder but represent the perspectives of the authors.

About ANAPRI

The African Network of Agricultural Policy Research Institutes (ANAPRI) is a network that brings together various agricultural policy research institutes in Africa. It serves as a platform for collaboration, knowledge sharing, and collective action among its member institutes. ANAPRI works towards promoting evidence-based policy formulation and implementation to enhance agricultural development and food security across the African continent. Through research, policy analysis, capacity building, and advocacy, ANAPRI aims to contribute to sustainable agricultural and rural development in Africa.

About IAPRI

Established in 2011, the Indaba Agricultural Policy Research Institute (IAPRI) is Zambia's first indigenous policy research institute dedicated to policy analysis of the agricultural and environmental sectors. IAPRI is a non-profit company limited by guarantee and collaboratively works with public and private stakeholders. The institute's vision is "to be the Centre of Excellence for Agricultural Policy Research and Outreach in Zambia". IAPRI exists to carry out agricultural policy research and outreach activities, serving the agricultural sector in Zambia to achieve sustainable pro-poor agricultural development. IAPRI's mandate is to utilize empirical evidence to advise and guide the Government of Zambia and other stakeholders on agricultural investments and policies.

About ISSER

ISSER was established in 1962 as the Institute of Statistics to provide a programme of teaching and research in statistics. In 1969, it was reorganized and renamed the Institute of Statistical, Social, and Economic Research with an expanded mandate to conduct research in the social sciences to generate solutions for national development. ISSER currently serves as the research wing under the College of Humanities, University of Ghana, and engages

in several policy-relevant research whose findings are intended to help policymakers on the best policy decisions to make for national development.

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The Africa Network of Agricultural Policy Research Institutes (ANAPRI) is a consortium of national agricultural and food systems policy research centers in Africa. Our primary goal is to generate high-quality evidence that supports policymaking across the continent. We are committed to developing the capacity of national agricultural research institutes and fostering dynamic collaborations. Through effective outreach, we provide balanced and non-partisan advice to stakeholders at the national, regional, and continental levels.

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List of Acronyms

AfDB	African Development Bank
AU	African Union
BoZ	Bank of Zambia
CACCI	Comprehensive Africa Climate Change Initiative
CELIM	Centro Laici Italiani per le Missioni
CFU	Conservation Farming Unit
CODEP	The Community Oriented Development Programme
COMACO	Community Markets for Conservation
CSA	Climate Smart Agriculture
DMMU	Disaster Management and Mitigation Unit
ESAP	Electricity Service Access Project
GCF	Green Climate Fund
GEF	Global Environment Facility
GHG	Greenhouse Gas
GRZ	Government Republic of Zambia
GWP	Global Water Partnership
IAPRI	Indaba Agricultural Policy Research Institute
MHAIS	Ministry of Home Affairs and Internal Security
MIHUD	Ministry of Infrastructure, Housing and Urban Development
MIM	Ministry of Information and Media
MLGRD	Ministry of Local Government and Rural Development
MMMD	Ministry of Mines and Minerals Development
MoA	Ministry of Agriculture
MoE	Ministry of Energy
MOFAIC	Ministry of Foreign Affairs and International Corporation
MoFL	Ministry of Fisheries and Livestock
MoFNP	Ministry of Finance and National Planning
MoGEE	Ministry of Green Economy and Environment
MoH	Ministry of Health
MoJ	Ministry of Justice
MoLNR	Ministry of Lands and Natural Resources
MSMED	Ministry of Small and Medium Enterprise Development

MTS	Ministry of Technology and Science
MSWG	Multi-Sectoral Working Group
MT	Ministry of Tourism
MTL	Ministry of Transport and logistics
MWDS	Ministry of Water Development and Sanitation
NAP	National Adaptation Plan
NDC	Nationally Determined Contribution
NGOCC	Non-governmental Gender Organizations' Coordinating Council
NISIR	National Institute for Scientific and Industrial Research
NPCC	National Policy on Climate Change
REA	Rural Electrification Authority
ReNAPRI	Regional Network of Agricultural Policy Research Institutes
SCRALA	Strengthening Climate Resilience of Agricultural Livelihoods in Agro-Ecological Regions I and II
SCReBS	Strengthening Climate Resilience in the Barotse Sub-basin
SCRiKa	Strengthening Climate Resilience in the Kafue Sub-basin
SEC	Securities and exchange commission
SIFAZ	Sustainable Intensification of Smallholder Farming Systems in Zambia
SSMP	The Sustainable Solar Market Packages
TRALARD	The Transforming Landscapes for Resilience and Development
TWGCC	Technical Working Group on Climate Change
UNFCCC	United Nations Framework Convention on Climate Change
UNZA	University of Zambia
ZAM	Zambia Association of Manufactures
ZACCI	Zambia Chamber of Commerce and Industry
ZCCN	Zambia Climate Change Network
ZEMA	Zambia Environmental Management Agency
ZESCO	Zambia Electricity Supply Corporation
ZIFLP	Zambia Integrated Forest Landscape Project
ZMD	Zambia Meteorological Department
ZNFU	Zambia National Farmers Union
7NDP	Seventh National Development Plan
8NDP	The Eighth National Development Plan

Executive Summary

A brief about the country's NDC and NAP processes and status

Zambia submitted its first Nationally Determined Contribution (NDC), which included both mitigation and adaptation components based on her national circumstances, on 9th December, 2016. The target of Zambia's first NDC was to achieve an estimated total emission reduction of 38,000GgCO_2eq which translates to 47 percent, with substantial international support, compared to 20,000GgCO_2eq which translates to 25 percent, under domestic efforts with limited international support, against 2010 as a base year. The emission reduction of 38,000GgCO_2eq was conditional and subject to the availability of international support in form of finance, technology and capacity building.

The programmes contributing to the national mitigation target were sustainable forest management, sustainable agriculture and renewable energy and energy efficiency. On the other hand, the adaptation measures of the first NDC comprised three (3) programmes namely, adaptation of strategic productive systems (agriculture, wildlife and water); adaptation of strategic infrastructure and health systems; and enhanced capacity building, research, technology transfer and finance for adaptation.

On 30th July, 2021, Zambia submitted a revised and updated NDC which enhanced the mitigation actions by adding three (3) areas of intervention namely, transport, liquid waste and coal (production, transportation and consumption) besides sustainable forest management, sustainable agriculture, and renewable energy and energy efficiency, outlined in the first NDC. On the other hand, the revised and updated NDC also enhanced the adaptation component by developing indicators for tracking progress on building resilience in both human and physical ecosystems and on adaptation actions implemented under the adaptation of strategic productive systems (agriculture, wildlife and water); adaptation of strategic infrastructure and health systems; and enhanced capacity building, research, technology transfer and finance for adaptation programmes.

In terms of the National Adaptation Plan (NAP), Zambia does not yet have an approved NAP. The NAP development process commenced in 2021 and is expected to be completed in 2023. Thus far, the following have been undertaken in preparation for the development of the NAP:

i. Completed an adaptation stock taking exercise to act as a baseline study;

ii. Developed tools for integrating climate change adaptation into plans and budgets;
iii. Undertook training of planning authorities at national and provincial levels in the utilization of tools for integrating adaptation into planning and budgeting processes;
iv. Developed M&E framework and tools for adaptation indicators;
v. Synthesized information on past trends, current and future climate scenarios, vulnerability of sectors, regions and catchment areas, synthesizing the impacts of climate change on the economy and marginalized social groups such as women, youth and people living with disabilities;
vi. Conducted consultations on the priority adaptation options in various sectors and in all the 10 provinces including agro-ecological regions of Zambia;
vii. Undertook a capacity needs assessment for the implementation of the NAP; and
viii. Commenced the development of a monitoring, evaluation and Learning (MEL) and reporting framework for the NAP.

In 2023, it is expected that the NAP, which identifies Zambia's major medium-and-long-term climate risks and vulnerabilities and sets out priority adaptation actions for strategic sectors, will be drafted, validated, finalized, launched and submitted to the United Nations Framework Convention on Climate Change (UNFCCC). Additionally, a financing strategy for the NAP will be developed.

Country's commitments and indicators

Under the revised and updated NDC, Zambia has maintained its commitment to reduce GHG emissions by 25 percent (20,000GgCO_2eq.) by 2030 against a base year of 2010 under the Business As Usual (BAU) scenario with limited international support or by 47 percent (38,000GgCO_2eq.) with substantial international support. Zambia is currently revising its NDC indicators for all the key strategic sectors.

NDC implementation, tracking and monitoring

The implementation, tracking and monitoring of the NDC is undertaken through existing national coordination structures provided for in the National Policy on Climate Change namely, the Council of Ministers, the Technical Committee, and the Multi-sectoral Working Group. The Council of Ministers guides and oversees overall implementation of climate change interventions in the country and is made up of ministers from selected key ministries contributing to the execution of climate change interventions in the

country while the Technical Committee of Permanent Secretaries is the main advisory body to the Council of Ministers and oversees the development, revision and implementation of appropriate policies, plans, programmes, strategies and legislation on climate change. In terms of membership, the institutions represented in the Technical Committee are the same institutions in the Council of Ministers on Climate Change but at Permanent Secretary level. On the other hand, the multi-sectoral working group provides advice to the Technical Committee on all technical matters on climate change and, in addition to the institutions represented in both the Council of Ministers and the Technical Committee, draws membership from non-state actors including the private sector, civil society and the academia.

The Ministry of Green Economy and Environment (MGEE) is the focal point for the day-to-day implementation of the NDC and reporting on progress in the implementation of the NDC to the UNFCCC. To track national GHG emission reduction, the MGEE is finalizing the establishment of a GHG measuring, reporting and verification system to be housed under the Zambia Environmental Management Agency (ZEMA), a statutory body under the MGEE. All the key strategic sectors identified to contribute to emission reduction in the NDC, periodically report through their NDC focal points to the ZEMA on the recorded GHG emission levels. Similarly, all interventions on adaptation and the building of resilience to the adverse impacts of climate change are reported by the respective institutions implementing such interventions. The multisectoral working groups periodically undertakes monitoring of the interventions being implemented by different institutions.

The NDC is also mainstreamed in key national documents such as the Eighth National Development Plan (8NDP) and sectoral policies to ensure that as the 8NDP and sectoral policies are being implemented, the NDC is simultaneously executed. However, the NDC currently has no implementation plan. A comprehensive implementation plan for the NDC is being finalized.

Stakeholder map

Stakeholders for the NDC were mapped according to the envisaged contribution of institutions to the actualization of the targets set in the NDC and NAP processes.

Stakeholders include the public sector institutions such as government line ministries and statutory bodies, the private sector, the academia, and civil society represented by, among others, the Zambia Chamber of Commerce and Industry, the University of Zambia, and the Zambia Climate Change Network, respectively.

Capacity gaps and recommendations

To understand the capacity needs of stakeholders, an online survey was administered to elicit stakeholder views on current capacity and existing gaps to comprehend and implement climate change actions in line with the NDC and NAP. Their responses guided the identification of implementation gaps that need to be improved to ensure the country meets its NDC and NAP commitments. Respondents unanimously identified limited capacity within the country to undertake mitigation analysis as an issue. Further, stakeholders highlighted inadequate research to inform mitigation and adaptation options and the need to fully operationalize the MRV system to enhance the monitoring of mitigation and adaptation actions. In regards to the NAP, all the respondents identified technological barriers and a weak monitoring and evaluation framework as capacity gaps. Insufficient data including data on climatic projections which results in the formulation of short-term adaptation efforts was the least identified issue. From the challenges raised, respondents proposed the following recommendations: adequate financing to climate change technology research and development, mainstreaming climate change activities, capacity building on mitigation analysis be undertaken, capacity building on MRV be enhanced, cascading climate change structures to subnational levels (e.g., provinces and districts

1.0 Introduction

The African Union (AU) through the AU Climate Change and Resilient Development Strategy and Action Plan (2022-2032); and the AU Green Recovery Action Plan is piloting the Comprehensive Africa Climate Change Initiative (CACCI) aimed at facilitating a coordinated and successful implementation of the member countries' Nationally Determined Contributions (NDCs) and National Adaptation Plans (NAPs) in line with the Paris Agreement on Climate Change. The CACCI is a joint initiative between the AU and the United States Agency for International Development (USAID), with the latter providing financial support. Facilitation and technical support for CACCI is provided by two African institutions, that is, the Regional Network of Agricultural Policy Research Institutes (ReNAPRI) and AKADEMIYA2063 in partnership with Michigan State University (MSU). This initiative is aimed at strengthening national, regional, and continental capacity toward developing and/or implementing NDCs and NAPs that would improve resilience, food security, and inclusive growth in the face of climate change. The initiative will be implemented over a 5-year period, from 2022 - 2026. Year 1 of CACCI is focused on generating a proof of concept in 4 pilot countries, which include Zambia, before the initiative will be scaled-out to more countries.

In Zambia, the CACCI is implemented by the Ministry of Green Economy and Environment (MGEE) in partnership with ReNAPRI and its national anchor center the Indaba Agricultural Policy Research Institute (IAPRI). The objectives of the Country Status Assessment and Profile (CSAP) report are to:

1) Take stock of Zambia's past and ongoing interventions and activities related to NDC and NAP implementation.
2) Provide a benchmark to help assess Zambia's progress towards achieving its NDC and NAP targets.
3) Identify implementation gaps that need improvement to ensure the country meets its commitments.

The rest of the report is organized as follows: Section 2 presents a discussion on data and methods used in the report. Section 3 focuses on NDC and provides a brief about the country's commitments on NDCs, which is followed by stakeholder mapping and the role they play in NDC implementation, a stocktake of what has been achieved and the activities

that are ongoing. This is then followed by an assessment of the policies, regulations and public/private investments in place to pursue the objectives of the NDC and the policy gaps hindering NDC implementation and by presenting the status of NDC monitoring and tracking tools and implementation. Similarly, Section 4 opens with a brief about the country's commitments on NAP which is followed by the mapping of stakeholders and their roles. The report then provides a stocktake of completed and ongoing activities, and also outlines the policies, regulations and private/public investments put in place for NAP implementation and the policy gaps that hinder the implementation of NAP. The last part of Section 4 highlights the NAP implementation status. The report concludes by synthesizing the key findings on both the NDC and the NAP implementation and draws conclusions and recommendations in Section 5.

2.0 Data and Methods

Data used in this report are drawn mostly from desk review and analysis of existing reports, policies and strategies. These include national development plans, key sector policies, regulations and legislation among others. Desk review was complemented with information gathered from stakeholder consultations with key individuals and organizations involved in climate change discourse in Zambia, the region and globally. These include MGEE personnel and members of the Multi-sectoral Working Group on Climate Change. The data from stakeholder consultations helped to validate and update information on the ongoing interventions and capacity needs of stakeholders in NDC and NAP implementation.

3.0 Nationally Determined Contribution

3.1 A brief about NDC in country and commitments

The NDC was submitted with a conditional pledge of reducing Greenhouse Gas (GHG) emissions by 25 percent (20,000GgCO_2eq.) by 2030 against a base year of 2010 under the Business As Usual (BAU) scenario with limited international support or by 47 percent (38,000GgCO_2eq.) with substantial international support. The mitigation actions were focused on six programmes, namely:

i Sustainable forest management;

ii Sustainable agriculture;

iii Renewable energy and energy efficiency;

iv Sustainable Transport;

v Liquid waste; and

vi Coal.

Adaptation actions in this NDC were focused on the following programmes: adaptation of strategic productive systems (agriculture, wildlife and water); adaptation of strategic infrastructure and health systems; and enhanced capacity building, research, technology transfer and finance for adaptation.

3.2 Climate projections

Figure 2 shows the climate projections for Zambia to 2060 and the main anticipated impacts by sector. Generally, projections show increased frequency and intensity of extreme weather events and a general decline in rainfall characterized by high variability. Agriculture, water, health, ecosystem, energy, and infrastructure are the sectors projected to be most affected.

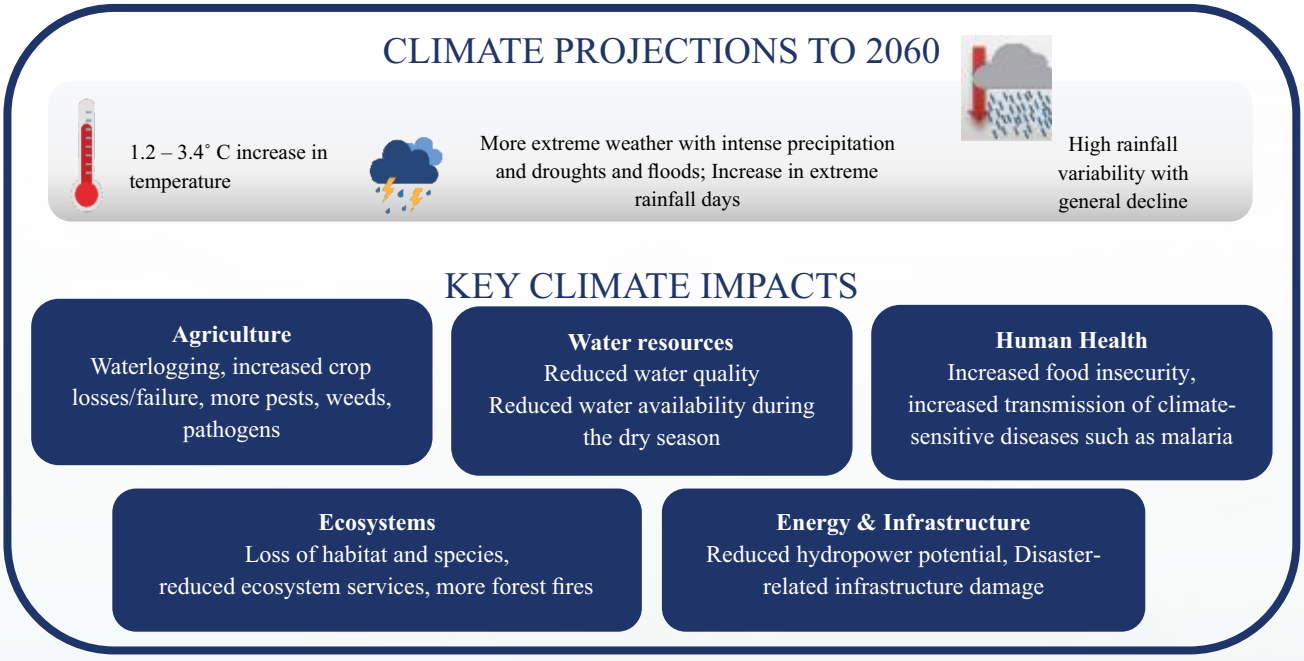

Figure 1. Zambia Climate Projections and Impacts

Source: USAID (2016)

3.3 Stakeholder map and NDC implementation

The overall implementation of the NDC implementation is overseen by the Council of Ministers on Climate Change as provided for under the National Policy on Climate Change (NPCC). However, the Council of Ministers is assisted by the Technical Committee and the

Multi-sectoral Working Group at Permanent Secretary and at technical levels. The Multi-sectoral Working Group is the operative body and consists of stakeholders from government line ministries and statutory bodies, the private sector, civil society and the academia. Stakeholders were mapped according to the envisaged contribution to the actualization of the targets set in the NDC. Figure 2 shows the map of stakeholders involved in the implementation of the NDC and CACCI. See annex 1 for the list of institutions and their respective roles in the implementation of the NDC.

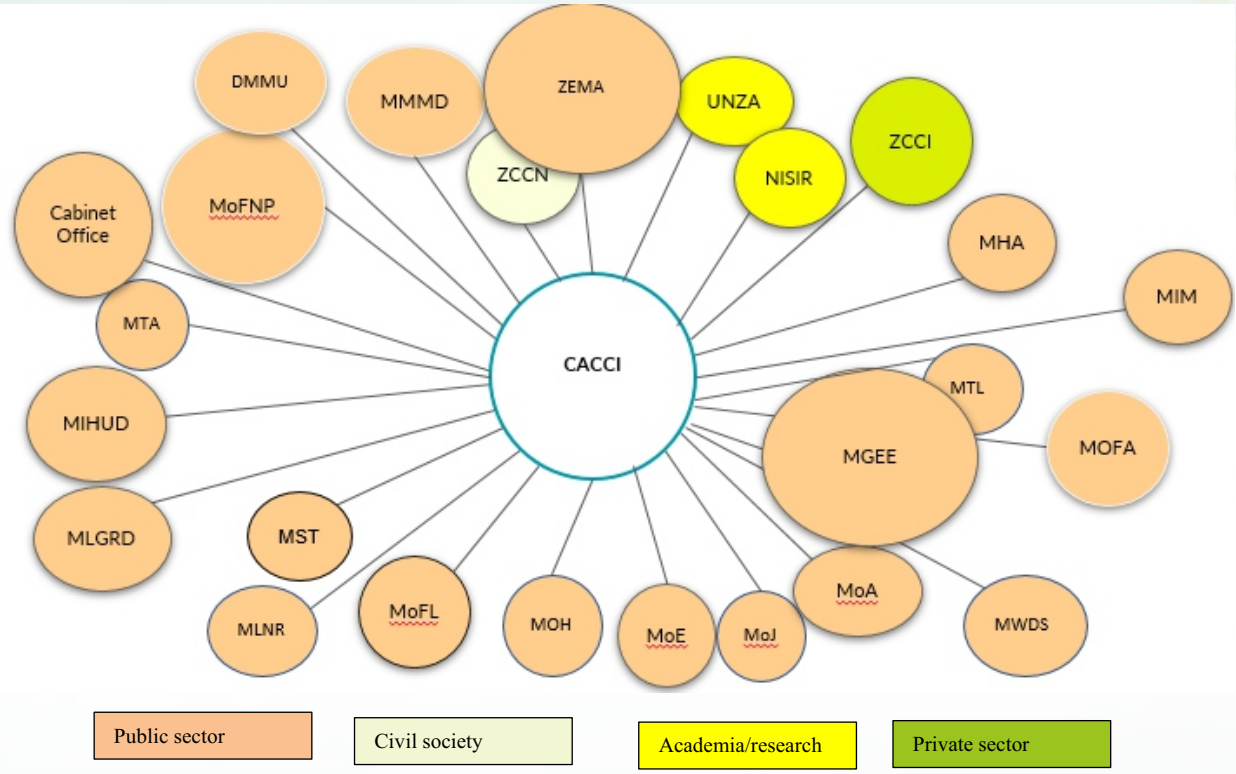

Figure 2. Map of Stakeholders involved in the implementation of the NDC and NAP and CACCI

3.4 What has been done to date/or ongoing by who and what is outstanding?

A number of milestones have been achieved under the NDC process, while some activities are still ongoing. In the following discussion, the report highlights what has been achieved and what remains outstanding.

A strong institutional framework has been set up for the implementation of the NDC comprising the Council of Ministers, the Technical Committee and a Multi-Sectoral Working Group (MSWG). MGEE is the focal point for day-to-day implementation of the NDC. The NDC is implemented in an integrated multi-sectoral manner with participation from all stakeholders including the Government line ministries, the private sector, civil

society and academia. The NDC is also mainstreamed in key national documents such as the Eighth National Development Plan (8NDP), which has a dedicated pillar on environmental sustainability, and sectoral policies to ensure climate change is integrated in national development policies, strategies and programmes.

Several actions to mitigate against climate change have been and are being implemented on both the supply and demand side, in the energy sector in Zambia. Cognizant of the need to provide clean cooking solutions and reduce deforestation and GHG emissions directly attributable to charcoal production and consumption, the Zambian Government, with support from the United States Agency for International Development (USAID), is executing the Alternatives to Charcoal Project to catalyze an increase in the use of low emission charcoal alternative technologies such as stoves powered by electricity, liquid petroleum gas (LPG), processed biomass and gel fuel. The Government is also implementing grid renewable energy projects including the 34 Mega Watt (MW) Ngonye solar photovoltaic plant, Bangweulu Power Company Limited 54 MW solar PV plant. Additionally, with support from the Green Climate Fund (GCF) and the African Development Bank (AfDB), the Government is implementing the Zambia Renewable Energy Financing Framework whose objective is to initially bring 200 megawatts (MW) of renewable energy onto the grid, divided into 100 MW solar PV and 100 MW small-hydropower, by catalyzing private sector participation in small- and medium-sized renewable energy projects of up to 20 MW.

Other interventions in the energy sector include several off-grid mini-hydro and solar PV power plants that generate less than one (1) Megawatt of electricity mainly implemented by the Rural Electrification Authority. On the other hand, energy efficiency projects contributing to mitigation against climate change include power factor correction being implemented by Mopani Copper Mine, Chambeshi Metals, and Konkola Copper Mine (KCM), solar street lighting retrofits, solar geysers, and phasing out of incandescent bulbs and replacing them with LED/CFL lighting in households.

In the agriculture sector, to build the resilience of communities to the adverse impacts of climate change, the Government is promoting climate smart agricultural (CSA) practices such as minimum tillage and residue retention, agroforestry, diversification of

crops and crop rotation as well as promotion of drought resistant small ruminants such as goats and sheep. Government is also supporting the growing of drought tolerant crops and crop varieties including cassava, sorghum and millet in areas prone to droughts. Gains are already being achieved as can be demonstrated by some farmers in Eastern Province, under the Zambia Integrated Forest Landscape Project (ZIFLP), increasing maize yields from an average of 2.2 tonnes per hectare to over 5 tonnes per hectare compared to those not using CSA practices. To further build resilience in agricultural production, the Government, through the Farmer Input Support Programme (FISP), is implementing weather index insurance, a form of crop micro insurance designed in such a way that farmers receive automatic pay-outs in case of bad weather conditions that affect their crops. Additionally, the Government, through the Zambia Meteorological Department (ZMD), is improving early warning systems to facilitate timely dissemination of weather information including agricultural advisories to enhance preparedness for extreme weather events such as floods and droughts. The ZMD also translates weather information into the seven (7) main local languages and uses community radio stations to ease communication with people at the grassroots.

Specific adaptation project interventions that have a bearing on the agriculture sector include the 7-year **$137 million** GCF supported Strengthening Climate Resilience of Agricultural livelihoods in Agro-ecological Regions I and II in Zambia (SCRALA) which is being implemented in 16 climate change hotspot districts across the country namely, Mambwe, Nyimba, Chongwe, Luangwa, Chirundu, Rufunsa, Chama, Mafinga, Kazungula, Siavonga, Gwembe, Namwala, Shang'ombo, Senanga, Sesheke and Mulobezi. The objective of the SCRALA project is to support the Government of Zambia to strengthen the capacity of farmers to plan for climate risks that threaten to derail development gains, promote climate resilient agricultural production and diversification practices to improve food security and income generation, improve access to markets, and foster the commercialization of climate-resilient agricultural commodities and it is expected to directly benefit over 940,000 smallholder farmers.

Additionally, the Government is executing the US$32 million World Bank supported Zambia Integrated Forest Landscape Project (ZIFLP) which aims to provide support to rural communities in Eastern Province to better manage the resources of their landscapes

to reduce deforestation and unsustainable agricultural expansion; enhance benefits they receive from forestry, agriculture and wildlife; and reduce their vulnerability to climate change. The ZILFP is set to benefit 214, 955 beneficiaries, at least 30 percent of whom will be women. The Government is also implementing the "Building the resilience of local communities in Zambia through the introduction of Ecosystem-based Adaptation (EbA) into priority ecosystems, including wetlands and forests" project in the Bangweulu and Lukanga Wetlands to reduce the climate change vulnerability of rural communities living around wetlands and forests in Zambia through the improved and continued provision of services from these ecosystems. It is expected that the implementation of EbA principles will reduce the existing sources of degradation coupled with the specifically tailored climate-resilient restoration of degraded wetland and forest ecosystems.

Further, in 2013, the Government commenced the execution of the flagship Pilot Programme for Climate Resilience (PPCR) in the Western, Southern, Central and Lusaka Provinces to, among others, strengthen the institutional framework on climate change. Through the PPCR, the Government endeavoured to build the adaptive capacity and resilience of communities living along the Zambezi and Kafue River sub-basins to the impacts of climate change. The PPCR also mainstreamed climate change in local planning and budgeting processes.

Other projects being executed include the Sustainable Intensification of Smallholder Farming Systems in Zambia (SIFAZ) by the FAO with financial support from the European Union (EU); promotion of conservation agriculture by the Conservation Farming Unit (CFU); World Vision Zambia; SNV projects to increase adoption of CSA and biogas; IAPRI's research and outreach on policies supporting sustainable intensification, food and nutrition security, among others. and Centro Laici Italiani per le Missioni (CELIM).

Watershed management and borehole drilling projects are being implemented as adaptation measures. Through the PPCR, efforts have been made to rehabilitate canals for fishing purposes, transportation of agricultural products and other goods, irrigation, flood control, and cultural ceremonies. The PPCR also constructed solar-powered boreholes to help communities with water challenges due to climate change. PPCR supported the development of climate-resilient infrastructure, including the

rehabilitation and maintenance of canals in Western province. In Kasenengwa, Chipata, Katete, Sinda, and Mambwe Districts of Eastern Province, the Community Oriented Development Programme (CODEP) has been working in natural resource management, integrated watershed management, tree planting, soil and water conservation, and gully rehabilitation.

Climate resilient infrastructure projects are being implemented to help cushion the impact of climate change on public infrastructure. The PPCR under the MGEE has supported the construction of climate-resilient roads and the clearing and rehabilitation of traditional water canals. Rehabilitation of the canals has helped to improve flood management in the Barotse flood plains and enabled communities to utilize the plains for agricultural production, fishing. PPCR has also constructed a 247 km climate-resilient road connecting Kalomo-Dundumwezi-Ngoma-Itezhi-Tezhi in Southern province. The project also erected solar-powered boreholes to help communities with water challenges due to climate change. The boreholes have also helped vulnerable communities to diversify their agricultural production by engaging in horticultural crops which they can produce all-year round even during the dry season.

Carbon projects including the ZIFLP, and the Supporting Preparedness for Article 6 Cooperation (SPAR6C) Programme are also being implemented. Through the ZIFLP, degraded land such as forests and farmland are being restored in the Eastern Province by providing alternative livelihoods such as crops and livestock farming, and aquaculture for communities and providing opportunities for earning carbon credits in the process. On the other hand, the SPAR6C is being implemented to prepare Zambia for effective participation in carbon markets under Article 6 of the Paris Agreement. Activities to be executed under the SPAR6C include emission reduction planning, development of a governance framework for carbon markets in Zambia and mitigation activity development.

3.5 Are there any policies, programmes, regulations and public/private investments in place to pursue the objectives and put in place the actions contemplated in the NDCs?

Policies and regulations

A number of policies, regulations are in place to support the implementation of the NDC, albeit at various stages of implementation and development. Some have been finalized and are available, others have been finalized but are not yet available, and others are under development.

The policies that have been finalized and are available include the National Adaptation Programme of Action; the National Climate Change Response Strategy; the National Policy on Climate Change 2016; the updated NDC – 2021;the National Climate Change Learning Strategy 2021; the Eighth National Development Plan; the National Climate Change Communication and Advocacy Strategy; the Climate Change Gender Action Plan; Technology Needs Assessment and Technology Action Plans for Climate Change Mitigation; the Renewable Energy Strategy and Action Plan of 2022 that will promote renewable energy, and ensure the resilience of the energy supply mix; the Renewable Energy Feed-in Tariff Strategy of 2017 that will promote private sector participation in the production of renewable energy by implementing cost-reflective energy tariffs and; the National REDD+ Strategy and Investment Plan that focuses on tackling different drivers of deforestation in both the forestry and other identified key sectors in particular, agriculture, energy, mining, and land use.

The policies under development include the Climate Change Bill which will strengthen institutional arrangements, support the development of carbon markets and establish the national climate change fund, among others; the National Adaptation Plan which will provide for medium to long-term adaptation options, an M&E for adaptation, and identify areas for capacity strengthening and resource mobilization, among others and; the Green Growth Strategy which will look at efficient and sustainable resource use, natural capital protection, green economic opportunities, and social inclusion.

Among the various **regulations** in place, the following regulations are identified as contributing to the NDC objectives: SI 66 of 2021 on **Forest Carbon Stock Management** promulgated to ensure carbon trading is regulated and interests of communities are protected; the **Electricity Act** of 2019 regulates the generation, transmission, distribution, and supply of electricity to enhance the security and reliability of the supply of electricity; the **Forestry Act** 4 of 2015 provides for the establishment and declaration of National Forests, Local Forests, Joint Forest Management Areas, botanical reserves, private forests, and community forests; the **Urban and Regional Planning Act** 3 of 2015 provides for the development, planning, and administration of principles, standards, and requirements for urban and regional planning processes and systems; the **Environmental Management Act** 2011 makes provision for integrated environmental management and the protection and conservation of the environment and the sustainable management and use of natural resources and related matters and; the **Disaster Management Act** 2010 establishes and provides for the maintenance and operation of a system for the anticipation, preparedness, prevention, coordination, mitigation, and management of disaster situations and the organization of relief and recovery from disasters.

Programmes and projects

There are several programmes supporting the NDC implementation and these are broadly categorized as either mitigation or adaptation. The main ones include the Zambia Integrated Forest Landscape Project (ZIFLP); the Strengthening Climate Resilience in the Barotse Sub-basin (SCReBS); The Strengthening Climate Resilience in the Kafue Sub-basin (SCRiKa); Scaling Up Renewable Energy (Solar) Project and; the Lake Tanganyika Development Project.

The ZIFLP is implemented by the Government of the Republic of Zambia with the support from the World Bank in the Eastern province. The ZIFLP was a 5 -year project which was launched in February 2018 and ended in 2022. The project aimed to provide support to rural communities in Eastern province to better manage the resources of their landscapes to reduce deforestation and unsustainable agricultural expansion; enhance the benefits they receive from forestry, agriculture, and wildlife; and reduce their vulnera bility to climate change.

The SCReBS was also implemented by the Government of the Republic of Zambia under the PPCR with the support from the World Bank. The SCReBS was implemented in all 16 districts of Western province and Kazungula District in Southern province. The SCReBS was initially a 6-year project and ran from 2013 to 2019, with a 3-year extension up to 2022 when it finally ended. The objective of the project is to strengthen Zambia's institutional framework for climate resilience and improve the adaptive capacity of vulnerable communities in the Barotse sub-Basin.

The SCRiKa was implemented by the Government of the Republic of Zambia with the support from the African Development Bank (AfDB). The geographical focus for the project was Chibombo, Itezhi Tezhi, Mumbwa, Choma, Namwala, Pemba, Kalomo, Mazabuka, Monze, Shibuyunji and Kafue districts covering Southern, Central and Lusaka provinces. The SCRiKa was a 5-year project and was to run from 2014 to 2019 but was extended to 2021. The objective of the project was to foster sustained economic growth, reduce poverty and enhance food security by strengthening the adaptive capacity of 800,000 rural communities to better respond to current climate variability and long-term consequences of climate change in the Kafue sub-Basin.

The Scaling Up Renewable Energy (Solar) Project was implemented by the Government through the Ministry of Energy with support from the World Bank. The project aimed to fulfill the strategy of diversifying the energy mix, reducing greenhouse gas emissions as well as dependency on hydropower which currently supplies over 90 percent of the country's energy needs and exposes the country to climate change and variability. This was a 3-year project that run from 2016 to 2019.

The Lake Tanganyika Development Project is an integrated project which aims to protect the ecological integrity of the Lake Tanganyika Basin and improve the quality of lives of the basin population through the provision of essential economic infrastructure and support to sustainable alternative livelihood projects for the people. It was a 4-year project that run from 2016 to 2020 and was implemented by the Ministry of Water Development, Sanitation, and Environmental Protection with support from the African Development Bank.

Other programmes and projects include the Strengthening Climate Resilience of Agricultural livelihoods in Agro-ecological Regions I and II in Zambia; Strengthening Management Effectiveness and Generating Multiple Environmental Benefits within and around the Greater Kafue National Park and West Lunga National Park in Zambia and; the Global Environmental Facility (GEF) – Climate Resilient Livestock Management Project.

Public and private investment

In regard to **public/private investments**, the following areas of investment are identified as a high priority in the NDC: GHG emission reduction (NDC implementation plan draft); Capacity (NDC implementation plan draft); Investment in water harvesting technologies; Investment in afforestation and reforestation including natural forest regeneration; Investment in renewable energy production. The NDC also recommended the development of an implementation/investment framework for the Electrical Mobility Strategy (NDC implementation plan draft).

Table 1 provides a list of projects, their estimated values and the associated cooperating partners.

Table 1. Interventions supported by cooperating and developing partners

Name of Project	Total Budget	Cooperating Partner	Impacts
Scaling up Renewable Energy (Solar) (Scaling Solar Project-Round 1 of up to 100 megawatts (MW): 2 plants of 50 MW each. MFEZ Multi-facility Zone Lusaka Province (Pillars I, II and III of 7NDP) (2016-2018)	US$250million grant as Project Preparation Grant; Potential for $1.2 billion USD for implementation, GRZ co-finance in kind	World Bank/IFC & Power Africa	Improved socioeconomic development, electricity grid resilience to climate change, 100 MW of energy added to existing capacity, which is a 3.4% increase in MW energy and 5000 jobs created
Scaling Renewable Energy Project (SREP) (Pillars I, II and III of 7NDP) Chinsali Northern province, Mkushi Central Province and Lunga Luapula province (2016-2020)	USD300,000 grant for project preparations. Potential USD40 Million GRZ Co-Financed for implementation (USD22 Million loan and USD18 Million grant).	CIF/World Bank	Improved socioeconomic development, increased access to electricity, Lunga targeting rural households, *Feasibility study to ascertain impact not done

Name of Project	Total Budget	Cooperating Partner	Impacts
Phasing out incandescent bulbs & distribution of energy saving bulbs (Pillars I, II and IV of 7NDP) -Inception stage	USD 10 million from GRZ/Donors	Seeking Donors Partners	200MW of energy saved as in virtual power plant, 10,000 jobs created and 666,667 households
Electricity Services Access Program (ESAP) Southern Province, Central Province and Lusaka Province (Pillars I, II and III of 7NDP)-ongoing	USD26.5 Million loan	World Bank	Provide 'last mile' connections to the national grid to about 22,000 low-income households; and about 1,000 Micro and Small Enterprises (MSEs) in rural areas (about 115,000 beneficiaries
Renewable Energy Resource Mapping Solar (Pillars I, II and III of 7NDP) (2013-2018)	USD3.6 Million	World Bank	Increased interest in renewable energy investment by local businesses
Development of Renewable Energy Feed-in Tariff (REFiT) Strategy and Implementation of Global Energy Technology Feed-in Transfer (GETFiT) (Pillars I, II and III of 7NDP) (2013–2022)	€31 Million-KfW for GETFiT program implementation; USD52.5 Million - Green Climate Fund through AfDB for GETFiT program implementation	KfW/GCF/USAID	GETFiT program 200MW installed (100MW solar & 100MW hydro), 10,000 jobs created
China-Zambia South-South Cooperation on Renewable Energy Technology Transfer Lusaka Province and Serenje Central province (Pillars I, II, III & V of 7NDP) (2015-2018)	USD 2,624,400 (Zambia component USD 1,593,300 and Chinese component USD 1,031,100)	UNDP/Denmark/China	Increased knowledge and awareness on renewable energy as the Renewable Energy (Solar) Centre of Excellency will be housed in Lusaka province, and 200kW (0.2MW) of energy installed

Name of Project	Total Budget	Cooperating Partner	Impacts
Upscaling charcoal briquette project in Mufumbwe District of Western Province	In- House Provision for 2018: US$.10650.	NTBC	Protection of natural forests to support other economic activities
Itezhi - Tezhi Hydro Project-new 120 MW, and a 260 km extension of the 220/330 kV transmission system (2011-2016)	Indicative amount: EUR 265 million.		Provide electricity at a competitive cost to the Zambian and Southern Africa regional electricity networks.
Beyond the Grid Fund Zambia (Country wide)	120 Million SEK USD 35 Million	Sweden & REEEP	155 000 sustainable energy solutions (solar) sold, 800 000 beneficiaries, and 1700 jobs created; -2017-2021
Beyond the Grid Fund Africa (Country wide)-2019-2023	200 Million Swedish Kroner (MSEK)	Sweden & NEFCO	Providing renewable off grid electricity solutions at low cost
SNV INCREASE Climate Smart Agriculture and Biogas (Southern, Central; Eastern and Lusaka Provinces) - (2020-2022)	79 MSEK	Sweden & SNV	Increase the social, economic and environmental resilience and equity in agricultural and energy systems

Source: 2021 NDC Stocktake report

3.6 Coordination gaps that may need to be closed

Generally, Zambia has a well-structured climate change coordination framework, with involvement of high-level government structures including the Council of Ministers chaired by the Vice President and the Technical Committee of Permanent Secretaries, among others. However, there are still a number of coordination gaps, especially at sub-national level, that require plugging in order to speed up the actualization of the NDCs. These include weak mainstreaming of climate change at sub-national level including in community development plans, delays in the signing of financing agreements; delays in

the disbursement of funds; delays in the procurement processes in the initial stages of climate mitigation and adaptation projects; delays in approvals of sub-projects because of the failure by beneficiaries to meet fiduciary requirements. Furthermore, there is inadequate and or limited technical expertise at the district level to effectively implement projects. This is coupled with the resignation of key project personnel and high staff transfers at Provincial and District levels which affects implementation. Last but not least, protracted disagreements between implementing partners and cooperating partners tend to affect the coordination of programmes.

3.7 Key policy documents and reports to support NDC processes

The key policy documents and reports that support the NDC process are at various stages of completion. Some have been finalized and are available, others have been finalized but are not yet available, and others are under development. These documents and their sources are presented in Table 2.

Table 2. Key documents supporting NDC implementation

Name of Document	Description of the Document and its Source
Updated NDC – 2021	Presents a revised and updated Nationally Determined Contribution (NDC) for Zambia to the Paris Agreement on climate change. https://unfccc.int/sites/default/files/NDC/2022-06/Final%20Zambia_Revised%20and%20Updated_NDC_2021_.pdf
The National Policy on Climate Change 2016	Provides a framework for coordinating climate change programmes in order to ensure climate resilient and low carbon development pathways for sustainable development towards the attainment of Zambia's Vision 2030. https://faolex.fao.org/docs/pdf/zam174957.pdf
National Climate Change Learning Strategy 2021	Aims to strengthen individual and institutional systemic capacities of the energy, health, forestry, agriculture and education sectors to enable them deliver climate change learning and contribute to the implementation of the NDC and NAPs; and subsequently towards a resilient Zambia by 2030. https://www.uncclearn.org/wp-content/uploads/2021/04/FINAL-DraftNCCLS-3-National-Climate-Change-Learning-Final-Drafts9.pdf
Zambia Nationally Appropriate Mitigation Actions (NAMAs).	National Adaptation Plan (currently under development). This will provide for medium to long term adaptation options, it will provide the M&E for adaptation. It will also identify areas for capacity strengthening and resource mobilization, among others. https://www.adaptation-undp.org/projects/bf-zambia-nama

Name of Document	Description of the Document and its Source
The renewable energy strategy and action plan of 2022.	This will promote renewable energy, and ensure the resilience of the energy supply mix. https://www.moe.gov.zm/wp-content/uploads/2022/08/Renewable-Energy_final-file_for-web.pdf
The renewable energy feed in tariff strategy.	This will promote private sector participation in the production of renewable energy by implementing cost reflective energy tariffs. https://234878-www.web.tornado-node.net/wp-content/uploads/2019/07/FINAL_REFiTStrategy2017.pdf
National REDD+ Strategy - National Investment Plan to Reduce Deforestation and Forest Degradation (2018-2022)	The Strategy lays out a goal "to contribute to national reductions in greenhouse gas emissions by improving forest and land management, and to ensure equitable sharing of both carbon and non-carbon benefits among stakeholders." https://documents1.worldbank.org/curated/en/269141594201907459/pdf/Forest-Investment-Program-Investment-Plan-for-Zambia.pdf
Technology Needs Assessment and Technology Action Plans for Climate Change Mitigation	Technology Needs Assessments are a set of country-driven activities that identify and determine the mitigation and adaptation technology priorities of developing countries and are central to the work of Parties to the Convention on technology transfer. They present an opportunity for countries to track their evolving need for new equipment, techniques, practical knowledge and skills necessary to mitigate GHG emissions. https://tech-action.unepccc.org/wp-content/uploads/sites/2/2013/12/technologyneedsassessment-mitigation-zambia-13.pdf
National Climate Change Communication and Advocacy Strategy (finalized but not yet available).	This will provide target messages for different stakeholders' categories, and translations of climate messages into the seven (7) main local languages. It aims to raise awareness and knowledge levels of climate change across the country so as to support understanding and attitude change among the citizenry and various stakeholders.
Green growth strategy (currently under development).	This will look at efficient and sustainable resource use, natural capital protection, green economic opportunities, and social inclusion.
Climate Change Bill (currently under development).	This will strengthen institutional arrangements, it will also provide development of carbon markets, establishment of the national climate change fund, among others.
National Adaptation Plan (currently under development).	This will provide for medium to long term adaptation options, it will provide the M&E for adaptation. It will also identify areas for capacity strengthening and resource mobilization, among others.

3.8 NDC tracking and monitoring

What are the indicators and metric?

The NDC indicators are metrics are still undergoing revision and refinement through stakeholder consultations. Currently only outcome level indicators have been reviewed.

Table 3 provides the outcome level indicators by sector.

Table 3. NDC outcome level indicators

Key sectors	Indicators-- these are outcome indicators; performance indicators are still under revision
Agriculture •	Strengthening climate resilience of agricultural production and productivity Livestock farmers able to cope with climate change through adoption of improved practices that enhance livelihoods
Energy •	Gender responsive increased share of renewable energies in the national grid and increased energy efficiency upscaled
Forestry and Other Land Use (FOLU) •	Reduced vulnerability and strengthened resilience of livelihoods among forest communities Increased gender equity and inclusiveness for both women and men in Community Forest Management Groups (CFMG)
Climate Information •	Enhanced early warning systems with a focus on agriculture, livestock and fisheries implemented
Industry and Transport •	Sustainable Industrial Products and Product Use Sustainable Transportation Infrastructure
Waste •	Enhanced Solid Waste Management and Resource Recovery
Water •	Water security of all Zambians is promoted and protected, via gender-responsive and climate-smart water infrastructure
Financial Stability •	Financial stability and supervisory policy and procedures improved to foster low-carbon and resilient sustainable development

Results framework

The implementation framework for the NDC, which will be used to track implementation progress, is currently under review and yet to be finalized. In February, 2023, the MGEE organized a stakeholders meeting to review the implementation framework and refine the indicator metrics.

Data and data analytics

The data gathering plan for the NDC is embedded in the MRV system. When the MRV system becomes operational, data will be gathered annually on GHG emissions and the building of resilience from key sectors highlighted to contribute to the attainment of Zambia's NDC targets including forestry, agriculture, energy, transport, waste, coal, wildlife, water, health and infrastructure. Additionally, data will be gathered on cross-

sectoral issues such as finance, technology transfer, research and capacity building. The MRV system also has a provision for quality control and approval of data at sectoral and national levels before the data is published or used. Further, embedded in the MRV system are algorithms for mitigation analysis. While the Government has capacity for data analysis, there is scope for improvement.

3.9 Identify any capacity gaps that need to be supported to strengthen the country's NDC implementation, tracking and monitoring

The following are the key capacity gaps identified from stakeholder consultation:

1. Inadequate research to inform mitigation and adaptation options;
2. Limited capacity within the country to undertake mitigation analysis;
3. Lack of a bankable investment plan to facilitate resource mobilization for implementation of NDC actions;
4. Lack of a fully operationalized MRV system to enhance the monitoring of mitigation and adaptation actions;
5. Including capacity, technology, research ;
6. Inadequate financial resource allocation to climate change;
7. Inadequate public awareness on NDC;
8. Limited policy, regulatory and legislative framework for carbon trading; and
9. Limited demand for carbon credits within the country.

4.0 National Adaptation Plan

4.1 A brief about NAP in country and commitments

The country's National Adaptation Plan (NAP) is still under development. The project has a total budget of US$2.1million which is being funded from the Green Climate Fund (GCF) with the Global Water Partnership (GWP) as the delivery partner responsible for technical support and grant management for the GCF. In the face of climate change, the NAP will help the country to identify and articulate medium and long-term adaptation priorities and actions as well as the different financing options. The specific objectives of the NAP are to:

(1) Strengthen national level coordination frameworks and processes for mainstreaming climate change adaptation into national, sub-national and sectoral development planning and budget processes;

(2) Define medium- to long-term adaptation actions at national, sub-national, sectoral, geographical regions and catchment areas;

(3) Develop financing strategies to enable implementations of identified priority adaptation actions; and

(4) Build capacity for the successful implementation of the NAP.

4.2 Stakeholder map and NAP implementation

Who is involved and what is their role?

Similar to the NDC, the NAP and its development process is overseen by a technical committee on climate change as provided for under the national policy on climate change (NPCC). Stakeholders involved in the NDC are also involved in the NAP and were mapped according to the envisaged contribution of institutions toward the development and actualization of the NAP and NAP targets. See Figure 2 for the map and annex 1 for the list of institutions and their respective roles.

4.3 What has been done to date/or ongoing by who and what is outstanding?

As is the case with the implementation of the NDC, there is a strong institutional arrangement for the implementation of the NAP comprising the Council of Ministers, the Technical Committee, and a Multi-sectoral Working Group with the Ministry of Green Economy and Environment (MGEE) as the focal point for day-to-day implementation. The milestones reached include the launch of the NAP development process; the identification and development of mechanisms to strengthen institutional coordination and collaboration for adaptation planning; the development of a system of integrating climate change adaptation into plans and budgets and; the adaptation of action plans for sectors were prioritized and developed.

The milestones included the achievement of the following activities: An adaptation stock-taking exercise; the development of the NAP roadmap; the launch of the NAP formulation process; the development of tools for integrating climate change adaptation; the development of the NAP roadmap; the training of planning authorities at national and provincial levels in tools for integrating adaptation into national budgeting and planning; the development of an M&E framework and tool for adaptation indicators; the development of a NAP communication strategy; the development of tools for identifying,

appraising and prioritization of gender-sensitive adaptation actions for various sectors and geographical regions; consultations with stakeholders on the priority of adaptation options in various sectors and in all the 10 provinces including agro-ecological regions of Zambia and; capacity needs assessment for the implementation of the NAP.

However, the following processes are still under ongoing: development of a Monitoring, Evaluation, and Learning (MEL) and reporting framework for the NAP; the drafting, validating, finalizing, launching the NAP document and submitting it to the United Nations Framework Convention on Climate Change (UNFCCC); the development of the financing strategy for the NAP and; the raising of awareness on the NAP using various media.

The following processes are yet to be conducted: Capacity building on MEL systems and tools, climate finance, analysis and use of climate data; the development of a knowledge management system for climate data and knowledge, and; the initiation of the NAP phase II (Water Sector NAP). The launch of the NAP document was scheduled for March 2023. However, due to the challenges of COVID-19 that slowed the implementation of the project, this has been extended to December 2023.

4.4 Are there any Policies, Programmes, Regulations and public/private investments in place to pursue the objectives and put in place the actions contemplated in the NAP?

Policies and regulations

The National Policy on Climate Change (NPCC) currently guides the NAP process in Zambia. The NAP process is also supported by other key policies and/or strategies such as the National Adaptation Programme of Action (NAPA), the National Climate Change Response Strategy of 2010, the REDD+ strategy, The Third National Communication on Climate Change, and the revised and updated Intended Nationally Determined Contribution (INDC). The Climate Change Bill once enacted will prioritize the climate change agenda by providing a legal framework to address issues of climate and contribute to the NAP.

Programmes and projects

The NAP implementation is also supported by programmes/projects such as; SCRALA, which supports the government of Zambia to strengthen the capacity of farmers to plan for climate risks in all their agricultural activities; The PPCR Phase II project which seeks to complement existing adaptation financing through the provision of funds for programmatic approaches to integrate climate resilience into core development polices, plans and projects thereby leading to a shift from the business as usual approach towards a well-organized approach of building the country's climate resilience; The Transforming Landscapes for Resilience and Development (TRALARD) project, which promotes improved natural resource management to support livelihoods and to provide prompt and effective response in an event of an eligible crisis or emergency; The ZIFLP, whose main objective is to improve landscape management and increase environmental and economic benefits for rural communities and; The Scaling Up Renewable Energy project, which promotes energy source diversification through increased solar electricity generation capacity in a bid to reduce greenhouse emissions as well as dependency on hydropower.

4.5 Coordination gaps that may need to be closed

There are various coordination gaps that if closed could speed up the actualization of the NAP objectives. These include limited human resource and or technical capacity for implementation at the sub-national level such as district, in terms of engineering and procurement -- more specifically in terms of contract management needs. Sometimes the capacity of the available staff does not meet the tasks at hand, hence the need for deliberate capacity building programmes, which are currently lacking. There is also high staff turnover at the district level which creates capacity vacuum as the new staff have to be trained. This is mainly due to lack of coordination between the district local authorities (who effect staff transfers) and climate adaptation programme/project management teams. There are also delays in the signing of financing agreements and the procurement processes, particularly in the initial stages of project implementation which stem from lack of understanding by local authorities on the different procurement processes for different projects. Addressing these challenges could help plug the coordination gaps and expedite the realization of the NAP.

4.6 Key policy documents and reports to support NAP processes

The key policy documents and reports that support the NAP process are at various stages of development and completion. Some have been finalized and are available, others have been finalized but are not yet available, and others are under development.

Table 4. Key policy documents supporting NAP implementation.

Name of Document	Description of the Document and its Source
The National Policy on Climate Change (NPCC).	Provides a framework for coordinating climate change programmes in order to ensure climate resilient and low carbon development pathways for sustainable development towards the attainment of Zambia's Vision 2030. https://faolex.fao.org/docs/pdf/zam174957.pdf
National Adaptation Programme of Action (NAPA)	Is the plan submitted to the United Nations Framework Convention on Climate Change (UNFCCC) describing the country's perception of its most "urgent and immediate" needs to adapt to climate change. https://www.adaptation-undp.org/sites/default/files/downloads/zambia_napa.pdf
The National Climate Change Response Strategy of 2010.	Provides a comprehensive national institutional and implementation framework through which climate change adaptation, mitigation, technology, financing, public education, and awareness-related activities can be coordinated and harmonized. https://www.adaptation-undp.org/sites/default/files/downloads/zambia-climate_change_response_strategy.pdf
The REDD+ strategy.	The Strategy lays out a goal "to contribute to national reductions in greenhouse gas emissions by improving forest and land management, and to ensure equitable sharing of both carbon and non-carbon benefits among stakeholders." https://documents1.worldbank.org/curated/en/269141594201907459/pdf/Forest-Investment-Program-Investment-Plan-for-Zambia.pdf
The Third National Communication on Climate Change.	Presents the country's efforts in addressing climate change issues and the future capacity requirements in order to meet national and global climate change obligations. https://www4.unfccc.int/sites/SubmissionsStaging/NationalReports/Documents/1678320_Zambia-NC3-1-Third%20National%20Communication%20-%20Zambia.pdf
The revised and updated Intended Nationally Determined Contribution (INDC).	Present the (intended) reductions in greenhouse gas emissions under the United Nations Framework Convention on Climate Change (UNFCCC). https://unfccc.int/sites/default/files/NDC/2022-06/FINAL%2BZAMBIA%27S%2BINDC_1.pdf and; https://unfccc.int/sites/default/files/NDC/2022-06/Final%20Zambia_Revised%20and%20Updated_NDC_2021_.pdf

Name of Document	Description of the Document and its Source
National Adaptation Plan (currently under development).	This will provide for medium to long term adaptation options, it will provide the M&E for adaptation. It will also identify areas for capacity strengthening and resource mobilization, among others.
Green growth strategy (currently under development).	This will look at efficient and sustainable resource use, natural capital protection, green economic opportunities, and social inclusion.
Climate Change Bill (currently under development).	Once enacted, it will prioritize the climate change agenda by providing a legal framework to address issues of climate. This will strengthen institutional arrangements, it will also provide development of carbon markets, establishment of the national climate change fund, among others.

4.6 NAP tracking and monitoring

The NAP is being developed and it will have an monitoring, evaluation and learning (MEL) framework for tracking and monitoring implementation progress.

i. What are the indicators and metric?

The indicators and metrics are still being developed, although the current version was validated, there is still scope for strengthening the indicators and metrics as well as identifying data sources.

ii. Results framework

This NAP has developed a draft MEL framework, which will be used to track progress as well as monitor implementation of the country's adaptation actions. The framework is currently being finalized.

iii. Data and data analytics

This will be developed under the ongoing NAP development process.

4.7 Identify any capacity gaps from that need to be supported to strengthen the country's NAP implementation, tracking and monitoring

Under the NAP, the following were the key gaps identified:

1. Inadequate data, weak climate change modelling skills and limited technical capacity for continuous collection and archiving of meteorological data have been hindering the progress on implementing the long-term national adaptation plan.

2. Inadequate resource mobilization to enhance implementation of climate change actions. It is estimated that Zambia needs approximately US$50 billion to meet the 2030 climate change commitments made in the Paris Agreement of 2015 of which US$35 billion will be leveraged from international climate funds.
3. Institutional barriers characterized by the top-down approach dominates the planning and budgeting processes and is sometimes detrimental to the locally relevant adaptation initiatives.
4. Resource allocation tracking remains a challenge, despite efforts such as under the PPCR, where a budget tracking tool was developed but mainly focuses on national allocations and disbursements. There is need to develop a more comprehensive tracking tool that includes allocations and expenditures at subnational level.
5. Technological challenges which include prohibitive costs contribute to low adoption new adaptation technology.

5. Conclusion and recommendations

This report provides an assessment of Zambia's NDC and NAP processes, highlighting the current status and taking stock of interventions supporting the two processes. The report also identifies the gaps in terms of coordination and capacity needed to effectively and timely implement the two processes.

Zambia has continued to record progress in the implementation of the NDC and NAP, although the latter is still under development. The country has an updated and more comprehensive NDC, while the NAP processes has reached an advanced stage and expected to be completed in December 2023. However, NDC indicators and results framework are currently being reviewed by stakeholders. One key achievement is the establishment of a climate change coordination mechanism which is well-developed and formalized, with participation of government at high level, the private sector, academia and civil society.

The country has continued to make progress towards strengthening the policy, regulatory and institutional framework by formulating new and strengthening existing climate change policies and regulations in support of the NDC and NAP.

Further the country has been and continue to implement programs and projects related to climate change mitigation and adaptation with government and cooperating partners' support. The projects are mainly in the agriculture, renewable energy and forestry sectors.

Despite the achievements, gaps still exist in the implementation of the NDC and NAP. The following are the main gaps identified by the report: and their associated recommendation to help address them:

- There is lack of a comprehensive data gathering and sharing mechanism;
- The country lacks data analytics and modeling capacity;
- Lack of a regulated carbon trading market; and
- Although the national level coordination mechanism is strong, there is still a weak link with the subnational level structures.

Based on the identified gaps, the report makes the following key recommendations:

- **Enhance data gathering and sharing mechanisms** to help support evidence-based policy design and implementation.
- **Develop local capacity in data analytics** and climate modeling to facilitate generation of climate knowledge and evidence that aligns with the local climate and development context.
- **Expedite the enactment of the Climate Change Bill** to provide guidelines for carbon trading.
- **Strengthen climate change coordination mechanisms at subnational level** to help integrate climate mitigation and adaptation in subnational and community development plans.

6. List of stakeholders consulted

Name of the Respondent	Position	Institution
Stephen B. Nyirenda	National Coordinator	Zambia Climate Change Network
Francis Mpampi	National Coordinator	National Designated Authority
Michael Annel Phiri	TA-DG	Zambia Environmental Management Agency
Canicius Langa	Senior Planner	Ministry of Transport and Logistics
Bathsheba Musonda	Meteorologist	Zambia Meteorological Department
Kasanda Bunda	Principal Climate Change Officer Adaptation	Ministry of Green Economy and Environment-Green Economy and Climate Change Department
Kabwe Harnadih Mubanga	Lecturer and Researcher	The University of Zambia
Young Ndoba Vibetti	Chief Livestock Research Officer	Ministry of Fisheries and Livestock
Joy Sinyangwe	Chief Agricultural Officer	Ministry of Agriculture
Moses Kaumba	Senior Forest Research Officer	Forestry Department
Jacqueline Simwanza Kabwe	Economist	Ministry of Finance and National Planning

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Government of the Republic of Zambia (GRZ). (2022). Eighth National Development Plan (2022 – 2026): Socioeconomic Transformation for Improved Livelihood. Ministry of Finance and National Planning, Lusaka, Zambia

GRZ. (2016). National Policy of Climate Change (2016 – 2021). Ministry of National Development Planning, Lusaka, Zambia

GRZ. (2017). Second National Agricultural Policy (2017 – 2021). Ministry of Agriculture and Ministry of Fisheries and Livestock, Luska, Zambia

USAID. (2016). Climate Change Risk Profile Zambia. Climate Change Adaptation, Thought Leadership and Assessments (ATLAS), USAID, Lusaka, Zambia

ANNEX 1 - MAPPING OF STAKEHOLDERS

No.	Institution	Role
1	Ministry Green Economy and Environment	They are the chair of the MSWG and coordinate all activities including policy/policy formulation and M&E as they relate to climate change.
2	Ministry of Energy	Responsible for the development and promotion of green and climate resilient energy sources
3	Forestry Department	Promotion and implementation sustainable forest management practices
4	Ministry of Energy	Responsible for the development and promotion of green and climate resilient energy sources
5	Ministry of Agriculture	Collaborate in the implementation climate smart agriculture, conservation agriculture and provision of training for farmers in climate smart agriculture
6	Ministry of Local Government and Rural Development	Promote green and climate resilient practices and interventions in all local development sectors of the district
7	Zambia Chamber of Commerce and Industry	Promote and enhance private sector participation in green and climate resilient business practices
8	Academia & Research Institutions	Conduct Research and development to inform green growth, adaptation and mitigation interventions
9	Disaster Management and Mitigation Unit (DMMU), Office of the President	Responds to any disaster or emergency in the country. It also puts in place preparedness measures to manage disaster effectively
10	Ministry of Science and Technology	Promotes and review climate resilient technology needs assessment
11	Ministry of Transport and Logistic	Promotes climate smart transportation and road network
12	Disaster Management and Mitigation Unit (DMMU), Office of the President	Responds to any disaster or emergency in the country. It also puts in place preparedness measures to manage disaster effectively
13	Ministry of Tourism & Arts	Promote sustainable wildlife management and green and climate resilient tourism
14	Ministry of Water Development and Sanitation	Responsible for management and provision water to enhance climate change adaptation and mitigation
15	Ministry of Health	Promotion of climate resilient public health and mainstreaming and strengthening of climate resilient healthy systems
16	Ministry of Livestock and Fisheries	Facilitate and support the development and implementation of climate smart fisheries and livestock practices

No.	Institution	Role
17	Zambia Environmental Management Agency (ZEMA)	ZEMA tracks GHG emissions and account for other emissions as the relate to climate change
18	Ministry of Finance & National Planning	Resource mobilization and main streaming of national plans (development and implementation)
19	Zambia Climate Change Network	Network of civil society organizations providing awareness, campaigns, advocacy and adoption on climate change mitigation and strategies
20	Ministry of Information and Media	Facilitates and supports sharing of climate change information to the public
21	Ministry of Local Government and Rural Development	Promote green and climate resilient practices and interventions in all local development sectors of the district
22	Ministry of Water Development and Sanitation	Responsible for management and provision water to enhance climate change adaptation and mitigation
23	Ministry of Justice	Promotes/develops legislation for climate change adaptation and mitigation
24	Ministry of Lands and Natural Resources	Promote conservation of natural resources and ecosystems

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