



Ministry of Water and Environment

REPUBLIC OF UGANDA

NDC 
PARTNERSHIP

**STOCK TAKE REPORT
OF UGANDA'S NATIONALLY DETERMINED CONTRIBUTIONS
(NDCs)
AND NDC PARTNERSHIP PLAN
IMPLEMENTATION**

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1 National circumstances and institutional arrangements

1.1 National circumstances

Uganda is a landlocked country located within the East African region lying between latitudes 4°N and 2°S, and longitudes 29° and 35°E. The average altitude is about 1,100 metres above sea level, sloping very steadily downwards to the Sudanese Plain to the north. It has got a varied but modified equatorial climate. The UNDP Human Development Report of 2018 indicated that Uganda's human development index is 0.516 (UNDP, 2018). The Gross Domestic Product per capita in Uganda was last recorded at 799 US dollars in 2018 with GDP growth in financial year 2018/2019 registered at 6.5% (GoU, 2018). Agriculture remains the main source of livelihoods for over 68.9% of the population (NPA, 2020).

Approximately 90 percent of Uganda's energy needs is generated from biomass, mostly dominated by firewood and charcoal which remain the primary energy source for most sectors of the economy apart from transport and service sector. It is worth noting that Uganda's energy consumption is steadily increasing rapidly. The demand for electricity is growing annually at 10% while that of charcoal at 16.5% (Egeru et al. 2014) and firewood at 2.5-3% (Bamwesigye et al. 2017). The country continues to rely on electricity generated from hydropower sources with installed capacity at 932.45 MW while that of solar remains at 50.83MW (ERA, 2018).

Road, rail, inland water and air are the transport modes in Uganda with majority of the public transport dominated by road (GoU, 2019). The Annual Sector Performance Report FY 2018/2019 of the Ministry of Works and Transport indicated that in the financial year 2018/19, 96.5% and 95% of freight cargo and passenger traffic, respectively, was delivered by road. Perhaps due to underdevelopment of other modes of transport. Currently, the Country is serviced by one operating international airport – Entebbe. Promisingly, Plans are under way to construct the Standard Gauge Railway (SGR) with the aim of connecting Kenya, Tanzania, Rwanda and South Sudan. The industrial sector continues to grow positively from 3.4% in financial year 2016/17 to 6.2% in the financial year 2017/2018 and this is attributed to emerging agro-processing and mining - cement industry (GoU, 2019).

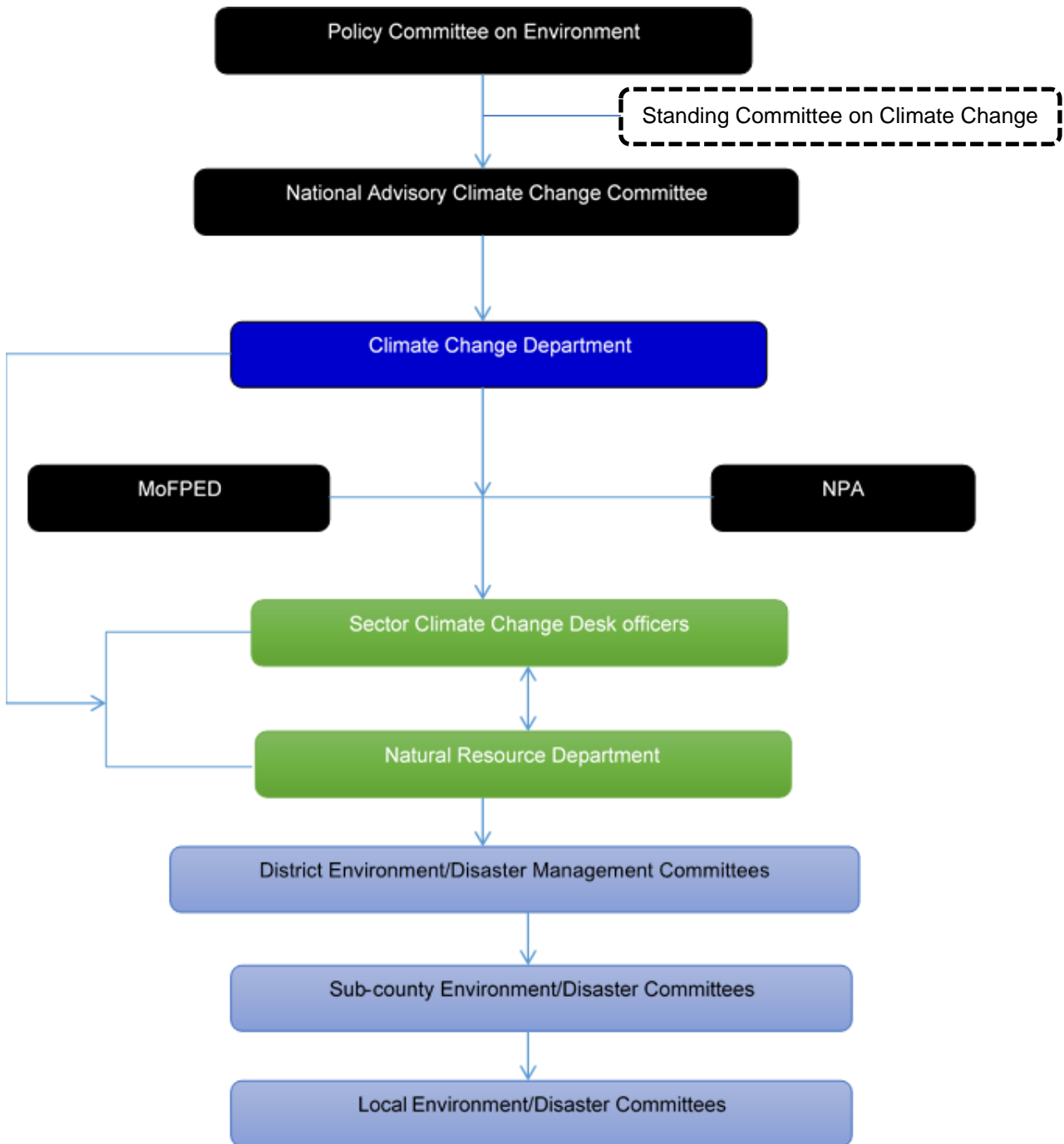
Despite emerging drivers of economic growth, greater part of the country's economy, livelihoods and well-being remains largely dependent on natural resources. This has exerted pressure on the diminishing natural resources resulting into their rampant degradation. For example, forest cover reduced from 15% in 2010 to 9.5% in 2017 while wetlands reduced from 11.9% in 2012 to 10.9% in 2017, yet such natural resources are useful buffer to climate shocks and therefore their degradation increases the country's vulnerability to climate variability and change.

The country continues to suffer from climate variability and change due to its low adaptive capacity (EMLI, 2015 and McIvoret *al.*, 2018) with negative impacts of climate change reversing progress to achievement of Vision 2040. The country's vulnerability to climate change is decreasing whereas its readiness to respond to climate change is increasing with adaptation as priority (MWE, 2016). The National Climate Change Policy, 2015 and the Nationally Determined Contributions (NDC) corroborate this observation.

1.2 Institutional Arrangements

Uganda's policy and institutional framework for climate action encompass whole of government approach (GoU, 2015). The Policy differentiates two key institutional functions: coordination and implementation as shown in Figure 1.

Figure 1. Institutional structure for climate change governance in Uganda



Adopted from MWE/CCD Structure, 2020

The Climate Change Department of the Ministry of Water and Environment (MWE/CCD) is mandated with the coordination role while Ministries, Agencies and District Local governments (MALGs) are responsible for implementation of climate Actions (GoU, 2015). Also, MWE/CCD doubles as the National Focal Point for the United Nations Framework Convention on Climate change (UNFCCC).

In enhancing climate action through whole of government, MWE/CCD works in close partnership with National Planning Authority (NPA) to ensure that climate change is mainstreamed in the different sectors of the economy. MWE/CCD also collaborates with the Ministry of Finance, Planning and Economic Development (MoFPED) to ensure that required financing is mobilized for climate action. MoFPED also serves as the National Designated Authority (NDA) of the Green Climate Fund (GCF). However, there is currently no memorandum of understanding between MWE/CCD and the two institutions – NPA and MoFPED defining collaboration and accountability, perhaps the Climate Change Bill, will address it (MWE, 2019).

It is envisaged that the Climate Change Bill will provide an enforceable framework to enable the implementation of the National Climate Change Policy, the National Determined Contributions, and other relevant policies in addressing climate change. The current institutional arrangement in addressing Climate Change is described in Table 1.

Table 1. Domestic institutional and respective roles related to climate change response measures

Institution	Role
Policy Committee on Environment	The Policy Committee on Environment established under the National Environment Act, 2019 provides strategic policy guidance on climate action in Uganda
Parliamentary Standing Committee on Climate Change	Launched in 2019 with the mandate to review, consider, and scrutinize all matters related to climate change mitigation and adaptation, make recommendations to Parliament on responses to address climate change among their other mandates.
The National Climate Change Advisory Committee (NCCAC)	The National Climate Change Policy of 2015 established the NCCAC chaired by the Permanent Secretary of Ministry of Water and Environment. NCCAC is a high-level technical multi sectoral stakeholder platform which provides technical guidance on issues related to implementation of the policy strategic interventions.
The Ministry of Finance, Planning and Economic Development (MoFPED)	In addition to its mandate, MoFPED, ensures that national, sectoral and district-level budgets and indicative planning figures integrate climate change through appropriate provisions for the implementation of the policy and its strategy.

	MoFPED also facilitates the introduction of relevant financial mechanisms and tools to support financial resource mobilization and investment for the implementation of the policy.
The National Planning Authority	In executing its planning function, NPA also ensures that climate change is integrated through adequate provisions in plans of Ministries, Agencies and local government.
Ministry of Water and Environment/ Climate Change Department (MWE/CCD)	The overall goal is to coordinate climate change related issues. MWE/CCD is also the National Focal Point for the United Nations Framework Convention on Climate change. MWE/CCD works with climate change coordination units in different Ministries, Departments and Agencies (MDAs) to ensure the mainstreaming of climate change in the different sectors of the economy. It also works with the Ministry of Local Government (MoLG) and NPA to ensure integration of climate change in District Development Plans (DDPs) and Ministries and Agencies respectively.
The Ministry of Local Government	In addition to its mandate, the Ministry of Local Government provides guidance to the districts to translate the policy priorities and the implementation strategy into coherent plans at the district level and ensures that adequate provisions in district development plans, annual work plans and budgets for the implementation of the Climate Change Policy.
District Environment and Natural Resources Committees/District Disaster Management Committees	Responsible for climate change matters in the district

Source: Adopted from the Uganda's First Biennial Update Report to UNFCCC, 2019 with modification by author

Financing for climate change actions

The Uganda National Climate Change Policy provides for the following as sources of financing:

- National and Sectoral Development Plans and Budgets.
- Private sector investments in energy, industrial developments and technology transfer.
- Multilateral and bilateral development partner support and support from international climate change funds.
- Market-based mechanisms for climate-related actions and payment for ecosystem services schemes

2 Purpose of the study

The **purpose** of this study was to establish the status of NDC implementation in Uganda, document early achievements of the Uganda NDC Partnership Plan and identify elements necessary for updating the country's NDC by 2020. The **specific aims** were to take stock of the implementation of Uganda NDC while taking into account the available science; determine the aggregate level of achievement of NDC Partnership Plan implementation; identify gaps, barriers and challenges faced while implementing the NDC and NDC Partnership Plan; document early lessons, successes and experiences on NDC and NDC Partnership Plan implementation and make recommendations for informing the next round of Uganda NDC in 2020.

3 Methods and assumptions

Document review with a focus on both Grey literature and A1-literature on the NDC implementation, NDC Partnership Plan implementation, the NDC document, NDC Implementation Plan, the Draft National Development plan III, and NDC Priority sector performance reports was applied. The priority sectoral ministry websites, UNFCCC and NDC Partnership Websites were also explored to obtain relevant information. This was followed with in-depth interviews with key informants and field visits to triangulate the data gathered on NDC and NDC Partnership Plan Implementation using guiding questions. The interviews were conducted to assess performance; document the experiences, successes, gaps, barriers and challenges to the NDC and NDC Partnership Plan Implementation. Field visits were also conducted to identify good practices in NDC implementation that need to be promoted in the quest to achieve the desired targets.

The study was limited to the NDC Partnership Plan (2018-2021) and the initial phase of the NDC Implementation Plan in the financial year 2017/2018 and 2018/2019. The study explored the NDC sectors which included Energy, Agriculture, Health, Water and Environment (forestry, wetlands), Social development (Gender, Risk Assessment) and Works and Transport (infrastructure). The study did not undertake a detailed analytical study on impacts of climate actions towards the country's NDC target.

4 Description of Uganda's NDC

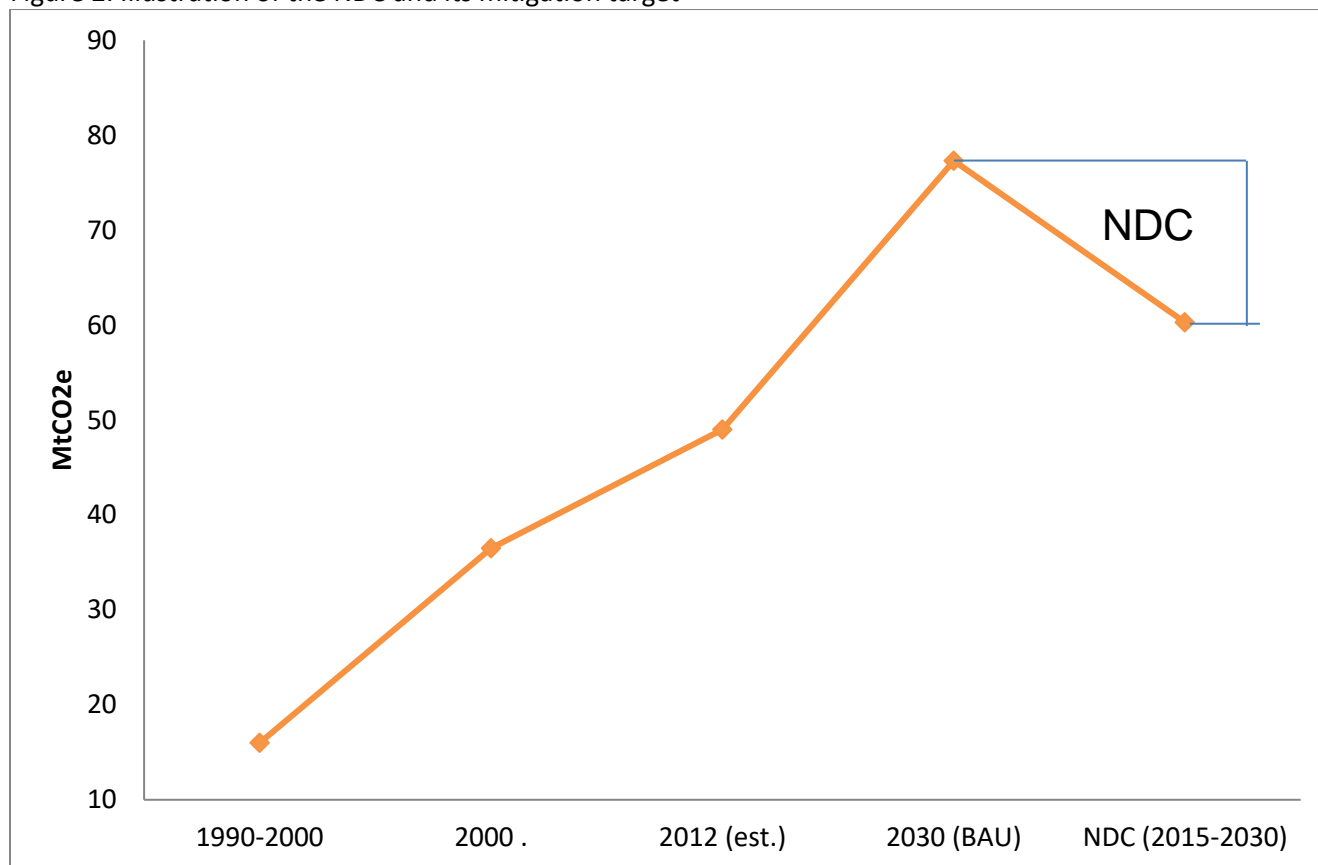
The Government of Uganda communicated its Intended Nationally Determined Contribution (INDC) in 2015 in the build up to the signing of the Paris Agreement. The INDC was communicated as the country's first NDC after becoming party to the Paris Agreement with adaptation featuring as the country's priority (MWE, 2016). Adaptation was interpreted in the context of reducing the climate change vulnerabilities in priority sectors and enhancing resilience at the local community level (MWE, 2016). The NDC featured mitigation measures with a target of approximately 22% reduction of national greenhouse gas emissions by 2030 compared to business-as-usual.

4.1 Potential Impact of the mitigation contribution

Although Uganda's share of the total global GHG emissions is still insignificant, the country's sectors emission profile is growing with Agriculture as a leading source of GHG emissions and Land Use Change and Forestry (LUCF) as the second most significant source (WRI CAIT, 2015). The LUCF sectors are expected to remain a net emitter through the 2030s and with interventions, these are projected to become a major sink as early as 2025 (GoU, 2014).

Under the growth and development scenario in 2015, Uganda’s total emissions were projected at 77,381 Gg CO₂ eq (77.3MtCO₂eq/yr) also known as business as usual scenario. It is envisaged that implementation of prioritized measures in energy supply, forestry and wetlands will result into cumulative impact of approximately 22% reduction of overall national emissions in 2030. It should be noted that in 2012, total emissions were estimated at 36.5 Mt CO₂eq/yr in 2000.

Figure 2. Illustration of the NDC and its mitigation target



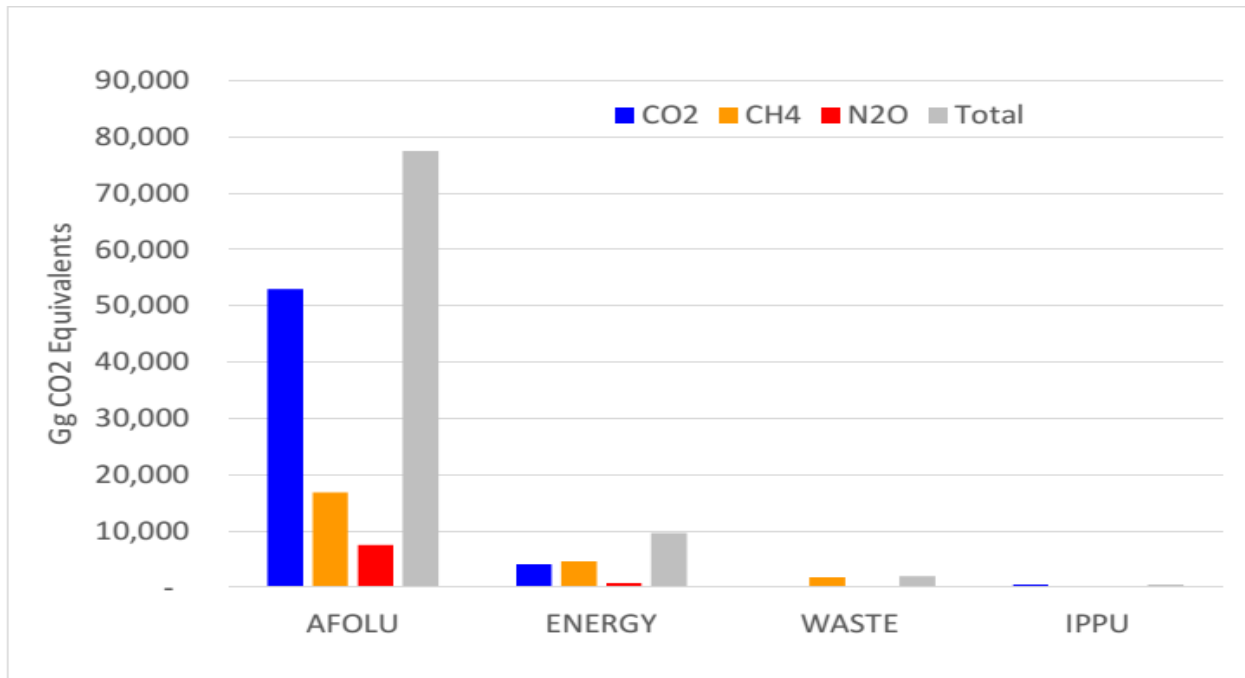
Source: Unpublished, 2019

4.2 Overview of Uganda’s GHG emissions and removals and projections

According to MWE (2019) the country developed a National Greenhouse Gas Inventory (NGHGI) covering a period of 10 years, 2005 to 2015. The inventory covers 4 sectors; Energy (including Transport), Industrial Processes and Product Use (IPPU), Agriculture, Forestry and Other Land Uses (AFOLU) and Waste. In addition, the inventory covered major direct gases such as carbon dioxide (CO₂), Methane (CH₄) and nitrous oxide (N₂O) and precursor gases; nitrogen oxides (NO_x), carbon monoxide (CO), non-methane organic volatile compounds (NMVOCs) and Sulphur dioxide (SO₂).

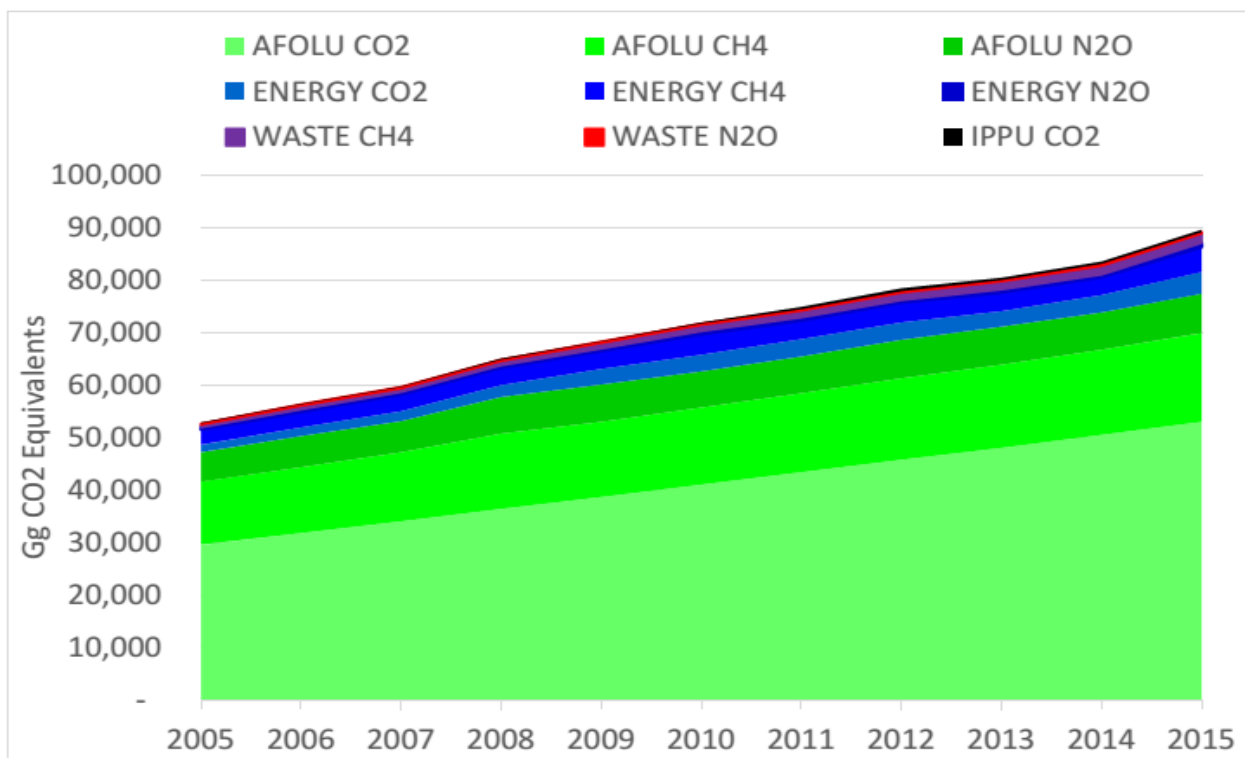
Under the business as usual scenario, the AFOLU sector featured the most significant source of emissions for the three gases (CO₂, CH₄ and N₂O) accounting for 86.4% of the total emissions, the energy sector accounted for 10.9% and the waste sector and IPPU accounted for 2.1% and 0.6% respectively (MWE, 2019).

Figure 3. Overview of IPCC sector GHG emission in 2015



Source: Adopted from Uganda’s First Biennial Update Report, 2019

Figure 4. Indicative emission trends by sector and gas from 2005 to 2015

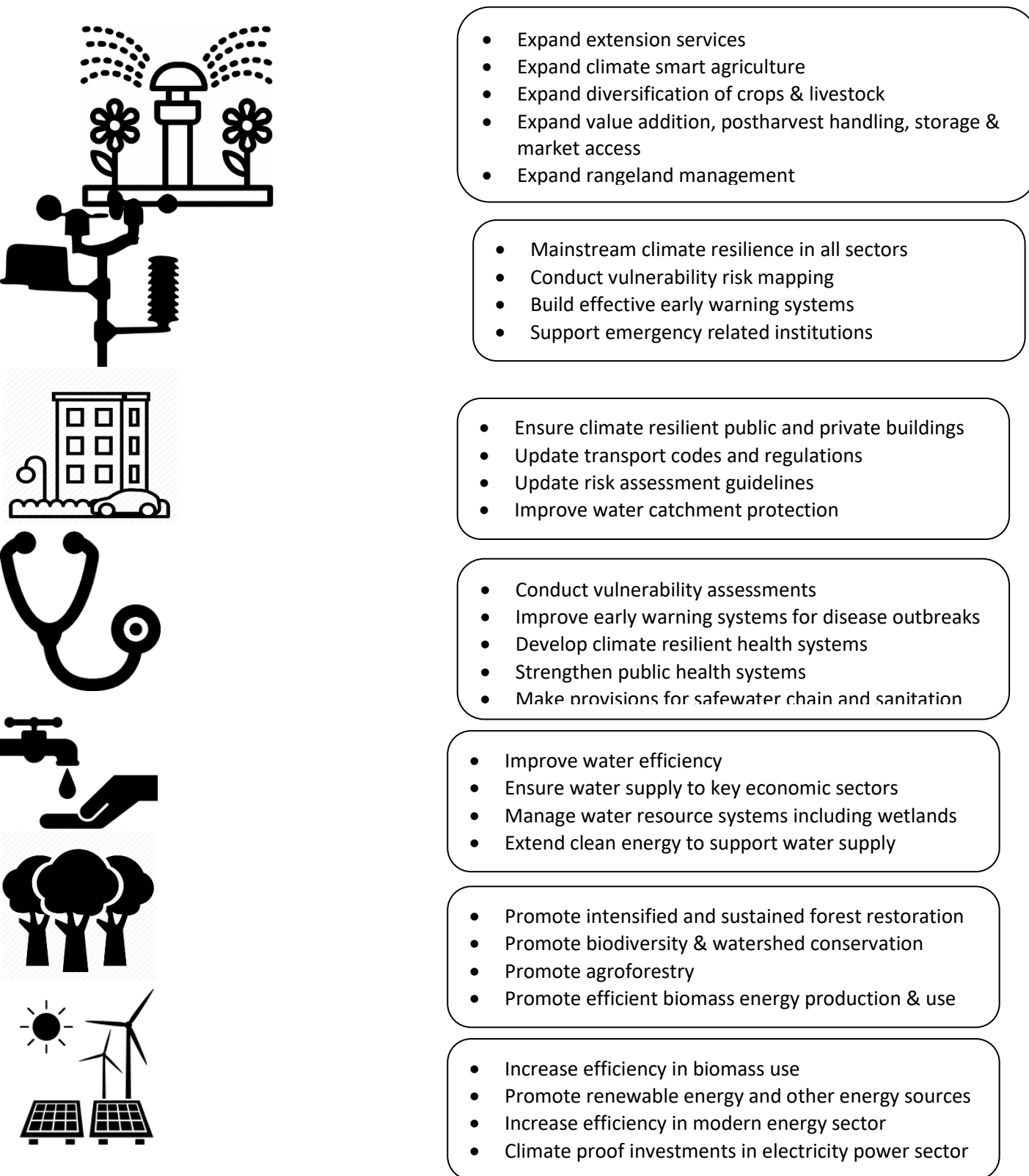


Source: Adopted from Uganda’s First Biennial Update report, 2019.

4.3 Un-packing NDC non-GHG actions and targets

Despite adaptation featuring as Uganda’s NDC priority, the target for adaptation actions was not clearly defined.

Figure 5. Overview of adaptation actions



4.4 Policies and mitigation measures in the NDC

Cumulative implementation of series of policies and measures in the energy supply, forestry and wetland sectors was projected to result in approximately 22% reduction of national greenhouse gas emissions in 2030 compared to business-as-usual (MWE, 2016). However, the NDC did not stipulate the implementation period and the share of economy-wide emission reduction or limitation targets per sector.

Figure 6. Overview of mitigation measures



- Construct enabling infrastructure for electricity sector development, including power lines, substations and transmission facilities
- Achieve at least 3,200 MW renewable electricity generation capacity by 2030, from 729 MW in 2013



- Develop enabling environment for wetlands management
- Increase wetland coverage to 12% by 2030, from approximately 10.9% in 2014, through demarcation, gazettement and restoration of degraded wetlands.



- Develop an enabling environment for forestry management
- Reverse deforestation trend to increase forest cover to 21% in 2030, from approximately 14% in 2013

Box 1. Additional mitigation ambitions

1. Sustainable energy solutions in public buildings
 - i. Energy efficiency in hospitals
 - ii. Integrated energy solutions for schools in off grid areas-NAMA
2. Promotion and wider uptake of energy efficient cooking stoves or induction cookers
3. Promotion and wider solar uptake of solar energy systems
4. Development and enforcement of building codes for energy efficient construction and renovation
5. Development and implementation of a long-term transport policy accounting for climate change mitigation concerns
6. Fuel Efficiency Initiative NAMA
7. Climate Smart Agriculture techniques for cropping
8. Livestock breeding research and manure management practices

5 Impacts, risks and vulnerabilities in Uganda

Uganda continues to experience increased frequency and severity of extreme weather events such as increased rainfall and temperatures (World Bank, 2020). The erratic rains have caused floods, mudslides and landslides especially in the mountainous regions of the country, resulting into loss of communities' property and lives.

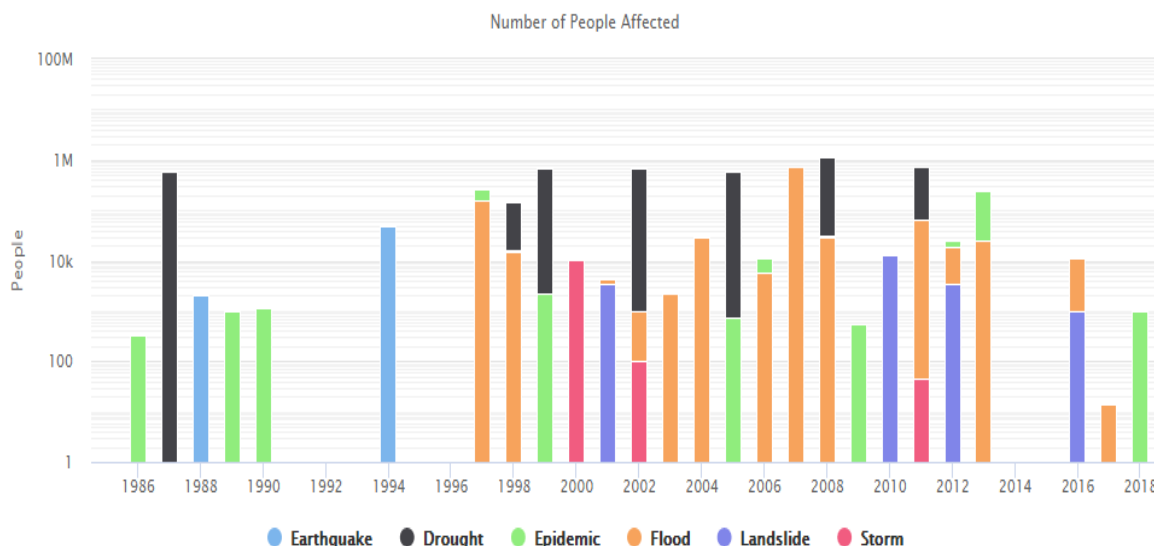
Uganda experiences both flash floods and slow-onset floods, which are common in urban areas, low-lying areas, areas along river banks and wetlands. Floods have impacted nearly 50,000 people and caused losses estimated at USD 62 million losses (OPM, 2012; World Bank, 2020; GFDRR, 2020). On the other hand, prolonged dry spells have led to crop and livestock losses, reduced farm productivity and other consequences such as food insecurity, famine and biodiversity loss.

Droughts have affected close to 2.4 million people between 2004 and 2013, and drought conditions in 2010 and 2011 caused an estimated loss and damage value of USD 1.2 billion, equivalent to 7.5 percent of Uganda's Gross domestic product (OPM, 2012).

The most drought-prone areas in Uganda are the districts in the cattle corridor stretching from Western and Central to mid Northern and Eastern Uganda. In the study on the impact of short-term drought on the economy of Uganda, Kirimani et al. (2015) found that climate change could cause decline in employment by 5.1%, household consumption by 4.6% and exports by 5.2% respectively.

Similarly, cases of infrastructure damage are on the rise thus leading to increased costs of repair and maintenance especially road transport infrastructure and buildings. The negative impacts of climate change are likely to result in a slow progress for the country to achieve her Vision 2040 which envisages a transformed Uganda from a predominantly peasant to a modern and Prosperous Country. The impacts of climate change in the water, agriculture, infrastructure and energy sectors collectively have been estimated at 2-4% of GDP between 2010 and 2050 (Markanday et al. 2015). The cost of inaction is predicted to be higher than the cost of adaptation for the rapidly growing population of Uganda.

Figure 7. Overview of natural disasters in Uganda and affected human population (1985-2018)



Source: Adopted from World Bank Group Knowledge Portal.

In 2019, the Office of the Prime Minister (OPM) carried out a Risk, Hazard, vulnerability and disaster assessment in 52 districts of the country and is yet to launch its Hazard and Risk Map with detailed risks, hazards and vulnerability. It is envisaged that this will provide insights on the current climate risks, hazards and vulnerabilities in Uganda to guide in making investment decisions.

6 Findings from the rapid assessment of NDC Implementation

The assessment of the NDC Implementation has been informed by a rapid analysis of context and implementation of different proposed adaptation actions and mitigation measures in the NDC Implementation Plan and NDC Partnership plan, from the period January 2018 to December 2019. Please refer to Annex 4 for a full list of stakeholders consulted/interviewed.

6.1 Overview of the NDC and the NDC Partnership Plan

Having communicated its NDC to the UNFCCC in 2017 but challenged with limited technical and financial support, Uganda through the Ministry of Finance, Planning and Economic Development (MoFPED) made a formal request, highlighting 11 priority areas, for support on coordination and implementation of the NDC to the NDC Partnership. Consequently, the Ministry of Water and Environment/Climate Change Department (MWE/CCD), MoFPED and the National Planning Authority (NPA) were designated as focal points to the NDC Partnership to catalyze her NDC implementation (MWE, 2018).

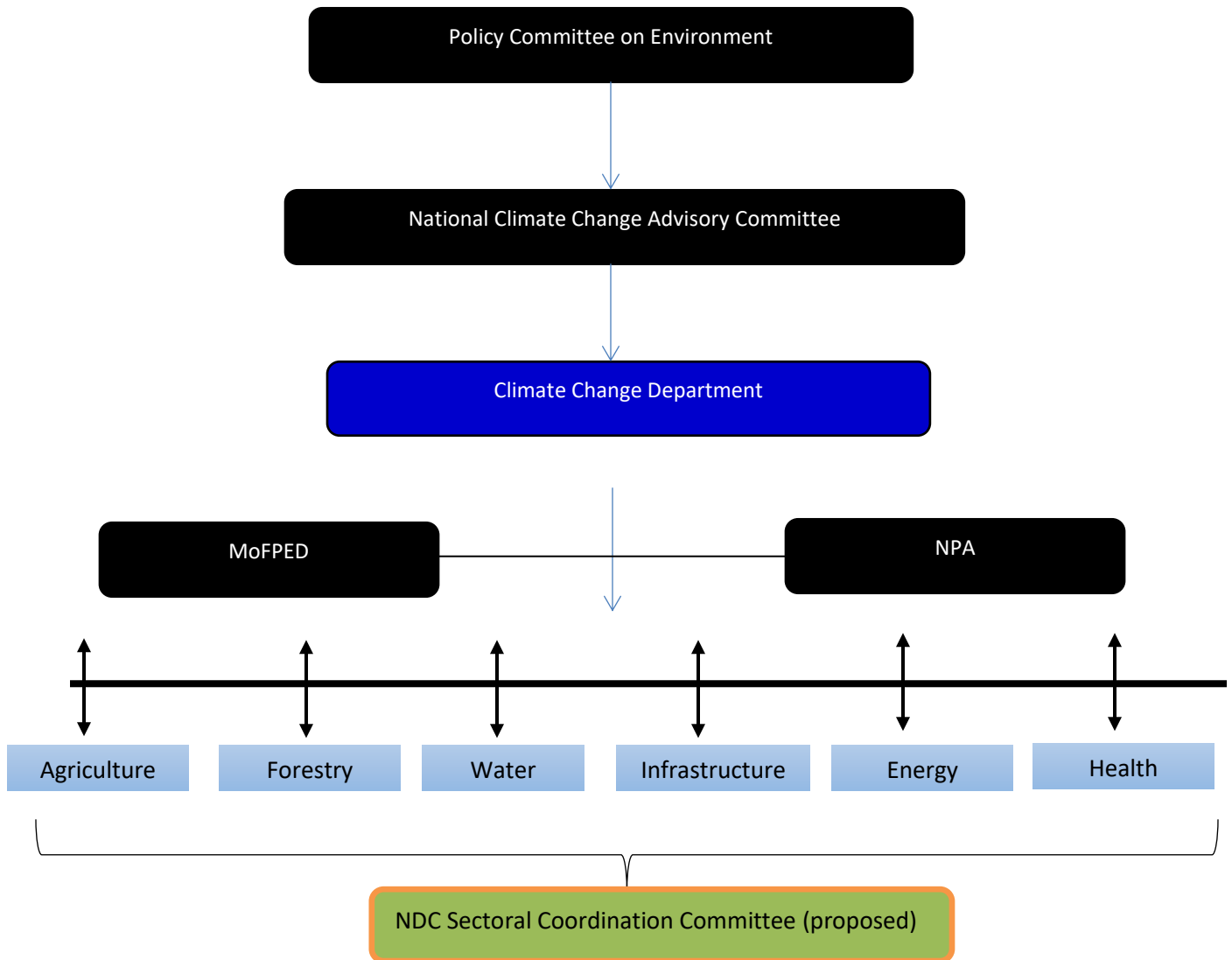
On 1 February 2018, Uganda became the first country in Africa, through a multi-stakeholder engagement process, to develop a 3-year NDC Partnership Plan in Africa highlighting 49 outputs and 140 key performance indicators. The Uganda NDC Partnership Plan is envisaged to deliver the following;

- i. strengthened gender-responsive policy and institutional framework for the effective climate governance;
- ii. increased financing for climate action and climate change reflected in relevant planning and budgeting frameworks at national and local levels;
- iii. institutionalized Monitoring, Reporting and Verification (MRV) system for GHG emissions and gender responsive adaptation actions;
- iv. strengthened capacity of public, private and non-state actors to effectively integrate NDC-SDGs commitments with a gender lens;
- v. accelerated project financing for NDC implementation.

The NDC Partnership plan 2018-2020 serves as the early phase for the implementation of the country's NDC and lays the foundation for systematic NDC implementation through the 5 outcomes above. It should be noted that the NDC Partnership Plan provided for the formulation of the NDC Implementation Plan 2018-2030 costed at USD 5.52 billion of which USD 3.093 billion, equivalent to 56 percent of total cost of implementation to cover adaptation costs.

The NDC Partnership Plan has also contributed to strengthened governance for climate action through enabling the fast-tracking of the legal framework for climate action, development of gender NDC action plan, improving development partner responsiveness to climate action through the Environment and Climate Change Development Partners working group and tripartite working arrangement of NPA, MoFPED and MWE/CCD. In addition to the National Climate Change Advisory Committee (NCCAC), the coordination structure for NDC action - NDC Sectoral Coordination Committee is yet to be operationalized.

Figure 8. Proposed NDC Sectoral Coordination Committee



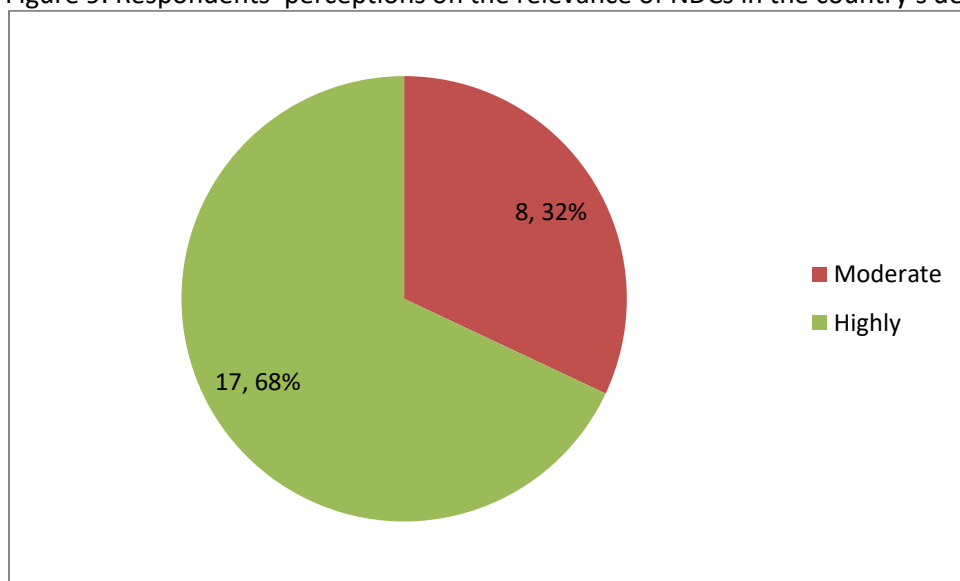
Source: Adopted from NDC Implementation Plan (2018).

In order to meet global reporting requirements on NDC implementation, the plan provides for establishment of the NDC Sectoral Coordination Committee (NDCSCC) which is chaired by Commissioner CCD/MWE who is responsible for ensuring that sector targets are achieved. It is envisaged that the committee will always be composed of NDC sectors, private sector and civil society across sectors. The committee is expected to foster integrated NDC implementation, joint tracking of progress towards national targets, and rallying support for political will while building on internal resident capacity across various levels of governance and ensuring efficient utilization of technical capacity within government and non-state actors.

6.2 Relevance of NDCs in the country's development aspirations

About 68% of the 25 respondents indicated that the NDCs were highly relevant in achieving the country's development aspirations while only 32% deemed it moderately relevant. Most of the respondents highlighted that NDCs were highly relevant for the country to achieve its development aspirations since the country largely depends on natural resources for its economic growth and climate action commitments such as NDC ambitions were vital to foster growth. The other respondents observed that the country was already a signatory to other development pacts such as "the future we want" and the Sustainable Development Goals and Addis Ababa Action Agenda on financing for development.

Figure 9. Respondents' perceptions on the relevance of NDCs in the country's development aspirations

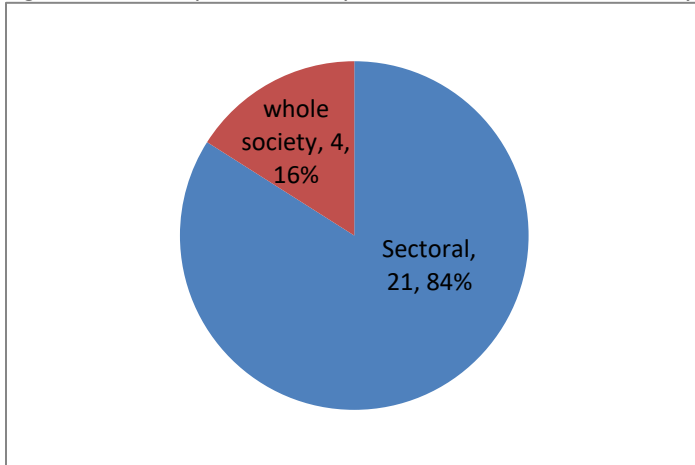


It was highlighted that development cannot happen without climate action for Uganda. Therefore, collective and joint actions within sectors and the economy including financial support, capacity development and technological transfer is key for an enhanced climate resilient Uganda. It was further indicated that the current NDCs, lacked synergy with other global agreements e.g. Sendai Framework for Disaster Risk Reduction, and were done as rapid exercise leaving out some sectors of high priority like tourism, social development and industry.

6.3 Mode of NDC implementation in Uganda

The NDC action followed government arrangement of sector-wide approach thus encompassing whole of government approach as guided by the National Climate Change Policy, 2015. In this study, the authors were interested in the respondents' views on the current mode of NDC implementation in Uganda. Figure 10 shows the perceptions of the respondents.

Figure 10. Perceptions of respondents on how the country's NDCs are implemented



Of the 25 respondents, 84% of them recognized that NDCs were being implemented across specific sectors while 16% observed that NDC implementation followed the whole society approach. This is attributed to most of the mitigation and adaptation actions proposed being implemented by institutions within priority sectors with very few actions implemented by private sector and non-state actors. Some respondents highlighted that very few stakeholders had access to the existing costed NDC Implementation plan 2018-2030 thus limiting the implementation level of the NDCs at country level.

6.4 Progress on implementation of adaptation actions and mitigation measures

Based on interviews with some climate change desk officers in respective ministries and agencies, the level of progress of implementation of NDC adaptation actions and mitigation measures as documented in the NDC Implementation Plan was ascertained. This was done by matching what was proposed to be done by 2020 within the NDC implementation plan against what has been done so far across sectors. This was done by carrying out interviews with Key Informants (priority sectors, NDC focal points, NDC PP partners) and also reviewing the latest sector performance reports and Semi-Annual Budget Monitoring Reports.

A number of achievements have been reached including the Ministry of Water and Environment (MWE) being accredited as National Implementation Entity (NIE) for Green Climate Fund (GCF) and Adaptation Fund (AF) in December 2018. The costed NDC Implementation plan was also put in place by the Ministry of Water and Environment with support from UNDP in December 2018.

In addition, the Ministry of Water and Environment (MWE) communicated Uganda's First Biennial Update Report to the UNFCCC in 2019. The National Planning Authority (NPA) has been able to integrate climate related indicators in the draft National Development Plan (NDP III) 2020/21-2024/25 with support from UNDP and World Resources Institute (WRI). UNDP intends to support the Ministry of Water and Environment in updating the country's NDCs in 2020. Tables 2 and 3 highlight the current status and /or progress in the NDC Implementation so far.

Table 2. Current Progress on NDC Adaptation Actions Implementation

ADAPTATION ACTIONS	Current status/progress
ENERGY SECTOR Adaptation Actions	
Promote renewable energy and other energy sources	
Promote new and renewable energy	<p>There is increased solar uptake especially in rural Uganda. More households are installing home solar systems given their cheap maintenance costs. Solar energy in rural households has mainly been promoted by private sector e.g. “solar now”.</p> <p>There are other solar projects that have been implemented under public private partnership e.g. Bukuzindu hybrid solar and thermal power station (Kalangala district) between government of Uganda and Kalangala infrastructure services a local subsidiary of InfraCo holdings.</p> <p>Other solar plants under public private partnerships are Soroti, Tororo, Kabulasoke (Gomba) and Mayuge.</p>
3. Increase efficiency in modern energy sector	
Promote energy efficient firewood cook stoves, solar and liquefied petroleum gas (LPG) cookers	The MEMD has prepared a draft energy efficiency and conservation bill. This is envisaged to address energy efficiency gaps through regulations, standards and incentives. GIZ is creating awareness for SMEs in energy efficiency measures. GIZ is also promoting renewable energy for rural electrification. GIZ is working in partnership with MEMD
2. 3,200 Mega Watts renewable electricity generation by 2030	
Promote the use of alternative renewable sources such as solar, biomass, wind and biofuels as well as their associated technologies	<p>AfDB is supporting feasibility studies on how biomass can be turned into electricity in the Northern Uganda</p> <p>Uganda was also selected by climate investment fund administration unit as a pilot country for scaling-up renewable energy program</p>
Other Cross cutting interventions	<p>Under the NDC Partnership Plan, UNDP under the NDC Support program developed the gender action plan with a focus on the energy sector in 2019.</p> <p>Guidelines for mainstreaming climate change adaptation and mitigation in the Agriculture Sector are under development by UNDP/MAAIF.</p>
AGRICULTURE ADAPTATION ACTIONS	
Expanding Extension Services	
Recruitment of extension workers at the district and sub-county levels	More extension workers have been recruited at both district and sub county levels
Farmer education and refresher trainings of extension staff	A number of refresher courses of extension staff have been done with support from Ministry of Agriculture, Animal Industry and Fisheries (MAAIF)
Promote strategic partnership between research, technology development and extension services at all levels.	Collaboration of National Agriculture Research Organization (NARO), Ministry of Science and Technology (MSTI) and Ministry of Agriculture, Animal Industry and Fisheries (MAAIF) to develop and certify agriculture technologies and other research products is ongoing

Provide farmers with timely quality extension services using available technologies and modern agronomic practices.	A number of mobile applications have been developed for agriculture information dissemination by a number of private companies and MAAIF
Farmer institutional development (FID)	FAO is supporting Agro -Pastoral Field schools in partnership with district local governments and CSO operating in the regions where they are implemented
2. Expanding climate information and early warning systems	
Weather forecast for packaging advisory services for farmers	Development of National Early Warning Systems Project is in progress, a number of radios and TV stations give weather forecast information to farmers. The Uganda National Meteorology Authority (UNMA) has various programs going on down scaling weather forecast information and translating into major local languages for rural farmers. UNMA in partnership with the Uganda Broadcasting Corporation (UBC) runs daily weather forecasts on the National Television for public consumption
3. Expanding Climate smart Agriculture	
Support community-based adaptation strategies through expanded and smart extension services.	GIZ in partnership with the EU and Government of Uganda is implementing a project called Promoting Climate Smart Agriculture in seven districts of northern Uganda. It will be implemented between 2019-2024
Promote and encourage conservation agriculture and ecologically compatible cropping systems to increase resilience to the impacts of climate change.	Many farmers especially in the western part of the country are engaged in Banana conservation agriculture
Promote and encourage highly adaptive and productive crop varieties and cultivars in drought-prone, flood-prone and rain-fed crop farming systems	Makerere Regional Centre for crop improvement was established and is currently breeding cowpea and sorghum varieties that are high yielding, early maturing and stress resilient. The centre was launched in 2018 with funding from the World Bank
Promote and encourage highly adaptive and productive livestock breeds	Climate-smart livestock systems program was launched in 2019. And the Climate Smart Agriculture (CSA) Program is ongoing. Under the NDC Partnership Plan, the Netherlands Foreign Affairs through SNV offered a grant to implement the Climate Resilient Agribusiness for Tomorrow (CRAFT) program component in Uganda 2018-2022, this is currently ongoing
Promoting Sustainable Land Management (SLM) and adaptation of climate change resilient agricultural production systems, technologies and practices.	Conservation agriculture and ecologically compatible cropping systems are being promoted under the Sustainable Land Management (SLM) in most parts of the country by MAAIF. The Climate-smart Agriculture Support Project supported by the world Bank under the northern Uganda action fund has been promoting activities that can enhance adaptation to climate risks, improving agricultural productivity and providing effective response in the event of a crisis or emergency. This project is from 2016-2020.
Up-scaling use of improved and climate change resilient seeds and planting materials	Cassava Value and Water Efficient Maize (WEMA) research project has been implemented by MAAIF and NARO
Increase availability and access to quality seeds/ planting materials for priority commodities	The NAADS Program with Operation Wealth Creation (OWC) has been and continues to give out quality seed and planting materials based on farmers demand.

4. Expanding diversification of crops and livestock	
Promote and encourage diversification and improved livestock value chains	In partnership with International Livestock Research Institute (ILRI), a climate-smart livestock systems program was launched in 2019 and one of its objectives is to adapt to agricultural systems to future climate change scenarios
Promote and encourage agricultural diversification, and improved post-harvest handling, storage and value additions:	Agriculture Cluster Development Project, Agriculture Technology Transfer (AGITT) and Cassava Value project are ongoing
6. Expanding rangeland management	
Promote technologies for improved livestock feeds/ feeding and sustainable management of rangelands and pastures through integrated rangeland management	Rehabilitation and improvement of rangelands and grazing areas, and Regional Pastoralism Livelihoods Resilience Project are ongoing. Community mapping of land use in Karamoja done The government through the SPCR Program is already supporting rangeland management in the Cattle Corridor areas and there is an on-going process of developing the Rangeland and Pastoralism policy that is expected to improve adaptation in the rangeland dominated areas.
7. Expanding small scale water infrastructure	
Investing in modern irrigation technologies	Agriculture Cluster Development Project with support from the World Bank (irrigation development) is ongoing project
Promote rainwater harvesting and storage at household and farm levels for agriculture	Promoting water harvesting technologies at household and community levels-ongoing
7.5 20,000 ha of micro irrigation schemes developed by 2025 to benefit 40,000 households.	Rehabilitation of valley dams and water tanks with complete abstraction systems for animal watering and for micro irrigation systems ongoing
10. Climate resilient fisheries sector	
Promote climate resilient fisheries sector and integrated fisheries resource management	Lake Victoria Environment Management Program (LVEMP)-Restocking Fish in Water Bodies and IOC-Smart Fish Project are ongoing
Promote Aquaculture in order to ensure climate resilient fisheries resources	The Support to Fisheries Development Program and the Operation wealth creation (OWC) program is ongoing
11. Forestry, Land and Natural Resources Management	
Promote appropriate forest and ecosystem management practices to increase the resilience of agrarian communities to the impacts of a changing climate	UNDP is providing additional support in the Integrated Landscape Management for improved livelihoods and ecosystem resilience in Mt. Elgon program. The program started in 2015 and was expected to end in 2018 but was extended.
Cross cutting interventions	Under the NDC Partnership Plan, UNDP under the NDC Support programme developed the gender action plan with a focus on the agriculture sector in 2019
HEALTH ADAPTATION ACTIONS	Current progress
1. Conduct vulnerability assessments	
Conduct vulnerability assessments of health sector to climate change impacts	Not yet done
Assess the impacts of climate change on human health and wellbeing	No full study exists. However, an Assessment of the Impact of climate change on the Health Sector in Uganda: A case of Malaria and Cholera epidemics done by N.M. Bambaiba in 2009 exists

2. Improve early warning systems for disease outbreaks	
Improve the capture, management, storage and dissemination of health information S	This is ongoing. The Ministry of Health (MoH) and its close partners are doing a great job especially in health information dissemination
Heighten the surveillance of disease outbreaks and provide subsequent rapid responses to control epidemics	Uganda is doing a commendable job in providing subsequent rapid responses to control epidemics
3. Develop climate resilient health systems	
Put in place contingency plans to develop climate change - resilient health systems	Not yet implemented
Increase the health workers awareness of the relationship between climate change and human health	Not yet implemented
4. Strengthen public health systems	
Strengthen public health systems by building hospitals and supplying them with medicine, equipment and well-trained personnel	There has been upgrading of status of a number of health centres to increase medical access by population. However, a challenge of understaffing and availability of essential drugs still remains.
Develop urban health programmes targeting slums and public places.	The Indoor residual spraying under the Presidential Malaria Initiative was implemented as a preventive measure to Malaria outbreaks.
5. Make provisions for safe water chain and sanitation facilities	
Make provisions for a safe water chain and sanitation facilities to limit outbreaks of water borne diseases, and promote awareness on better hygiene	The government of Uganda through its SPCR Programs has provided for District Water and Sanitation Development Conditional Grant, District Sanitation and Hygiene Conditional Grant and Uganda Sanitation Fund to improve sanitation. A number of CSOs including World vision and WaterAid are implementing "WASH" projects within the country.
Promote improved hygiene and sanitation and household level and in public places	A number of CSOs including World vision and WaterAid are implementing "WASH" projects within the country
5.3 Undertake community sensitization on safe water use	A number of CSOs including World vision and WaterAid are carrying out sensitization campaigns on safe water use
FOREST ADAPTATION ACTIONS	Current status
1. Promote intensified and sustained forest restoration efforts	
Promote afforestation and reforestation programmes implemented by the government, institutions, households and individuals, the private sector, civil society and multilateral organizations	Government through the Forest sector support Department, NFA and SPGS is supporting community tree planting to increase forest cover especially on the private land and degraded sites. The REDD+ strategy has been developed under the Ministry of Water and Environment as an integral and multi-sectoral strategy that addresses deforestation and forest degradation.
2. Encourage agroforestry	
Strengthen the existing national forestry policy to reduce deforestation and forest degradation	The Ministry of Water and Environment has initiated processes of reviewing the Forestry Policy, 2001 to explore ways of addressing the drivers of deforestation.

3. Encourage efficient biomass energy production	
Promote and encourage efficient biomass energy production and utilization technologies to reduce biomass consumption	GIZ is promoting the use of improved cooking stoves in the country for reduced biomass consumption through partnership with MEMD and private companies.
WATER ADAPTATION ACTIONS	Current status/progress
1. Improve water efficiency	
Promote and encourage water harvesting and efficient water utilization among individuals, households, institutions and sectors	<p>A number of projects targeting water harvesting and efficient water utilization among individuals, households, institutions have been implemented by Ministry of Water and Environment (MWE).</p> <p>The Ministry of water and environment is currently implementing formulation of catchment management plans to ensure sustainable water resource governance where most of the aspirations in the NDC can easily be pursued.</p>
2. Ensure water supply to key economic sectors	
Ensure availability of water for production in water dependent sectors in order to increase their resilience to climate change impacts.	A number of valley dams especially in drought prone areas of Nakasongola, Luwero districts have been constructed under the Global Climate Change Alliance (GCCA) – Uganda: Agriculture Adaptation to Climate Change that was supported by the European Union and the Royal Kingdom of Belgium through FAO and implemented by Ministry of Water and Environment (MWE) from 2012 to 2017.
3. Expand clean energy water supply	
Promote WASH humanitarian preparedness and response to avert possible outbreak of water related diseases especially in settlements of poor communities as well as refugees and displaced persons'	GIZ is implementing the Enhanced Water security and sanitation program that is as well contributing to this NDC adaptation action of expansion of clean water supply
Cross cutting interventions	<p>MoFPED/World Bank are supporting Climate Change Budget Tagging in sectors of Agriculture, Energy, Water & Environment, Works & Transport;</p> <p>Budget tagging piloting is ongoing in the DLGs of Mbale, Lira and Kasese within Agriculture, Energy, Water & Environment sectors</p> <p>Elaboration of SPCR priority investments by AfDB and Ministry of Water and Environment are ongoing</p>
WETLANDS ADAPTATION ACTIONS	Current status/progress
1. Increase wetland coverage to 12% by 2030	
Promote and intensify wetland protection and restoration to enhance sinks of Greenhouse gases	UNDP in collaboration with the Presidential Initiative on wetland restoration is building community resilience through wetland restoration and associated catchments in 20 districts with funding from Green Climate Fund. The project life is between 2017-2025. The Enhancing Resilience of Communities to Climate Change through Catchment-Based Integrated Management of Water and Related Resources in Uganda is now under implementation by MWE with support from Adaptation Fund and Sahara and Sahel Observatory. The project will be implemented between 2017-2021

Promote sustainable use of wetlands	Awareness raising activities ongoing by non-state actors – CAN Uganda, PACJA Uganda, PFR and ENR CSO Network
Demarcate, restore and gazette wetland ecosystem country wide	The demarcation of boundaries of critical wetlands has been ongoing and the restoration and protection of degraded wetlands has been undertaken countrywide through direct government support through the wetland Department and district local governments The Wetland Atlas of Uganda was published in 2016 to show the location and state of wetlands in the country.
INFRASTRUCTURE, Transport & Works ADAPTATION ACTIONS	Current status/progress
1. Ensure climate resilient public and private buildings	
Establish and enforce climate change resilient standards for transport and infrastructure planning and development through monitoring and reporting systems	The Ministry of Works and Transport has developed building codes to ensure that new buildings are climate change resilient. The Ministry of Works and Transport is also currently preparing road construction specification standards for a climate resilient transport sub-sector.
Encourage the integration of climate change into transport and infrastructure development strategies	Mass transport initiative and efficiency in road transport has been prioritized by government through processes of constructing the Standard Gauge Railway system, rehabilitate the existing metre gauge railway Buses and non-motorized transport system. The Ministry of Works and Transport has procured the services of China Harbor and Engineering Co. Ltd. (CHEC), Compensation of those that will be displaced by the project is underway
Climate-proof existing and future infrastructure by conducting geotechnical site investigations (GSIs) to determine whether areas are appropriate or inappropriate for infrastructural development	Fewer investments have been made in making the existing and new buildings more climate resilient.
Develop and implement mechanisms to ensure that the existing and future transport infrastructure is climate change resilient	Updating of transport codes and regulations for climate action have not been implemented.
RISK MANAGEMENT ADAPTATION ACTIONS	Current status/progress
1 Develop vulnerability risk mapping	
Promote vulnerability risk mapping (including the social and economic impacts of climate change) of the whole country and all sectors	With support from UNDP, the Office of the Prime Minister (OPM) completed developing the Risk and Hazard Atlas for Uganda in 2019, however this is not yet launched. Climate & Disaster Risk Screening is in progress with support from World Bank and Ministry of Water and Environment. It started in 2019.

2. Build effective early warning systems	
Improve early warning systems and preparedness to avoid or minimize the adverse impacts of climate change	<p>A number of weather monitoring stations have been equipped; The National Emergency Coordination and Operations Centre was established and it provides national, multi-hazard and early warning information;</p> <p>UNMA and the Department of Water Resources in partnership with MAAIF, and OPM are implementing a program “Strengthening Climate Information and Early Warning Systems for Climate Resilient Development and Adaptation to Climate Change in Uganda”. The project was implemented between 2014-2017 and funded by Global Environmental Facility with UNDP providing quality assurance and oversight roles in the project implementation.</p> <p>The government has established and strengthened the existing early warning systems in disaster prone areas including the landslide prone Mt. Elgon and Rwenzori regions to help communities respond to the looming threats.</p>
3. Support emergency related institutions	
Encourage the information of resident associations that can respond to emergencies, and involve them in key decision making to reduce risks	The National Emergency Coordination and Operations Centre (NECOC), under the Office of the Prime Minister publishes a bi-monthly National Integrated Early Warning Bulletin.

Conclusion

It was noted NDC action concentrated in the Agriculture, Energy, and Water and Environment sectors. However, health and risk management, and Works and transport thematic areas, though with potential to contribute to multiple benefits, implementation was still low thus the need for more intensified action through concrete projects and investments.

The health and the Works and transport sector were ranked low towards the implementation of the NDC sector actions because most of the activities reported were not directly correlated with the NDC targets in context of strengthened resilience and mitigated emissions.

It was found that there was no formal framework for tracking NDC implementation, the Measurement, Reporting and Verification (MRV) system was still a framework document with efforts on monitoring GHG emissions by MWE/CCD with support from the Global Green Growth Institute (GGGI) in 2018. MoFPED with support from the World Bank in 2019 was still at early stages of the climate change budget tagging for public expenditure on climate action and non-state actors were piloting the tracking of adaptation finance flows.

Promisingly, the MoFPED has enhanced efforts on systematic mainstreaming of climate change in budgeting by requiring all Ministries, Agencies and Local Governments to budget for climate actions. The Budget Circular of 2017/18 also required sectors to mainstream climate change in their budgets.

Table 3: Current Progress on NDC Mitigation measures and policies' Implementation

Energy Sector Mitigation Measures	Current status/progress
1. ENERGY SECTOR	
1. Energy efficiency in hospitals	
Promote adoption of improved institutional kilns, oven, and stoves in all educational institutions, hospitals, and prisons.	This is an ongoing activity. Many schools are now taking up the institutional stoves due to their efficiency. This has mainly been promoted by CSOs and private sector through public private partnerships. A Clean Development Mechanism Project is being implemented by Simoshi under this activity from 2017.
2. Green schools NAMA	
Installation of 4,200 Improved Institutional Cook stoves (IICs)	The MWE/CCD in conjunction with the Ministry of Energy and Mineral Development, Ministry of Agriculture, Animal Industry and Fisheries and Ministry of Works and Transport designed 11 Nationally Appropriate Mitigation Actions (NAMAs). Including Developing Appropriate Strategies and Techniques to Reduce Methane Emissions from Livestock Production in Uganda however they have not received funding for implementation. There are a few on-going small-scale biogas projects within the country and large solar plants commissioned in Soroti and Mpigi districts demonstrating adoption of solar energy
Installation of 100 biogas cook stoves	
Installation of 4,200 solar PV (Photovoltaic)	
3. Promotion and wider solar uptake of solar energy systems	
Review of the policies and regulation on the licensing of large solar PV systems for on grid connection and Mini grid.	Scaling-up Renewable Energy Program (SREP). SREP investment has been prepared for Uganda, the Uganda National Council for Science and Technology (UNCST) has supported the Energy sector in formulating the Geothermal Energy Policy
Develop a strategy for sustaining the continued performance of solar energy installation in Government schools and health units.	The Renewable Energy Program (SREP) Investment Plan for Uganda has been developed There are on-going processes by the government to review the Energy policy and enact an energy efficiency and conservation law which are expected to address energy efficiency challenges.
Construct enabling infrastructure for electricity sector development and achieve a total of at least 3200 megawatts renewable electricity generation capacity by 2030	Renewable energy generation by 2019 from the Electricity Regulatory Authority shows that about 89% of the electricity in Uganda is from hydropower. This has been augmented with construction of enabling infrastructure such as power lines, substations and transmission facilities. By 2019, the transmission route length was 2,989kms (ERA, 2019).
4. Development and enforcement of building codes for energy efficient construction and renovation	
Operationalize the Building Control Act	Not yet done
Long term transport policy accounting for climate change mitigation concerns	
Improve road infrastructure, and traffic management in urban centres to reduce traffic congestion and GHG emissions	Not yet done. However, in the pursuit of green transport, Uganda is planning to implement the Bus Rapid transport (BRT), Light Rail Transport (LRT) and multimodal transport systems for reduced energy intensity of vehicles and carbon intensity of fuels and enhanced

	non-motorized transport modes. This will be through public private partnerships.
Establish national standards for emissions and implement strict vehicular emissions standards in tandem with measures to gradually phase out old, inefficient motor vehicles, while encouraging the importation of efficient ones	<p>The government is currently phasing out the old, inefficient motor vehicles, and encouraging the importation of efficient ones through fiscal policies.</p> <p>In addition a Fuel Efficiency Initiative, National Appropriate Mitigation Action aiming to promote cleaner fuels, and more fuel-efficient vehicle technology was developed under Ministry of Works and Transport however, it has not been implemented due to lack of funding</p> <p>An updated inventory of greenhouse gas emissions by sector is ongoing to track the sectoral contributions and possible ways to reduce the emissions levels</p>
Forestry Sector Mitigation Measures	Current status/progress
1.Development of an enabling environment for forestry management	
Build capacity for Community based natural resource forest management and collaborative forest management	<p>Collaborative forestry management is and has been going on since 2005 for community neighboring forest reserves with the National Forestry Authority (NFA).</p> <p>A review of Collaborative forest management Guidelines is underway to facilitate participation of communities in the management of central forest reserves.</p>
Support urban tree nurseries to produce quality planting materials	FAO in collaboration with NFA have been involved in the certification of private Tree Nursery operators meeting the required standards
Promote farmer field schools and agroforestry demonstrations	FAO is supporting Agro-Pastoral Field schools in partnership with district local governments
Conduct tailored apprenticeship and on job training for staff of NFA, DFA, FSSD, and other forest related organizations to improve their performance	The National Forestry Authority conducts periodic staff trainings especially for the forest supervisors in different areas of conflict management, collaborative forest management and forest inventory to boost their capacity in forest protection.
Promote research by forest management institutions	The National Forestry Resources Research Institute (NaFORRI) a subsidiary organisation of the National Agriculture Research Organisation (NARO) engages in various forestry research including: site species matching of agroforestry trees, biological tree pest control and fodder tree species productivity
Develop and implement a tree improvement program	The National Forestry Resources Research Institute (NaFORRI) is implementing a tree improvement and breeding programme for instance it is currently involved in research to shorten the time the Shea nut tree matures
Improve coordination, networking and partnerships for all forestry sector stakeholders	The process of establishing the National Consultative forestry Forum is on-going under the auspices of the FSSD. The technical committees of each sub-forum have been formed

Strengthen the development, dissemination and implementation of relevant forestry policies, regulations, standards and guidelines and the periodic reviews thereof	<p>The National Forestry and Tree Planting Regulations, 2016 were enacted to facilitate the enforcement of the National Forestry and Tree Planting Act, 2003.</p> <p>The Ministry of Water and Environment has initiated processes of reviewing the Forestry Policy, 2001 to explore ways of addressing the drivers of deforestation.</p> <p>The National Environment Act, 1995 was repealed and the current Act National Environment Act, 2019 provides for the principle of optimum sustainable yield in harvesting of forests. The Draft National Environment Management Policy (2019) provides for principles that will ensure conservation and sustainable management of forests in Uganda</p>
Prepare and implement Participatory Forest Management Plans	A review of Collaborative forest management Guidelines is underway to facilitate participation of communities in the management of central forest reserves.
Promote professionalism among forestry practitioners (codes of ethics, skills, professional standards)	The Uganda Forestry Association Bill is before parliament but requires updating to address emerging issues
Develop economic instruments (taxes, green levies, PES etc.) for funding Forest management	The National Forestry and Tree Planting Regulations, 2016 provide more clarification on carbon tenure rights thus incentivizing forest carbon investments.
Set up mechanisms to regulate the implementation of REDD + projects and the set-up of equitable benefit sharing schemes	<p>The country is currently developing emission reduction programs under REDD+ for the Albert and Kyoga water management zones</p> <p>The REDD+ strategy was formulated in 2018 to guide all REDD+ activities in the country</p> <p>Forest Emission Reference Level was prepared in 2019 by MWE with support from the Forest Carbon Partnership Facility of the World Bank. The technical support was provided by FAO and the National Forestry Authority (NFA)</p> <p>Uganda is updating Forest Emission Reference Levels under the REDD+ secretariat of the forest sector support department of MWE</p>
2 Reverse deforestation trends to increase forest cover to 21% in 2030 from approximately 14% in 2013	
Restore / rehabilitate degraded and deforested natural forests in CFRS and wildlife conservation areas	<p>About 3,500 ha of degraded natural forests have been restored and 60,000 ha were allocated to private developers for commercial tree plantation development.</p> <p>The Ministry of Water and Environment (MWE) developed the REDD+ strategy; an integral and multi-sectoral strategy that addresses deforestation and forest degradation.</p>
Promote the restoration / rehabilitation of natural forests on private and communal land	Government through the Forest sector support Department, NFA and SPGS is supporting community tree planting to increase forest cover especially on the private land and degraded sites. The National Forestry Authority (NFA) also gives out free tree seedlings for planting on private land as a subsidy
Manage urban forest reserves	<p>Many of the urban forest reserves have been encroached due to urban sprawl</p> <p>The demand for degazetting of urban forest by urban authorities and district local governments has continued to increase</p>

Increase urban tree growing and protection	Kampala city council authority is implementing tree growing in the city and conserving green spaces. Other urban authorities are yet to institutionalize it
Conserve the existing forests and implement REDD+ programs to access additional funds from carbon markets	The NFA is continuing to enforce forest protection in the country's gazetted central forests reserves. The Ministry of Water and Environment is currently implementing the Reducing of Emissions from Deforestation and forest Degradation (REDD+) programme whose strategic options are envisaged to reduce emissions from deforestation; reduce emissions from forest degradation; Conserve forest carbon stocks; promote Sustainable management of forests; and enhance forest carbon stocks.
Promote energy saving technologies in wood deficient areas and high population centres	Promotion of Renewable Energy and Energy Efficiency Program is being implemented by MEMD with support by German Federal Ministry for Economic Cooperation and Development (BMZ). It is being implemented from 2019-2023 The Strengthening Sustainable Environment, Natural Resources Management, Climate change Adaptation and Mitigation (SENRM/CAM) project of the UNDP promoted the use of new improved cook stoves, both at household and institutional levels to reduce cutting down of trees in rural Uganda. It involved CSOs, local governments and communities. It started in 2015. The Energy Efficiency and Conservation Department within the MEMD mandated to develop strategies and programs to improve energy efficiency and conservation has been created and operationalized The Government has prepared the energy efficiency roadmap which also includes addressing biomass energy efficiency.
Strengthen the development, dissemination and implementation of relevant forestry policies, regulations, standards and guidelines and the periodic reviews thereof	The National Forestry and Tree Planting Regulation, 2016 were enacted to operationalize the National Forestry and Tree Planting Act, 2003, Collaborative forest management guidelines 2005 are under review, timber standards are under development, Uganda forestry policy 2001 is under review, National environment management policy, 1994 is under review and the National Environment Act, 1995 was repealed and the National Environment Act, 2019 enacted.
3. Wetlands Mitigation Measures	Current Progress
Development of enabling environment for wetland management including; Creation of national information database through re-inventory and assessment of all wetlands Design and implementation of 11 Ramsar site wetland research, design and implement 111 district wetland action plans, design and implement 15 Ramsar sites and Framework wetland management Plans Increase wetland coverage to 12% by 2030, from 10.9% in 2014 through demarcation, gazattement and restoration of degraded wetlands	The demarcation of boundaries of critical wetlands has been ongoing and the restoration and protection of degraded wetlands has been undertaken countrywide through direct government support through the wetland Department and district local government using Conditional grants allocated for the environment and natural resources at the district; A wetlands Atlas was prepared and launched in 2016 to provide information about the location and state of the country's wetlands. It is envisaged that future decision-making and policies on wetlands will be informed by this Atlas to ensure that wetlands of Uganda are wisely used and sustainably managed. Awareness raising activities are ongoing by non-state actors – Climate Action Network (CAN) Uganda, Pan African Climate &

	environmental Justice Alliance (PACJA) Uganda, Partners for Resilience (PFR) and Environment and Natural Resource (ENR) CSO Network.
4. Agriculture Mitigation Measures	Current Progress
Climate smart Techniques for cropping Livestock breeding research and manure management practices	<p>The Ministry of Agriculture, Animal Industry and Fisheries is in partnership with the Ministry of Water and Environment developed the Uganda Climate-Smart Agriculture country program 2015-2025. It is envisaged that this program will contribute to reduced emissions intensity by reducing conversion of forest into cropland.</p> <p>Climate-Smart Livestock systems program was launched in 2019. However, less attention has been put on reducing emissions from the livestock and more efforts to reduce emissions from rice growing are needed.</p> <p>Under the NDC Partnership Plan, UNDP has supported the formulation of the gender action plan for the agriculture sector and verifications were done in the districts of Moroto and Mbale in 2019.</p> <p>Under the NDC Partnership Plan, the Netherlands Foreign Affairs Ministry through Netherlands Development Organisation (SNV) offered a grant to implement the Climate Resilient Agribusiness for Tomorrow (CRAFT) programme component in Uganda 2018-2022, this is currently ongoing.</p>

Conclusion

For the assessment above, the NDCs mitigation measures and policies were mostly implemented in the Energy (power supply), and Forestry thematic areas. More households were found to be adopting solar energy use especially for lighting in rural areas. The country's investments in the energy sector including increased rural electricity supply are contributing to the country's NDC ambition implementation notwithstanding the relatively high tariffs that limit use of electricity for cooking.

There were fewer interventions undertaken in implementation of mitigation measures in the wetlands and agriculture thematic areas thus a need for more efforts especially in the management of soils and manure. If the soils are well managed and conserved, they are potential carbon sinks. Even with wetlands demarcation, their encroachment has not stopped including rice growing which is a heavy emitting activity.

7. Estimated annual change in GHG emissions reductions

Although the NDC Implementation Plan did not highlight the trends of emission reduction up to 2030, it was important to estimate the annual changes in emissions reduction to give direction on how much emissions should be reduced within a stipulated period to enable tracking and accounting for NDC implementation. Using WRI's Climate Analysis Indicator Tool (CAIT) GHG emissions collection calculation, Uganda's average annual change was estimated at 2% as GHG emissions and grew by 50% from 1990 to 2012 (USAID, 2015).

Table 4 illustrates the estimated cumulative annual changes in the GHG emissions estimated at 17.01MtCO₂e/yr (equivalent of 22% reduction of BAU) as the estimated mitigation abatement based on authors' computations

which concluded that at least 5.67MtCO₂e/yr should be reduced in the initial period of NDC Implementation Plan i.e. 2018 – 2020.

Table 4. Estimated cumulative annual changes in GHG emissions

Period	Estimated mitigated emissions (Mt CO ₂ e/yr)
2018-2020	5.67
2020-2025	11.34
2025-2030	17.01

Source: Authors

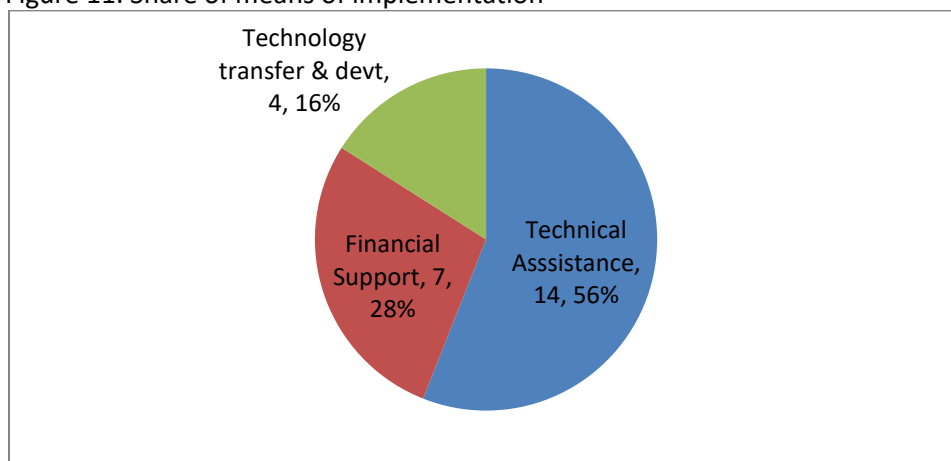
Detailed calculation of GHG emissions estimates and cumulative annual changes in GHG emissions required for Uganda to develop a Low Carbon economy is attached in Annex 2.

8 Means of Implementation for NDC action

For Uganda to achieve its NDC targets of 22% reduction of national GHG emissions in 2030 and increase resilience at the grassroots level, financial resources, technology development and transfer and capacity building must be enhanced by both state and non-state partners including the private sector.

Of the 25 respondents interviewed, 28% (7/25) had had access to financial support for NDC implementation from the different partners. About 16% (4/25) received and offered technology transfer and development; for instance, UNDP accelerated laboratory for energy solutions, and 56% (14/25) received and offered Technical Assistance as means of implementation of the NDC targets and strategies within the different sectors. Figure 11 shows the type of support mentioned by respondents.

Figure 11. Share of means of implementation



For the country to fuel the NDC implementation, there is need for additional support in terms of technology transfer and development, and financial/grant support to supplement on the technical assistance received. This will enable transformation of plans into actions.

8.1 Financial, technology development and transfer and capacity building support needed towards NDC implementation

8.1.1 Financial support needed

The Uganda Climate Change Costed Implementation Strategy, 2013 indicates that Uganda would require an estimated amount of USD 3.9 billion approximately USD 258 million per year to address climate change concerns, which is about 1.6% of GDP per annum. Adaptation cost would account for 1.2% and mitigation for 0.4% of the annual GDP. An economic assessment of the impacts of climate change in Uganda indicates that the total costs for ensuring climate resilient infrastructure in Uganda are estimated at USD 52-66 million for the period 2015-2020; and USD 638-1,157 million for the period 2045-2050 (MWE, 2015).

The cost of implementation of the country's first Nationally Determined Contribution (NDC) has been estimated at USD 5.523 billion of which USD 3.093 billion, equivalent to 56 percent of total cost of implementation are adaptation costs with USD 1.029 billion for agriculture, USD 24.286 million for forestry, USD 227.7 million for Water, USD 1.053 billion for infrastructure, USD 393.7 million for energy, USD 351.7 million for health and USD 12.1 million for risk management (MWE, 2018). According to the NDCs, 70% of the total cost would be mobilized from external sources NDCs (MWE, 2016) and 30% from domestic sources.

The financial need for mitigation measures was estimated at USD 2.430 billion with Energy power supply at USD 1.836 billion, Forestry (attributed to REDD+ Strategy Cost) USD 570million and Wetlands USD 24.091 million. More so, the country's NDC Partnership Plan; a short-term plan to the NDC Implementation plan indicates an estimated commitment of USD 17.3 million from 17 partners in 2018/2019.

8.1.2 Technology development and transfer support needed

The Uganda National Council for Science and Technology (UNCST), the National Designated Entity (NDE) for the Climate Technology Centre Network (CTCN) of the UNFCCC is conducting the country's Technology Needs Assessment for climate change adaptation and mitigation. The needs assessment is being implemented within UNCST's purview of assisting in technology transfer and adaptation. The Technology Needs Assessment (TNA) will result in technology action plans which will form the basis for bankable proposals for implementing the country's ambitious climate actions. With the TNA in place, it is envisaged that the private sector should be able to engage in financing technologies that facilitate resilience and adaptation to the impacts of climate change.

8.1.3 Capacity building support needed

A number of awareness campaigns facilitating NDC Climate Actions knowledge generation and dissemination are underway, especially with support from the MWE/CCD and CSOs that work with communities. Over the years, the CSOs have played a commendable role in advocacy for environment conservation and climate change despite their role not being well-defined in the NDC. Their efforts in information dissemination is significant however Civil Society Organisations role in NDC implementation is not clear as per the plan. A great challenge still exists on the extent of the scientific knowledge on climate change and their impacts. With adequate funding and continued support from the government the climate resilient agenda would ultimately reach everyone at the grassroots.

Extra support is also needed to move climate information from the conference rooms to the communities at the grassroots level. The capacity of individuals or groups involved in climate action and the communities they target is still limited yet grass root initiatives have a lot of potential in causing social change that is relevant in climate change adaptation and mitigation. The proportion of the population that gets information on impending

climate hazards is still low, capacity building on research and technology and mitigation is still low. There is need for a capacity building framework to enable capacity building in all the sectors in the NDC for both adaptation and mitigation. The current approach is too generalized thus difficult to evaluate on the progress that has been made.

Different MDAs and sectoral capacities in MRV systems need to be strengthened. Capacity building programmes have to be undertaken within institutions and Cooperation among institutions to fill gaps within the domestic MRV technical aspects. A Need for benchmarking from countries that have worked on MRV is vital.

8.2 Overview of support received in context of finance and Capacity building

8.2.1 Overview of support received in context of finance

The government of Uganda in its expression of its commitment and submission of its NDC ambitions towards climate actions expressed a financial need in order to achieve the 22% emissions reductions target by 2030 compared to the BAU scenario. The MoFPED was tasked to facilitate the introduction of relevant financial mechanisms and tools to support financial resource mobilization and investment for the implementation of the climate actions (GoU, 2015) however there is no dedicated secretariat within the ministry to handle the task as a routine activity.

Currently, the ministry serves as the National Designated Authority (NDA) for the GCF with the Permanent Secretary/Secretary to Treasury acting as the focal person and assisted by Directorate of Cash and Debt Policy (Bakiika, 2017). The climate finance landscape in Uganda is evolving steadily with new institutions such as Ministry of Water and Environment playing a key role as the National Implementing Entity and Direct Access Entity for the AF and GCF.

Over the years the country has received financial resources support to facilitate NDC implementation from external and internal sources. The sources of finance for climate change adaptation and mitigation activities in Uganda include the funds under consideration by the UNFCCC, Domestic Revenue, private sector investment, multilateral climate funds, bilateral development assistance in form of grants and concessional loans, guarantees and private equity. Funding has been accessed from the Green Climate Fund, the Global Environmental Facility (GEF), and its sub funds, Adaptation Fund, Climate Investment Funds, Multilateral and Bilateral sources.

Under the NDC Partnership, the MoFPED with support from the World Bank is currently implementing climate Change budget tagging of relevant public expenditure on water, energy, agriculture, and Works & Transport. Local governments' planners are being supported to identify and track climate finance through local budgeting processes. This has already been piloted in Kasese, Lira and Mbale districts.

Tables 5, 6 and 7 gives a breakdown of the financial resources accessed for climate finance by government (FY 2017/2018 and FY 2018/2019) in support of the Uganda NDC implementation.

Table 5: Climate related Projects funded in FY 2017/2018

Title	Purpose	Amount/ Funding source	Modality	Status
Fostering sustainability and Resilience for food security in Karamoja Child Project	Contribute to enhancing long term environmental sustainability and resilience of food production systems in the Karamoja sub region	USD 7,000,000 (GEF 6 IAP)	Grant	On track
Building Resilience Communities, Wetland Ecosystems and Associated Catchments in Uganda	On wetlands and community resilience. The main goal is to restore and sustainably manage wetlands and support target communities in wetland areas of Uganda to reduce the risks of climate change posed to agricultural-based livelihoods	USD 25,000,000 Green Climate Fund (GCF)	Grant	On track
Strengthening Institutional Capacity for effective Implementation for Rio conventions	Strengthening Institutional Capacity for effective Implementation and monitoring of the Rio conventions in Uganda	USD 1,040,250 (GEF 6)	Grant	On track
Integrated waste management and Biogas in Uganda	Improved waste management practices in towns and municipalities through the introduction of integrated waste management, and deployment of biogas energy systems	USD 3,200,000 (GEF 6-STAR) UNDP	Grant	On track
Low Emission Capacity Building Project (LECB) Phase II	Support to implementation of Paris Agreement Nationally Determined contributions	USD 802,000 (Germany)	Grant	On track
Forest Investment Program	Preparation of the FIP	USD 250,000	Grant	Closed
Special Program for Climate Resilience	Preparation of the SPCR	USD 1,500,000 GEF	Grant	On track
Integrated landscape Management for Improved Livelihoods and Ecosystem Resilience in Mount Elgon	To empower Communities in Mount Elgon to manage their Production landscapes in an Integrated Manner for Improved Livelihoods and Ecosystems Resilience	USD 1,620,320 GEF	Grant	On track
Building Resilience to Climate change in the Water and Sanitation Sector	To strengthen the weather, climate and hydrological monitoring capabilities, early warning systems and available information for responding to extreme weather and planning adaptation to climate change in Uganda	USD 8,370,000 GEF	Grant	On track
Energy for Rural Transformation Project (Phase III)	Rural Electrification	USD 8,370,000 GEF	Grant	On track
Conservation and sustainable use of the Threatened Savanna Woodland in the Kidepo Critical Landscape in North Eastern Uganda	The biodiversity of the Kidepo Critical Landscape in the North Eastern Uganda is protected from existing and emerging threats	USD 3,080,000	Grant	On track
TOTAL		USD 60,232,570		

Source: MoFEPD, 2018

In the Financial year 2017/2018 (Table 5), Uganda received an estimated total of **USD 60,232,570** as climate finance for Implementation of climate related projects.

Table 6: Overview of Climate related Projects in Financial Year 2018/2019

Title	Objective/Purpose	Instrument	Implementing Partner
Transforming Financial Systems for Climate	To scale up climate finance in the targeted countries, to redirect financial flows, and reinforce the capacity of local partners in climate related sectors.	GCF Loan USD 240m Grant USD 35.6m Co-Financing AFD, Loan USD 466.1 m AFD and/or other donors Grant USD 8.0 m	Agence Française de Développement (AFD)
Climate Investor One	Providing financing to develop renewable energy projects in regions with power deficits to reduce energy costs and CO ₂ emissions	GCF Grant USD 100m Co-Financing Development Fund Grant USD 26.5 m CEF Tier 1 Grant USD 75m CEF Tier 2 Equity USD 310m CEF Tier 3 Grant USD 310.0 m	Nederlandse Financierings Maatschappij voor Ontwikkelingslanden N.V. (FMO)
Acumen Resilient Agriculture Fund (ARAF)	To improve climate resilience to ensure long-term sustainable increases in agriculture productivity and incomes for smallholder farmers	GCF Financing Equity USD 23m Grant USD 3m Co-Financing Acumen Equity USD 2.0 m Other investors Equity USD 25 m Other investors Grant USD 3.0 m	Acumen Fund, Inc. (Acumen)
GEEREF NeXt	Catalysing private sector investment for renewable energy and energy efficiency projects across the developing world.	GCF Financing Equity USD 250m Grant USD 15 m Co-Financing EIB Equity USD 30m, Other investors Equity USD 470m	European Investment Bank
GEF SGP Sixth Operational Phase- Strategic Implementation using STAR Resources, Tranche 2 (Part IV)	To support the creation of global environmental benefits and the safeguarding of the global environment through community and local solutions that complement and add value to national and global level action	GEF Project Grant USD 19,167,177 Co-financing USD 19,934,000 GEF Agency Fees USD 766,687	United Nations Development Programme
Readiness Project	To improve readiness of Uganda to receive Climate Finance from the Green Climate Fund and related sources	Technical Assistance (USD 100,000), Grant (USD 700,593)	Global Green Growth Institute (GGGI)

Table 7: Overview of partner financial mobilization and support for climate action in Uganda under the NDC Partnership plan (2018-2020)

Project Title (short summary)	Partners Involved (funding, implementing)	Sector	Status	Timeline	Budget
Building capacity of CSOs in Albertine and tracking climate adaptation financing in Uganda	WWF UCO, CARE Denmark, CARE Netherlands, EMLI, MWE/CCD, MoFPED.	Cross-cutting	completed	2019	USD 43,950
Building resilience of agriculture landscapes in Eastern Uganda.	UNDP, COMESA, MAAIF	Agriculture	Ongoing	2019 - 2021	USD 1,132,307
Building resilient communities, wetlands ecosystems and associated catchments in Uganda.	UNDP, MWE, OPM, MAAIF	Water and Environment, Agriculture, Risk management	On going	2017-2025	USD 24,100,000
CAEP Support – NDC Revision	NDC Partnership, UNEP DTU Partnership	Cross-cutting	Pledged	2020-2021	USD 500,000
CAEP Support – NDC Revision	International Renewable Energy Agency (IRENA)	energy sector	Pledged	2020	USD 70,000
CAEP Support – NDC Revision	Local Governments for Sustainability (ICLEI)	Cross-cutting	Pledged	2020	USD 188,640
CAEP Support – NDC Revision	Red Cross Red Crescent Climate Centre, MWE/CCD	Cross-cutting	Pledged	2020-2021	USD 55,900
Climate Promise for NDC revision	NDC Partnership, UNDP, MWE/CCD	Cross-cutting	Pledged	2020	USD 240,000
Climate Resilient Agribusiness for Tomorrow (CRAFT) programme component in Uganda	The Netherlands Foreign Affairs through SNV	Agriculture	On going	2018-2022	TBC
Climate Resilient Livelihood Opportunities for Women Economic Empowerment (CRWEE) in Karamoja and West Nile Regions of Uganda Project.	SIDA through FAO, MoGLSD, MWE, MAAIF, MoLG	Social Development, Agriculture, Water	On-going	2018 – 2023	USD 8,968,448
Climate Smart Agriculture in Northern Uganda.	European Union, GIZ and MAAIF	Agriculture	Ongoing	2019-2023	USD 5,661,540
GCF Readiness and Preparatory Support Programme project	GGGI, MoFPED, MWE/CCD	Cross-cutting	On-going	2018-2020	USD 700,593
Global Carbon Markets Programme to support decision makers in using existing and new carbon market instruments for implementation of national climate actions.	GIZ	Energy	Ongoing	2018-2021	USD 1,792,820
Global Climate Change Alliance Plus (GCCA+): Scaling up Agriculture Adaptation to Climate Change in Uganda.	European Union, FAO, MWE/CCD, MAAIF.	Agriculture, Water	On-going	2019 - 2023	USD 9,058,460

Implementation of CAEP activities on formulation of long-term low greenhouse gas emission development strategies (LTS) and revision of the grid emission factor for the energy sector	Federal Ministry for Environment, Nature Conservation and Nuclear Safety – Germany and NDC Partnership, GIZ	energy sector	Pledged	2020-2021	USD 173,480
NDC Action Project	German Federal Ministry for the Environment, Nature Conservation, and Nuclear Safety (BMU), UNEP, UNEP DTU Partnership, MWE/CCD.	Cross-cutting	Planned	2019 - 2023	USD 1,675,700
NDC coordination and tracking and capacity enhancement in proposal development through NPA.	The Netherlands	Cross-cutting	On going	2018-2020	USD 159,112
NDC Support Facility – technical assistance to Uganda’s Nationally Determined Contribution (NDC) Partnership Plan implementation for Climate Budget Tagging, Mainstreaming of Climate & Disaster Risk at project	NDC Support Facility, World Bank, MoFPED, NPA and MWE/CCD	Cross-cutting	Completed	2018-2020	USD 600,000
Enhancing integrated governance for delivery of NDC, enhancing private sector engagement and strengthening platforms for evidence based learning	NDC Support Programme UNDP, MWE/CCD, MoFPED, NPA and Private Sector Foundation in Uganda.	Cross cutting	On-going	2018-2020	USD 802,500
Program for Climate-Smart Livestock Systems (PCSL) – to improve monitoring and reporting of NDCs in the livestock sector.	Federal Ministry of Economic Cooperation and Development of Germany through GIZ, International Livestock Research Institute (ILRI), MAAIF.	Agriculture sector; livestock Sub-sector	On-going	2018 - 2022	TBC
Strengthening the adaptive capacity and resilience of communities in Uganda's watersheds.	GEF-Least Developed Countries Fund through FAO, AfDB, MWE	Water and Environment	Ongoing	2019 - 2022	USD 9,781,415
Strengthening the capacity of institutions in Uganda to comply with the transparency requirements of the Paris Agreement.	Conservation International/Africa Innovations Institute (AfrII), MWE/CCD	Cross-cutting	On-going	2019-2020	USD 1,100,000
Technical assistance for support to national MRV system	GGGI, MWE/CCD	Cross-cutting	Completed	2018-2019	USD 100,000
Technical support for NDC Partnership Plan tracking and NDC rapid assessment	MWE, NDC Partnership Support Unit	Cross-cutting	Ongoing	2018 (March – June)	USD 76,750
To support CSO and Government engagement in climate negotiations processes (Post-COP24, Pre-COP25 and negotiators training).	IUCN, MWE/CCD, Civil society Networks	Cross cutting	Completed	2018-2019	USD 74,813

Although the NDC Partnership Plan was not costed to accommodate no-costing elements like in-kind technical support. Total financing commitments are now estimated at USD 17,300,918 for the period 2018/2019 (USD 16,341,856 in form of grants and USD 959,062 in form of Technical Assistance). The country is also mobilizing new and additional support to already that pledged under NDC Partnership through the Climate Action Enhancement Package (CAEP).

8.2.2 Overview of support received in context of Technical and Capacity building

Through the NDC Partnership, technical assistance has been mobilized towards enhanced climate action and NDC implementation. For instance, the technical capacity in proposal development of 80 staff of Ministries, Departments and Agencies (MDAs) and private sector organizations was enhanced in a training organized by the National Planning Authority (NPA) in 2019 with support from the Netherlands, WRI, NDC Support Unit and UNDP. This was done on capacity gap identification in climate finance project concepts and proposal development. Nine bankable concepts were developed with 3 concepts and 1 full proposal ready for submission for funding. In 2019, the Nation Media Group/UNDP/GIZ/UNFCCC RCCC/Non-state actors successfully organized 2nd National Climate Change Symposium & Expo in knowledge management and communication.

Under the NDC partnership, in 2019 UNDP in collaboration with the Private Sector foundation trained private sector in green investments and sustainability reporting using *Impacti* digital tool. It also successfully held a dialogue meeting with private sector to identify the business opportunities that they could tap in and also foster NDC Implementation. A digital reporting tool has since been developed and 55 companies have signed up for the training.

More than 10 technical officers from different ministries have been trained on aspects of NDC implementation, and Monitoring Reporting and Verification (MRV) systems with support from UNDP, FAO, Africa Innovations Institute (AfRII), GIZ, UNEP, Conservation International (CI), Vital Signs and COMESA.

In 2019, Climate Action Network Uganda in collaboration with World Resources Institute (WRI) trained civil society and private sector in climate budget tracking & adaptation finance tracking and reporting. The NDC Partnership is leveraging coordination among partners for NDC Implementation. International and domestic partners have been mobilized and coordinated for NDC Implementation.

9 Good practices, experience and lessons and success stories

Box 2: ECOTRUST'S "Trees for Global Benefit (TGB) Project" Mitigation project experience

ECOTRUST a local NGO operating in the districts of Mt. Elgon-Uganda, Hoima, Masindi and Kikuube districts is supporting smallholder farmers engage in agroforestry activities for carbon trading benefits and livelihood improvement.

Through this initiative groups of smallholder farmers are encouraged to plant and maintain indigenous trees on farm for a period of 25 years and are compensated in monetary terms/ carbon credits. The farmers are paid individually over ten years for the amount of carbon dioxide their planted trees absorb. The farmers are also engaged in soil and water conservation practices including construction of trenches, and planting of Napier grass along the trenches.

ECOTRUST has successfully mobilized and recruited twenty-one groups in Mbale, thirteen in Sironko and eight in Bulambuli districts for the Voluntary Carbon trading as of 2019. Over 631 farmers with an average of 0.5 ha are dedicated to project activities. In total the Trees for Global Benefits (TGB) project has been able to produce more than 1 million Verified Emissions Reductions (VERs), with an expected increase since more carbon could be sequestered at the end of the project, as a 10% risk buffer is deducted from the potential amount of CO₂. However, it is important to note that not all this carbon is actually sequestered to this date. The certificates are issued ex-ante. The payments farmers receive depend on the buyer they are randomly assigned to and how much they are willing to give. On average, VERs were sold at 5.34 USD/tonne CO₂, of which a farmer receives 54% or 2.88 USD/tonne CO₂ over the course of ten years.

One of the Pioneer farmers in Butimba village, Kiziranjumbi sub-county in Kikuube district in an interview said: *"Growing trees for carbon is very good. Ecotrust pays you even before the trees have matured yet the trees are yours at maturity. I have put beehives in my small planted forest, gained knowledge in tree planting and nursery operations and many organisations are willing to support my initiatives. I have planted fruit trees whose carbon Ecotrust pays for yet the fruits are mine. I have also started growing shade demanding crops like Cocoa and coffee where the trees have matured".*



Planted mixed forest by an Ecotrust farmer



Energy saving stove donated by Ecotrust

Valley dam constructions under the Global Climate Change Alliance (GCCA)- Adaptation Project, Kamira, Luwero district



a) Valley dam constructed at Gangama village, Kamira S/C



b) Solar powered water pump at the site- Gangama village



c) Water trough on site



Water trough on site

The plates a), b), and c) illustrate the valley dams constructed to build resilience of livestock farmers in Kamira S/C under project titled “Agricultural Adaptation to Climate Change in the Central Cattle Corridor, Uganda” with support from the Royal Kingdom of Belgium, European Union and FAO and implemented by the Ministry of Water and Environment in 2013. One community valley dam was constructed at Gangama and another one rehabilitated at Kiiso Village, Kamira S/C to provide water including for livestock and domestic purposes to the neighborhood especially in times of drought. The dam at Gangama serves 2 parishes (Kabunyata and Kitenderi), an estimate of 3,023 and 1,915 persons respectively. Kamira S/C is one of the areas within the Cattle corridor that is heavily hit by drought affecting both livestock and crop agriculture. Construction of this dam is great step towards climate resilience especially for livestock farmers. However, there is need to pump water for irrigation to build resilience of crop farmers.

9.1 Success stories about NDCs and gender responsiveness

Women have benefited greatly from the water harvesting tanks donated to their communities and dams constructed in their area in a project titled “Agricultural Adaptation to Climate Change in the Central Cattle Corridor, Uganda” with support from the Royal Kingdom of Belgium and FAO and implemented by the Ministry of Water and Environment between 2013 to 2016. One new valley dam was constructed in Kamira S/C and another older dam rehabilitated. This has reduced the burden of women and children frequently trekking long distance to fetch water for both livestock and domestic uses. Time is also saved for other productive activities.

“My village mates and I used to walk many kilometers from Kabunyata to Kiiso L/C for water for domestic purpose but nowadays with the water harvesting tanks given to us I no longer have to move long distances for water access. We have improved access to quality water for domestic use, and more time is now dedicated to crop farming and running my shop for food security and an enhanced income”, a local female farmer from Kabunyata Village.

10 Gaps/Challenges/ Barriers to implementation of the NDC

The findings from this assessment show that the Country has taken some strides in implementing her climate action since it last communicated her NDCs. However, there are a number of gaps, challenges and barriers the country is still grappling with including;

Lack of a Climate Change Law: whereas the National Climate Change Policy was passed, the supporting Climate Change Law and Regulations are still not in place. This has limited implementation of certain interventions in the policy that require legislation. There is hope that a law will be passed soon since the Climate Change Bill is before the Parliament of Uganda for consideration.

NDC and Climate change awareness gap: While climate change impacts cut across all social categories, there is still limited knowledge on the strategies to address it as provided in the NDC and Climate change policy. Knowledge on NDCs and Climate Action is reserved with few individual persons and not fully disseminated to the entire spectrum of society. A number of MDAs staff and development partners remain partially/or not members to Environment and Climate Change working groups and grassroots communities are unaware about NDCs and NDC Partnership Plan for collective climate action.

Limited Capacity among relevant institutions and Population: Most sectors in the NDC do not have specific capacity building arrangements to implement their mandate in relation to climate actions. Most of them have concentrated on awareness raising on adaptation with very little capacity in terms of technology and innovation to improve on mitigation. The country's means of implementation in terms of capacity building, technological and financial resources need to be strengthened in order to achieve her NDC ambitions.

Limited integration and coordination: Addressing Climate change requires integrated approaches because its effects go beyond spatial and institutional jurisdictions. Low levels of intra and inter-sector coordination challenges to climate action result into ineffective unilateral implementation of actions. Mainstreaming and translating climate action into sectoral and local government plans and budgets is still limited.

Lack of formal knowledge management system: While there are several state and non-state actors implementing mitigation and adaptation actions, there is no system to track their activities and the knowledge generated. There is no formal data and knowledge curation system to enable a proper understanding of the current and future climate change scenarios. Currently, the country is working to improve its arrangements on transparency reporting

Limited attention on agriculture: Not much attention and investments have been put to the agriculture sector and yet it greatly supports most of the Uganda's population. The National budgets allocated to the agriculture sector are still small and thus the sector remaining highly vulnerable to climate change.

Bureaucracy: The difficulty in identifying and accessing appropriate funds: There are a lot of bureaucratic processes that make it complicated for the organizations, private sector and the state to access and utilize the existing multilateral and bilateral funds for NDC and NDC Partnership Plan Implementation. The procedures and requirements and reporting formats appear complicated to most potential users. This is partly because of limited capacity in resource mobilization skills. In addition, most non-state actors face a challenge of bureaucratic processes and limited commitments when working with MDAs.

Limited participation: Limited participatory processes limit the whole society approach since few established and known structures will be dominated by small segments of society leaving behind key categories of actors like indigenous peoples, youth, women and children, faith-based organizations, cultural institutions and other social categories.

Financial resource mobilization: The NDCs achievement potentials relies on technical and technological transfer and financial support. The financial flows especially for climate change adaptation; which is the country priority are still low and also the domestic finances for climate action are still low thus impeding the country's NDC implementation progress. In some cases, limitations in financial mobilization is as a result of institutional challenges.

Lack of Adaptation target in the NDC: The non-existent adaptation target within Uganda's NDC is another gap of great significance. The NDC of 2015 does not state the adaptation/ climate resilient targets thus it is difficult to monitor progress made.

Lack of prioritization of Gender: Uganda's NDC identifies gender responsiveness in climate change actions as a cross-cutting action without referring to specific strategies or actions under the priority sectors. The gender aspects to address are not well articulated to monitor progress achieved.

Lack of annual emission reduction: Annual rate of change in the emissions reduction is not defined in the current NDC. Uganda is yet to determine how much annual emissions reduction is needed to achieve the 22% GHG emissions ambition in 2030 compared to BAU.

Ambitious emission reduction targets: Uganda's greatest mitigation potential is in the land use, land-use change and forestry sectors. Reversing the current deforestation trend (of approximately 9% in 2015) to increase forest cover to 21% in 2030 is highly ambitious considering that 90% of the country's energy needs are currently met by charcoal and firewood with slow progress on provision of alternatives.

Limited response of partners: Some Partners have not fulfilled their pledges in the NDC Partnership Plan as communicated to catalyze the NDC Implementation Plan.

Lack of a comprehensive system of monitoring and reporting: Tracking and reporting what other MDAs are doing towards NDC Implementation remains a challenge. Some sectoral activities contributing to NDCs remain unreported either unknowingly or negligently.

Prioritization of support: The current support received through the NDC partnership is largely Technical Assistance and Capacity building yet there is no elaborate NDC capacity building framework to ensure that the assistance is effective. This may cause the risk of investing in non-strategic areas of addressing climate change.

Limited voluntary participation: Voluntary participation by the different MDAs and domestic private sector remains limited. The mobilization efforts need to be strengthened to bring more partners on board especially the local partners in the implementation of the NDCs.

Operationalisation of sector focal points: The zeal and coordination drive for NDC Implementation amongst the focal points and other priority sectors is still weak. There is not much team work that exists within the different sectors. Coordination capacities remain insufficient given that is a costable service and the NDC In-country facilitator is limited to the events of organized by partners and government to hold face to face interactions.

NDC implementation has been reduced to focal persons and hardly climate change working groups exist in most sectors. Some sectors such as the science and technology are omitted in the NDC implementation and yet are key in advancing NDC Implementation. However, the Works and transport, and the energy sectors have got climate change working groups.

Skewed funding priorities: The climate action and NDC implementation budgets even when allocated, a huge portion is consumed in administration, policy support instead of more efforts in technological developments and other physical investments.

Alignment of NDC Implementation plan and the NDC Partnership Plan: Limited alignment of the NDC Implementation plan and the NDC Partnership Plan. Most respondents in this study could not connect with the two documents.

11 Recommendations

There is a great need to have the climate change Bill passed into law to facilitate the implementation of the country's climate change policy and the NDC.

The capacity of district local governments to integrate and implement climate change actions in all relevant departments ought to be strengthened. The capacity can focus on training, public awareness, resource mobilization and knowledge management systems.

There is need to align the NDC to the country's National and district development plans and budgets to ensure that they are implemented. The government through the National Planning Authority (NPA) is already helping the integration of climate action within the Draft National Development Plan III and the country's Green Growth Strategy has been developed. This should be capitalized on to enhance NDC implementation across the sectors spelt out within the National Development Plan III. The requirement of the MoFPED for all MDA's to budget for climate change actions is an initiative that needs to be deepened.

Implementing climate change actions requires applying multi-level governance approaches and therefore integration and coordination of state and non-state actors is critical. This will require establishment of an NDC sectoral coordination Committee to oversee performance of implementation. National and District Local Government Policies, strategies, plans and budgets need to be reconciled to ensure that there is a shared purpose in climate change actions and development priorities. The alignment of priorities, plans, budgets and activities across governance levels with a purpose of implementing the NDC is crucial.

The Office of the Prime Minister and the MoFPED need to continue developing governance systems that will enhance integration and coordination to ensure that all relevant sectors mainstream climate action and are able to partner with state and not state actors including the private sector.

There is need to develop information and knowledge management system for climate change. This should provide for climate change knowledge and information repository, spaces for engagement and curating of outcomes of climate change mitigation and adaptation actions by state and non-state actors.

This will enable co-learning and co-generation of knowledge in climate change among stakeholders. It will facilitate monitoring of progress in the implementation of the NDC and prediction of future scenarios.

There is a need for the country to continue benchmarking with other countries that are already succeeding in their NDCs implementation for experience sharing and learning for better performances in the NDCs implementation.

Mobilising the private sector to join efforts with the government and the other non-state actors towards the full implementation of the country's NDC and the Partnership Plan is required. Efforts need to be explored to engage private sector largely, not just to raise financing but possibly, fix policy and regulatory mechanisms to foster green procurement like sourcing from sustainable low emission supply chain that could boost private sector investment; an action that supports NDC Implementation.

Transformative climate actions investments at the grassroots levels need to be enhanced. The resources mobilized need to take climate plans, policies and strategies into action in order to build climate resilience at the grassroots level.

There is need to blend technical support with physical investments to ensure climate-resilient development instead of the NDC partners focusing on mainly technical assistance. NDC Partnership Plan should evolve from technical assistance process work to mechanism for mobilizing funding for large NDC investments for transformation.

Full stakeholder engagement; for the NDC agenda 2030, to be achieved all stakeholders including the indigenous people must be included at all planning stages and during implementation. This gives a sense of ownership and motivation to act towards outstanding cause. The political leaders need to be encouraged and convinced through communications on national platforms about climate action and NDC agenda for the communities' wellbeing to enhance response.

Both state and non-state institutions should be involved in Monitoring, Reporting and Verification processes of the NDC activities. Robust systems and processes for monitoring, reporting and verification (MRV) of emissions and monitoring and evaluation (M&E) of adaptation, climate finance and technical support outcomes need to be enhanced. There is also need to reinforce in-country facilitation in monitoring and evaluation, resource mobilization and direct support for coordination activities.

The NDCs must be localized and government should be at the helm of implementing the NDC actions. Translation of national targets to sector level targets within NDCs is a win-win scenario for effective NDC implementation.

Capacity building in developing bankable project proposals and provision of information for successful financial requests. This will enhance the different sectors' abilities to tap in the different climate funds especially the GCF for the implementation of the country's NDCs. This will also unlock the existing financial barriers to private climate financing.

The local private sector, the government and NGOs need to be encouraged to pledge and make commitments towards the NDC Implementation. Financing should not only be left out as a donors' role if the country is to effectively achieve the NDC ambitions.

Local finance solutions tailored to micro, small and medium enterprises engaged in sustainable production and generation of climate change responsive technologies need to be developed and scaled up. The country needs to exploit all funding sources for development beyond the Climate change funding facilities.

The revision of the NDC and NDC partnership Plan should follow sectoral and economy-wide ambitions. A whole government approach should be considered to incorporate other sectors with relevance to NDC implementation. There is need to promote interventions that adjust the market to reflect full cost in decision-making to promote low carbon-options especially in transport, energy and industry. Recognizing the externalities of decisions made on emissions will incentivize investment in low carbon development initiatives. It will also address the market failure thus reduce on investments that may limit reduction in Greenhouse gas emission.

A need for regular follow-ups by the MWE/CCD with Partners on identifying areas of support in the plan, elaborating modalities of work and how to support sectors to implement outputs listed in the NDC Partnership Plan and also bring new partners on board. There is also a need to hook into the overall Local development partners groups so as to expand membership and awareness among partners.

Innovative financing solutions like Green bonds, subsidies to green investments, blended finance windows and de-risking mechanisms need to be enhanced to boost financing for the NDC implementation using fiscal policies.

A need to detail the risks, and vulnerabilities within all 17 sectors spelt out in the country's NDP III, and having the National Development priorities looked into for full inclusion in the 2nd NDC.

There is also need for Uganda to specify her adaptation targets by 2030 to ensure that the country is on track in her ambitions in the NDC. The current NDCs have no specific adaptation targets.

It is recommended that the updating NDC Partnership Plan follows the 5-year cycle for revisions just like the NDCs and should be clearly aligned with the NDP III.

NDC Partnership needs to act as a platform in which the country can mobilize climate finances. More so, the funding model of NDC Partnership actions need to be revised to utilize the direct access modality through government agencies such MWE/CCD

There is need to increase the role of CSOs and private sector in the NDC Partnership Plan. The NDC Partnership Plan is more of a matrix of Donors. There is need to determine mechanisms of integrating CSOs and private sector.

Besides the focal points, other sectoral roles need to be defined in the implementation of the country's NDC Partnership Plan. More awareness has to be created and full engagement of various sectors in the NDC Adaptation actions and mitigation measures for a successful implementation.

Future studies on NDC Implementation Plan proposed actions and measures, will need to be done across all priority sectors to fully understand and link the investment actions conducted with NDC Implementation.

The next NDC revisions need to speak beyond environment sustainability. There is need to create a stream of opportunities including jobs, income and wealth creation. The next updating should focus on a climate resilient and socio-economically empowered Uganda.

It is proposed that a specialized unit under the MoFPED handling climate financing, NDCs and other climate action issues is established. More committed officers charged with full responsibility on climate Action would help to mobilize more finances and work with MDAs to develop and submit bankable proposals. In the current arrangement, Climate finance issues are taken as secondary roles by the officers because they have other mandates that they prioritize that they are appraised on.

The National Implementing Entity (NIE) should be strategically chosen for instance the Uganda Development Bank (UDB) would be a better choice over MWE, NEMA or KCCA given that their outlooks cover part of the society and are economy wide.

During the revisions of the NDCs, the industrial and waste thematic areas need to be included given their Green House Gas emissions contributions and actions proposed to enhance climate resilience in these thematic areas.

The first NDCs lacked adequate consultations before their communications and it is recommended that the updating of the NDC's, the country should take adequate time and thorough engagement of all relevant stakeholders to create NDCs ownership across all sectors of the economy.

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Annex 1: A highlight of financial provision categorized between grant support and technical assistance for NDC Partnership Plan Implementation.

	Status of financial mobilization for NDC Partnership Plan 2018-2020			
	2018		2019	
	Grant	Technical Assistance	Grant	Technical Assistance
EU Delegation	14,720,000			
The Netherlands		70,000		89,112
Sweden				
Austria				
Germany				
GGGI		100,000	700,593	
UNDP	802,500			
FAO				
AfDB				
World Bank		600,000		
WRI		80,000		
CI/AFRII				
EMLI	13,950		30,000	
NDC P-SU		19,950		
IUCN UCO	63,033		11,780	
NAP GN				
Sub-total	USD 15,599,483	869,950	USD 742,373	89,112
Total	USD 17,300,918			

Annex 2: Overview of the Uganda NDC Partnership Plan (2018-2020)

OUTCOMES	OUTPUTS	Lead Institution	Implementing Partner (s)
1: Institutional framework for Climate Governance strengthened	1.1: Legal framework enacted for climate change management of Uganda finances	MWE/CCD	UNDP
	1.2: Sector mitigation potential, CBA and V /G assessments of key sectors in Uganda's NDC completed	MWE/CCD , Sectors, CSOs, Private Sector	UNDP
	1.3: Comprehensive baseline Surveys of key sectors conducted	MWE/CCD CSOs, Private Sector	CI, UNDP
	1.4: NDC Costed Implementation Strategy developed	MWE/CCD	CI, FAO, GGGI
	1.5: Uganda Climate Change Financing Strategy finalized and operationalized	MoFPED	UNDP, MWE/CCD
	1.6: Project screening process compatible with SDGs, NDC, GGDS and gender responsiveness for key sector and DDPrivate Sector established	NPA, MWE/CCD , Sectors, Local Governments, CSOs, Private Sector	GIZ, UNDP
	1.7: SDGs, NDC/GGDS actions and gender dimensions are integrated into national and local plans, annual budgets and performance systems	NPA, MWE/CCD , Sectors, CSOs, Private Sector	WRI, WBG, WRI, CI
	1.8: National climate change and gender related indicators integrated into NDP II& III , SDPrivate Sector, PBS, and LG performance assessment tools	NPA, sectors, CSOs, Private Sector	MWE/CCD, NPA, WBG
	1.9: National Adaptation Plan process and implementation of NDC adaptation component supported	MWE/CCD , Sectors, CSOs, Private Sector	MWE/CCD, NPA, CI
	1.10: National mitigation registry system strengthened and adaptation registry system established	CCD, Sectors, CSOs, Private Sector	WRI, GIZ, CI, UNDP, FAO
	1.11: The NDP budget compliance criteria revised to integrate SDGs, NDC and GGDS with gender lens	NPA	WRI, UNDP
	1.12: Incorporation of climate change related data in the annual statistics reports	NPA, UBOS, Sector, CSOs, Private Sector	UNDP, FAO,
	1.13: National temperature, precipitation and extreme event scenarios developed including Sector Risk mapping and Assessments	CCD, OPM, NEMA and sectors, CSOs, Private Sector	NAP GN, Sweden
OUTCOMES	OUTPUTS	LEAD INSTITUTION	
2: Financing for Climate Change increased	2.1: Comprehensive climate public expenditure and budget reviews (CPEBR) conducted	MoFPED	CI, Sweden
	2.2: Functional budget tracking system and tools in place	MoFPED, CCD, NPA, Sectors, LG	CI, Sweden
	2.3: Relevant government levels, civil society and Private Sector officials trained on budget tracking tools and reporting	MoFPED, Sectors, CSOs, Private Sector	WRI

	2.4: Capacity of MoFPED to serve as NDA for the climate funds strengthened	MoFPED	CI
	2.5: NDA committee capacity strengthened in project appraisal	MoFPED	
	2.6: National climate change financing mechanism established and/or strengthened	MoFPED, CCD	
	2.7: Procurement processes greened and capacity developed	MoFPED, NPA	World Bank
	2.8: M&E system with a set of climate finance-related indicators introduced	MoFPED	UNDP
	2.9: Strengthened capacity of parliamentarians, local councils, civil society and private to review and advocate for climate responsive budget	MoFPED, CCD, NPA, CSOs, Private Sector	UNDP
	2.10: Participation of Uganda in various international events on climate finance sustained	CCD, NPA, MoFPED, CSOs, Private Sector	WRI, UNDP
	2.11: Projects benefiting from existing or new carbon market mechanisms or approaches.	MWE/CCD, MoFPED, Sectors, CSOs, Private Sector	GGGI, CI, UNDP
OUTCOMES	OUTPUTS	LEAD INSTITUTION	
3: GHG emissions and gender responsive adaptation measures MRV system institutionalised	3.1: National GHG inventory system and supporting tools in place	MWE/CCD , Sectors, CSOs, Private Sector	GIZ
	3.2: Monitoring, measuring, reporting and verification system and supporting tools for gender responsive mitigation measures operationalized	MWE/CCD , Sectors, CSOs, Private Sector	
	3.3: Monitoring, Evaluation and Reporting system and supporting tools for gender responsive Adaptation measures operationalized	MWE/CCD , Sector, CSOs, Private Sector	MWE/CCD , NPA, MoFPED, CSOs, IUCN
	3.4: Strengthened capacity to collect quality data from sectors, civil society and Private Sector to feed national GHG inventory system	MWE/CCD , Sector, CSOs, Private Sector	CCD-MWE + NPA, MoFPED, CSOs, UNDP
	3.5: NDC sector mini GHG inventories established, linking with national GHG inventory	MWE/CCD , Sectors	CI, GGGI, UNDP
	3.6: NDC coordination, tracking and reporting mechanisms in CCD-MWE and key sectors strengthened	MWE/CCD	CI, GGGI, UNDP
	3.7: Adequate and skilled personnel to handle GHG inventory in place	MWE/CCD , Sectors, CSOs, Private Sector	FAO, GGGI, GIZ, UNDP, AfDB
	3.8: Capacity of M&E Officers, state and non-state actors developed and equipped in MRV data collection, GHG inventory management and reporting and Air Emissions Assessments	MWE/CCD , NEMA, Sectors, CSOs, Private Sector	FAO, GGGI, GIZ, UNDP, AfDB
	3.9: A harmonized reporting template for NDCs, SDGs, NAP, and GGDS developed and operationalized	MWE/CCD , Sectors, CSOs, Private Sector	AfDB, GGGI & IUCN, UNDP

OUTCOMES	OUTPUTS	LEAD INSTITUTION	
4: State and non-state actors capacity strengthened to effectively integrate NDC-SDGs commitment with gender lens	4.1: Communication, knowledge management and outreach strategies on Climate ,NDC actions, Adaptation, Green Growth and SDGs commitments designed and implemented	MWE/CCD , CSOs, Private Sector	GGGI, UNDP
	4.2: Capacity of National Climate Change Project Development Committee (NCCPDC), civil society, Private Sector developed in proposal development	NPA, MWE/CCD , Sectors, Private Sector	The Netherlands
	4.3: Local Government capacity built to integrate climate change (adaptation and mitigation) into District Development Plans	NPA, MWE/CCD , UNMA, OPM, LG, CSOs, Private Sector	CI
	4.4: Capacity of sector technical officers developed to mainstream NDCs with SDGs in sector development plans	NPA, MWE/CCD , OPM, Sectors, CSOs, Private Sector	The Netherlands, UNDP, GIZ, GGGI, CI, Sweden
	4.5: Capacity of national negotiators and technical officers developed to effectively negotiate in international climate change meetings	MWE/CCD , NPA, MoFPED, Sectors, CSOs, Private Sector	CI
	4.6: Capacity of Climate Change Coordination Committees at national and local government built in good governance and coordination	MWE/CCD , OPM	CI, GIZ, UNDP
	4.7: Coordination capacity of CCD-MWE strengthened	MWE/CCD	UNDP, EMLI, FAO, CI
	4.8: Capacity of CCD as technical wing of MWE as a National Implementing Entity (NIE) to GCF and Adaptation Fund strengthened	MWE/CCD	FAO, Sweden, UNDP
	4.9: Sectoral capacity enhanced in climate modelling and scenario development, risk mapping and/ insurance schemes and vulnerability Assessments, data collection and analysis	MWE/CCD , UNMA, OPM, Sectors	NPA, Sweden
OUTCOMES	OUTPUTS	LEAD INSTITUTION	
5: Project financing for NDC implementation accelerated	5.1: Available concepts of prioritized projects under Strategic Program for Climate Resilience (SPCR) are fully developed and funded	MWE/CCD , Sectors +Urban Authorities, CSOs, Private Sector	Sweden
	5.2: Available Nationally Appropriate Mitigation Actions (NAMAs) are funded	MWE/CCD , Sectors, CSOs, Private Sector	GIZ
	5.3: A portfolio of nationally prioritized projects developed for various sources of funding for NDC priority sectors	MWE/CCD , Sectors, CSOs, Private Sector	FAO
	5.4: Comprehensive baseline study on climate financing in key NDC sectors conducted	MoFPED, Private Sector , CSOs	IUCN, UNDP
	5.5: Public resources mobilized for NDC related projects	MoFPED	UNDP
	5.6: Private Sector resources mobilized for NDC related projects	MoFPED, Private Sector Foundation , CSOs	UNDP, FAO, CI
	5.7: Projects based on an updated Technology Needs Assessments are funded	MWE/CCD, UNCST, CSOs	GIZ

Annex 3: Estimation of annual GHG emissions rate change between 2015 and 2030 under the different target scenarios

Year		At 22% target; GHG Emission Estimates	Cumulative Annual change in emissions	Annual Cumulative Reduction percentage	At 20% target; GHG Emission Estimates	Cumulative Annual change in emissions	Annual Cumulative Reduction percentage	At 30% target; GHG Emission Estimates	Cumulative Annual change in emissions	Annual Cumulative Reduction percentage	At 50% target; GHG Emission Estimates	Cumulative Annual change in emissions	Annual Cumulative Reduction percentage
Baseline Year	2015	77.30	-	-	77.30	-	-	77.30	-	-	77.3	-	-
1	2016	76.17	1.13	(1.5)	76.27	1.03	(1.3)	75.75	1.55	(2.0)	74.72	2.58	(3.3)
2	2017	75.03	2.27	(2.9)	75.24	2.06	(2.7)	74.21	3.09	(4.0)	72.15	5.15	(6.7)
3	2018	73.90	3.40	(4.4)	74.21	3.09	(4.0)	72.66	4.64	(6.0)	69.57	7.73	(10.0)
4	2019	72.76	4.54	(5.9)	73.18	4.12	(5.3)	71.12	6.18	(8.0)	66.99	10.31	(13.3)
5	2020	71.63	5.67	(7.3)	72.15	5.15	(6.7)	69.57	7.73	(10.0)	64.42	12.88	(16.7)
6	2021	70.50	6.80	(8.8)	71.12	6.18	(8.0)	68.02	9.28	(12.0)	61.84	15.46	(20.0)
7	2022	69.36	7.94	(10.3)	70.09	7.21	(9.3)	66.48	10.82	(14.0)	59.26	18.04	(23.3)
8	2023	68.23	9.07	(11.7)	69.05	8.25	(10.7)	64.93	12.37	(16.0)	56.69	20.61	(26.7)
9	2024	67.09	10.21	(13.2)	68.02	9.28	(12.0)	63.39	13.91	(18.0)	54.11	23.19	(30.0)
10	2025	65.96	11.34	(14.7)	66.99	10.31	(13.3)	61.84	15.46	(20.0)	51.53	25.77	(33.3)
11	2026	64.83	12.47	(16.1)	65.96	11.34	(14.7)	60.29	17.01	(22.0)	48.96	28.34	(36.7)
12	2027	63.69	13.61	(17.6)	64.93	12.37	(16.0)	58.75	18.55	(24.0)	46.38	30.92	(40.0)
13	2028	62.56	14.74	(19.1)	63.90	13.40	(17.3)	57.20	20.10	(26.0)	43.80	33.50	(43.3)
14	2029	61.42	15.88	(20.5)	62.87	14.43	(18.7)	55.66	21.64	(28.0)	41.23	36.07	(46.7)
15	2030	60.29	17.01	(22.0)	61.84	15.46	(20.0)	54.11	23.19	(30.0)	38.65	38.65	(50.0)

Annex 4: Interview Guide

We are conducting a study for and on behalf of the Climate Change Department of the Ministry of Water and Environment intended to establish the status of NDC implementation in Uganda, the early achievements of the Uganda NDC Partnership Plan and to identify elements necessary for updating the country's NDC by 2020. The findings will be the basis of the planned "stop and reflect" event for government and implementing partners to reflect on the progress of the Partnership Plan Implementation. We highly appreciate your cooperation and participation.

Name of the respondent	
Title of the respondent	
Name of the Institution	
Email address	
Mobile contact	

1. How relevant is the NDC to the country's development aspirations? (Rate: Not relevant, Moderately, Highly)
2. How is the NDC implemented – whole of society and/or whole of government approach? Is there a **roadmap, plan or strategy** for NDC implementation? Mention, if any, stakeholders involved in NDC implementation?
3. In your own perspective, what is the most and least implemented of the adaptation action/mitigation measure (policies/strategies) in the country's NDC?
4. How has the intervention (s) above been implemented – technical assistance for capacity building, financial support, technology transfer and development?
5. What barriers, limitations and challenges are faced with/during implementation of the country's NDC and/or NDC Partnership Plan?
6. What experiences and lessons learned during the course of NDC implementation and/or NDC Partnership Plan?
7. What recommendations do you suggest for effective NDC implementation?

Annex 5: List of persons interviewed

Name	Title	Organization	Email	Mob/Tel
Irene Chekwoti (Mrs.)	Senior Mitigation Officer	Min. Water and Environment/CCD	chekwoti.irene@gmail.com	0783301290
Isaac Rubayiza (Mr.)	Mitigation Officer	Min. Water and Environment/CCD		0786860033
John Tumuhimbise (Mr.)	Focal person CC	Min. Energy Mineral Dev't- Renewable Energy	jontumuhimbise@gmail.com	0751 993 762
Bob Natifu (Mr.)	Ag. Commissioner	Min. Water and Environment/CCD	bob.natifu@gmail.com	0701 666 778
Ronald Kaggwa (Mr.)	Head - Production, Trade & Tourism Planning	National Planning Authority	ronald.kaggwa@npa.go.ug	0772 461 828
Mr. Muhammad Semambo	Senior Climate Change Officer Adaptation	MWE-CCD	medi.ssema35@gmail.com	0704 993 344
Robert Bakiika (Mr.)	NDC In-country facilitator	NDC In-country facilitator	bakiika@gmail.com	0782643315
Proscovia Namugugu	Climate Change and Disaster Risk Specialist	Office of the Prime Minister (OPM)	prossna@yahoo.com	0774 845646
Andrew Masaba	Principal Economist	MoFPED	andrew.masaba@finance.go.ug	0782 177 125
Muwaya Stephen (Mr.)	UNCCD /Range Ecologist	Min. Agric. Animal Industry	smuwaya@yahoo.com	0776 642 536
Charles Mutemo	CC Desk Officer	Infrastructure (Works and Transport)	mutemocharles1972@gmail.com	0772315061
Festus Luboyera (PhD)	Executive Director	Uganda National Meteorological Authority (UNMA)	fluboyera@yahoo.com	0751 536 815
Xavier Nyindo	CC Coordinator	NFA- REDD+	xavierm1962@gmail.com	0757408396
Marsida Rada	Technical Advisor	GIZ Global Carbon Markets Project	marsida.rada@giz.de	0757075404
Gloria Namande	Manager – NDC Support Programme	UNDP	gloria.namande@undp.org	0786263157
Kennedy Igbokwe (PhD)	Team leader	FAO-Climate Change Resilience	Kennedy.Igbokwe@fao.org	0772200890
Ritah Rukundo (Ms.)	Technical Officer	UNFCCC- RCC	rcckampala@unfccc.int	0759669605
Christine Kasedde	Environmental Specialist	World Bank Group	ckasedde@worldbank.org	0774686013
Jalia Kobusinge	Advisor- Environment	European Union-Uganda	Jalia.kobusinge@eeas.europa.eu	0312701000-032
Anthony Wolimbwa	Technical Advisor	Climate Action Network Uganda	anthony.wolimbwa@gmail.com	0774 492 372
Christine Mbatuusa	Programme Officer	EMLI	mbatuusachristine@gmail.com	0705 532 516
Albert Twijukye	NPA-Consultant	National Planning Authority		0776555802
Wakalanga Sulayi	Environment Oficer	Manafwa District	sulayiwakalanga@gmail.com	0787222451
Akot Scovia	Climate change Officer	Ministry of Water and Environment	scoviaakot@gmail.com	0783358432
Adrine Kirabo	Programme Officer	Ecotrust	adkirabo@gmail.com	0774087452