SUMMARY REPORT FOR RWANDA PUBLIC EXPENDITURE AND INSTITUTIONAL REVIEW FOR ENVIRONMENT AND CLIMATE CHANGE (PERECC)

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Acronyms and Abbreviations

CBOs	Community-Based Organizations
EAC	East Africa Community
ECC	Environment and Climate Change
FONERWA	National Fund for Environment
GDP	Gross Domestic Product
GGCRS	Green Growth and Climate Resilience Strategy
TLRP	Land Tenure Regularization Project
METEO RWANDA	Rwanda Meteorology Agency
MIDIMAR	Ministry of Disaster Management and Refugee Affairs
MINAGRI	Ministry of Agriculture and Animal Resources
MINECOFIN	Ministry of Finance and Economic Planning
MINEMA	Ministry in Charge of Emergency Management
MININFRA	Ministry of Infrastructure
MINIRENA	Ministry of Natural Resources
MoE	Ministry of Environment
NAEB	National Agricultural Export Development Board
NDCs	Nationally Determined Contributions
NGOs	Non-Governmental Organisations
PERECC	Public Expenditure Review for Environment and Climate Change
RAB	Rwanda Agriculture Board
REMA	Rwanda Environment Management Authority
RFA	Rwanda Forestry Authority
RHA	Rwanda Housing Authority
RNRA	Rwanda Natural Resources Authority
RTDA	Rwanda Transport Development Agency

RWB	Rwanda Water Resources Board
FRW	Rwandan Francs
FRWA	Rwanda Water and Forestry Authority
UNFCCC	United Nations Framework Convention on Climate Change
WASAC	Water and Sanitation Corporation
WRB	Water Resources Board

1. Introduction

The Government of Rwanda is a signatory to the United Nations Framework Convention on Climate Change (UNFCCC) and is committed towards the international efforts to limit global temperature rise above 1.5°C as agreed under the Paris Agreement. The period 2008- 2012, the Rwanda Environment Management Authority (REMA) in coordination with the Ministry of Finance and Economic Planning (MINECOFIN) commissioned the Public Expenditure Review for Environment and Climate Change (PERECC). The PERECC reviewed expenditure in central, provincial and district government; public autonomous and semi-autonomous agencies; private firms, NGOs and CBOs; and communities and end-users. The report demonstrated the cross-cutting nature of environment and climate change and pointed to difficulties in determining the actual expenditure in these sectors.

Rwanda is in the process of developing a climate budget tagging framework to improve the integrate climate change into the National Accounting System. A feasibility study commissioned in 2021showed that climate budget tagging would focus on activities as opposed to outputs or projects since it is easier to categorize expenditure at this level.

Using actual expenditure data obtained from MINECOFIN, this PERECC study was conducted to assess the level of public expenditure for the environment and climate change, and to measure the effectiveness of the environment and climate change-related expenditures in the country. In terms of scope, the review covered seven fiscal years between 2013/14 and 2019/2020 and reviewed expenditure at national and districts including funds disbursed by the National Fund for Environment (FONERWA).

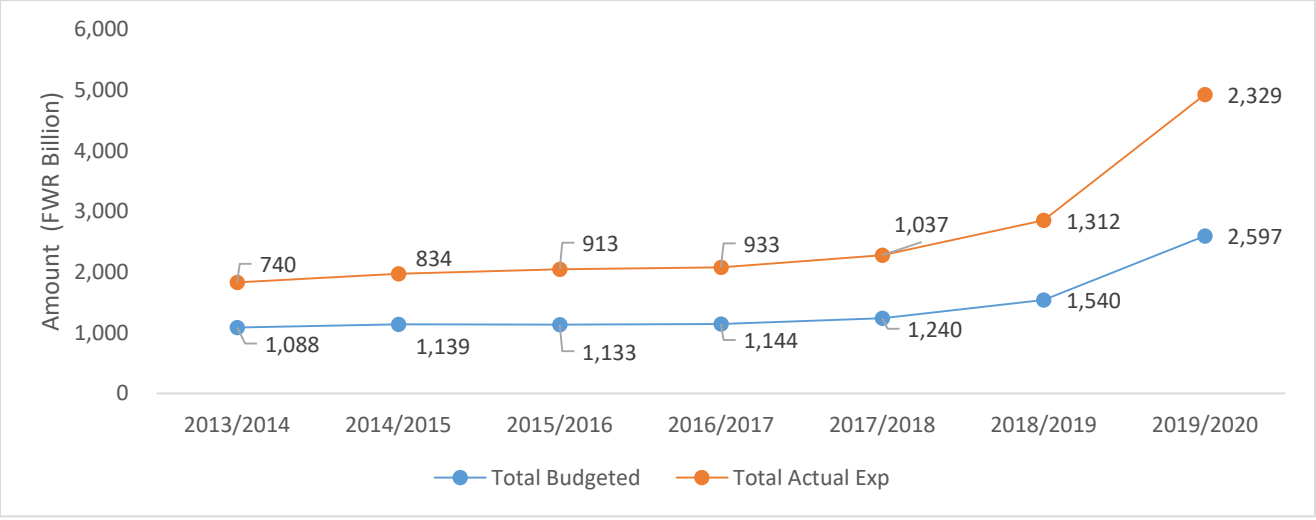
The purpose of the review was to assess government expenditure for the environment and climate change sector over a seven-year period between 2013 and 2020. The review further evaluated the effectiveness of environment and climate change-related expenditures in the country. It covered actual expenditure at the national and decentralized level including funds disbursed by FONERWA to the private sector and NGOs.

2. Environment and climate change Expenditure

Total public spending increased from 1651.2 FRW billion in the financial year 2013/2014 to 2876 FRW billion in 2019/2020, a 74.2 percentage change. This represented an average expenditure of FRW

billion 2072.8 over the period. Over the period, the average expenditure for recurrent was FRW billion 1062.1 (55.6%) and 849.1(44.4%) for development. Districts' expenditure accounted on average 16 percent (FRW billion 330.9) of total expenditure, an indication of government commitment to decentralization. The proportion of government budget to the GDP remained near constant over the year averaging 28 percent, while the budget slightly declined in 2015 and 2016 before rebounding in 2018. The constancy and decline signal a narrowing of fiscal space and the inability to continually increase the budget in the short run. The proportionate revenue, however, grew as the economy expanded, which is a good thing as the government did not need to adjust the tax base and rates.

There was a general improvement in absorption capacity over the period with the gap between allocated and actual expenditure narrowing from 68% increase to 89.7% (Figure 1).



Source: National Institute of Statistics of Rwanda

Figure 1: Trend in absorption capacity for the period 2013-2019

Analysis of expenditures on climate and environment revealed that the Government invested on average 4.4% of total expenditure in environment and climate change activities. This was within the range of that of EAC apart from that of Tanzania indicated to be around 5 percent over the period. The national government spent comparatively a higher average of 5.4% compared to districts whose average expenditure was 2.3% (Table 1). The average expenditure is much higher than that recorded in 2008-2012 of 2.1%. This reflects the government commitment to transform and cultivate a

sustainable green and clean economy. Investments in green transformation are aided by sound policies and strategies implemented across different sectors of the economy.

There was a sharp increase in mitigation expenditure in 2014/15 occasioned by government investment in geothermal resource development signaling Rwanda's commitment to a low carbon economy despite the country being a net emitter. Overall, expenditure in environmental and adaptation are higher compared to that on mitigation.

Further analysis of the expenditure showed that the government spent the highest (2.1%) on adaptation-related activities, followed by 1.4% on environment and 0.8% in mitigation activities. The outbreak of the COVID-19 pandemic in 2019/20 had little impact on public spending on environment and climate change.

Table 1: Expenditure on Environment and climate change (ECC)

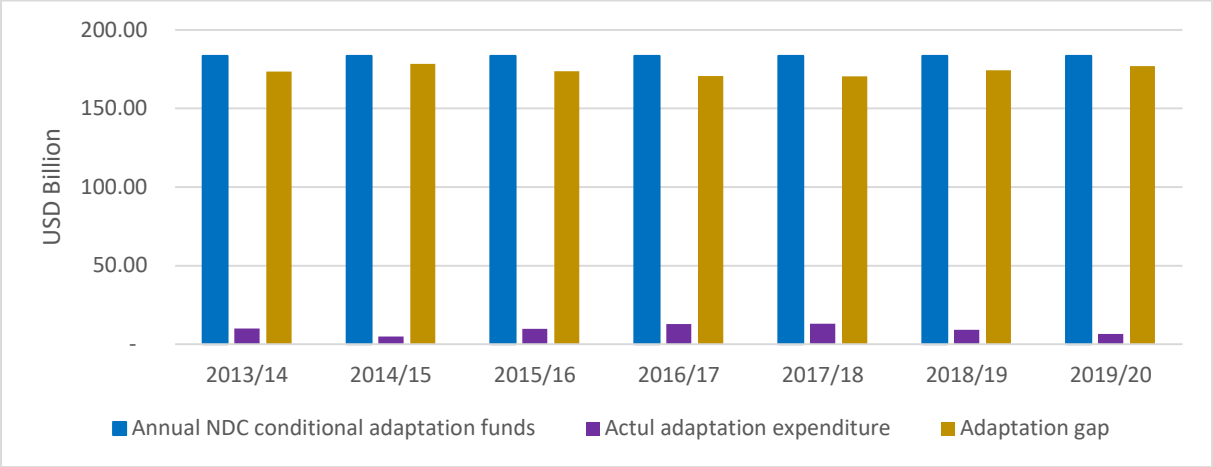
Year	Aggregated proportionate expenditure on ECC			Disaggregated expenditure on climate change interventions as a % of National government expenditure		
	National	District	Total	Mitigation	Adaptation	Environment
2013/14	5.1	2.5	4.0	0.7	1.6	1.7
2014/15	6.0	2.6	4.7	2.5	1.1	1.0
2015/16	4.5	1.9	3.6	1.2	1.1	1.3
2016/17	6.6	2.5	5.0	0.2	3.3	1.5
2017/18	5.2	2.1	4.0	0.3	2.7	1.1
2018/19	5.3	1.6	5.0	0.5	3.0	1.5
2019/20	4.8	2.6	4.1	0.3	1.9	1.9
Average (7rs)	5.4	2.3	4.4	0.8	2.1	1.4

Source: Computation based on IFMIS data

Environmental conservation and greening of public spaces championed by REMA and MOE formed the bulk of environment expenditure. This is a flagship initiative by the government which has attracted significant research and benchmarking by countries in the EAC region.

3. Adaptation funding gap

The Nationally Determined Contribution (NDC) estimates that Rwanda will require a total of USD 2,290 billion to adequately implement adaptation in vulnerably sectors for 2020-2025, USD 917 billion of which will be unconditional funds to be mobilized domestically, while the remaining USD 1,374 billion will be through international support. This translated to an annual average of USD 183.4 billion and USD 274.8 billion for unconditional and conditional resources respectively. The annual average expenditure on adaptation at the national and district level for the seven years was USD 9.47 billion giving huge gaps of about 95% (Figure 2).



Source: NDC Conditional Funds

Figure 2: Nationally Determined Contributions Adaptation funding gap

4. Institutional Expenditure in environment and climate change

Activities related to Environment and climate change (ECC) were scattered across various government institutions. The Ministry of Agriculture is the main spender on ECC at the district levels. Out of its total expenditure, 32.83 percent is on ECC related activities. Expenditure on adaptation alone accounted for 17.3 percent, in environment was 7.86 percent, while mitigation expenditure accounted for 7.67 percent of total expenditure. FRWA spent 17.2 percent on environmental activities, 4 percent on mitigation, and 2.8 percent on adaptation. With regard to RNRA, 7.4 percent of total expenditure was in environment activities, while 0.3 percent was on mitigation and adaptation.

Table 2: Percentage Institutional Expenditure on Environment and climate change, 2013-2019

	MINAGRI	RAB	MINIRENA	MOE	REMA	FRWA	MIDMAR	RMB	MINEMA	MINILAF	NAEB	RFA	RHA	Rwanda Meteo	MINICOM	RNRA	RLMU	RTDA	LTRP	WASAC
2013-2014	48.8	7.5	14.2		41		19.5				16.5			94.8		41.4				
2014-2015	41.8	21.6	5.3		67.3		37.5				9.5			92.3		38.1				
2015-2016	44.9	28.3	4.9		61.2						2			63.1		25				
2016-2017	52.7	24.6	4.5		82.4	17.7			9.2		2.3			84.5		38.3	5.5	12.5		11.8
2017-2018	44.9	25.9	31.1		71.2	69.2		13.4	13.9	10.8	5.4		11.9	70.2			2.3	6.9	2	41
2018-2019	12.7	27		42.7	68.3	47.1		4.6	12.5	5.2	29	98.2	5.5	60.6	37.4		6.1	9.3	20	6.1
2019-2020	32.5	13		38.8	75.4	51.4		0.3	0.2		9.9	8.5	9.7	63.3	15.4		4.1	2.7	5.8	21.8

Mitigation expenditures implemented by the institutions were mainly in support of afforestation and reforestation, forest rehabilitation, controlling air pollutants and reducing greenhouse emissions that included introducing electrical cars and electrical motorbikes and promotion of renewable energy use such as biogas for households and clean cook stoves.

Climate change adaptation efforts were carried out with the intention of building community's resilience in the face of climate change effects. Basically, the activities were aimed at ensuring that peoples' livelihoods are secured in terms of food and nutritional security as well as access to safe drinking water. Activities supported under this intervention include setting up sanitation and hygiene facilities, irrigation facilities, planting of tree seedlings and fruit trees as well as subsidizing access to seeds and fertilizers and liming for farmers. Implementation of ECC at districts is greatly boosted by government green strategies including renewable energy (wind, solar, biomass), improved energy efficiency in buildings, industry, and household appliances; reduction of CO_2 emissions from new passenger cars, afforestation, reforestation, and agroforestry activities and abatement measures in industries.

The increased expenditures have, therefore, helped in attaining areas like biomass replacement, energy efficiency, wetlands & landscape restoration, soil conservation and land husbandry, irrigation and water management, sustainable, diversified, and climate smart crop production and productivity, sustainable animal resources production and productivity, nutrition sensitive agriculture and resilience mechanisms and market-oriented infrastructure for post-harvest management systems. In addition, REMA developed a checklist for sectors to consider ECC in their planning whereas there has also been Development of drought-resistant and pest-resistant varieties of crops, sustainable and climate-resilient development of infrastructure and technologies to boost production and productivity (land, water, mechanization) and integrated plant protection and pest management.

Turning now to the qualitative analysis based on the questionnaire, the study found that specific activities carried out by the districts under the environment component included setting up of green villages, protection of riverbanks and construction of radical terraces. The government also supported the development of environment policies, regulations and laws, impact evaluation guidelines and programmes on greening schools and public spaces, capacity building of REMA staff and promotion of environmental assessments to promote environmentally friendly technologies.

According to the engaged institutions, the main climate change mitigation and adaptation policies in place include National Determined Contribution (NDC) submitted to UNFCCC, National Transformation Strategy I, Vision 2050, Green Growth and Climate Resilient Strategy, Environment and climate change policy, Green Growth and Climate Resilience Strategy, National Green growth and climate resilience strategy, Green economy Policy, environmental policy, water and sanitation policy, national forestry policy (Rwanda has one of the highest reforestation rates globally, which has mitigated greenhouse gas emissions from the land use and forestry sector--while in gross terms, it is the highest gross emitting sector in the country, the added tree cover makes it the fourth highest net emitter).

The climate change mitigation and adaptation policy gaps existing in the country were highlighted by the stakeholders. Though existing policies are enough once they are effectively implemented, continuous support and capacity building is needed. There is a need to enhance the coordination and planning of all relevant ministries and other agencies whose mandates impact climate change. Monitoring is still challenging and is not harmonized as there is no operational holistic monitoring framework for all the sectors. Each institution is monitoring its activities in isolation, there is no joint

monitoring conducted. There is, therefore, a need to strengthen monitoring and reporting of the national efforts around environmental protection and conservation to avoid duplication. The policy should aim at enhancing the coordination of relevant institutions operating in the environment and natural resources to jointly work towards environmental protection and conservation.

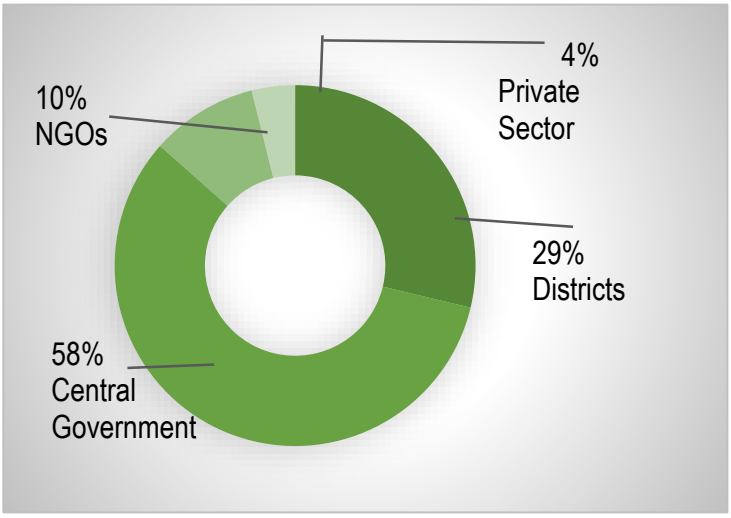
There are also programme/activity-oriented opportunities that the country can exploit for improved climate change mitigation and adaptation in the country. They include developing and implementing more projects around sustainable cities as this has a significant impact on the natural resources of the nation; Efficient and effective data management and sharing in the sector; Enhance the documentation of lessons learned and their dissemination of all implemented programs and projects to guide the development of new ones; Enhance the role played by the private sector in the nation's environmental protection and conservation; There is need to add tags to Indicators for better monitoring and evaluation.

In terms of planning and budgeting for ECC, the country has put in place such as sector thematic working groups, but these platforms need to be enhanced. It was also noted that climate actions require significant investment, especially in agriculture land husbandry practices and irrigation require a sizeable investment. Joint climate finance mobilization to support nationally prioritized programs. In terms of budgeting, most stakeholders felt that some budgets were cut during budget consultations with MINECOFIN.

5. Funding through National Fund for Environment and Climate change

The National Fund for Environment and Climate change (FONERWA) was established to provide technical and financial support towards promoting the green economy. FONERWA is Public Private Partnership Vehicle for resource mobilization and disbursement to the public, private sector and Community Based Organization (CBO). It may be concluded that the government has put in place the necessary policy and institutional framework for promoting and funding prioritize on climate change and environment.

During the review period, the fund mobilized over 200 Million USD Climate Finance and used the resources to support over 44 projects country-wide around 3 main thematic areas which are Conservation and Natural resources management, Research Development, Innovation transfer and Environment and Climate Change Mainstreaming. Since its establishment, the Fund has mobilized a total of USD 216.4 Million from domestic and international sources and funded a total of 45 projects across the country. During the review period, a total of 44 projects were funded at consolidated cost of Frw 39,826 million.



The largest proportion (58%) were invested in the Central government followed by districts (29%). Funds to NGOs and the private sector accounted for 10% and 4% of total disbursement respectively. The private sector mainly implemented mitigation-related projects. Projects funded at districts

mainly support integrated watershed management.

Figure 3: Distribution of funds by FONERWA 2013-2020

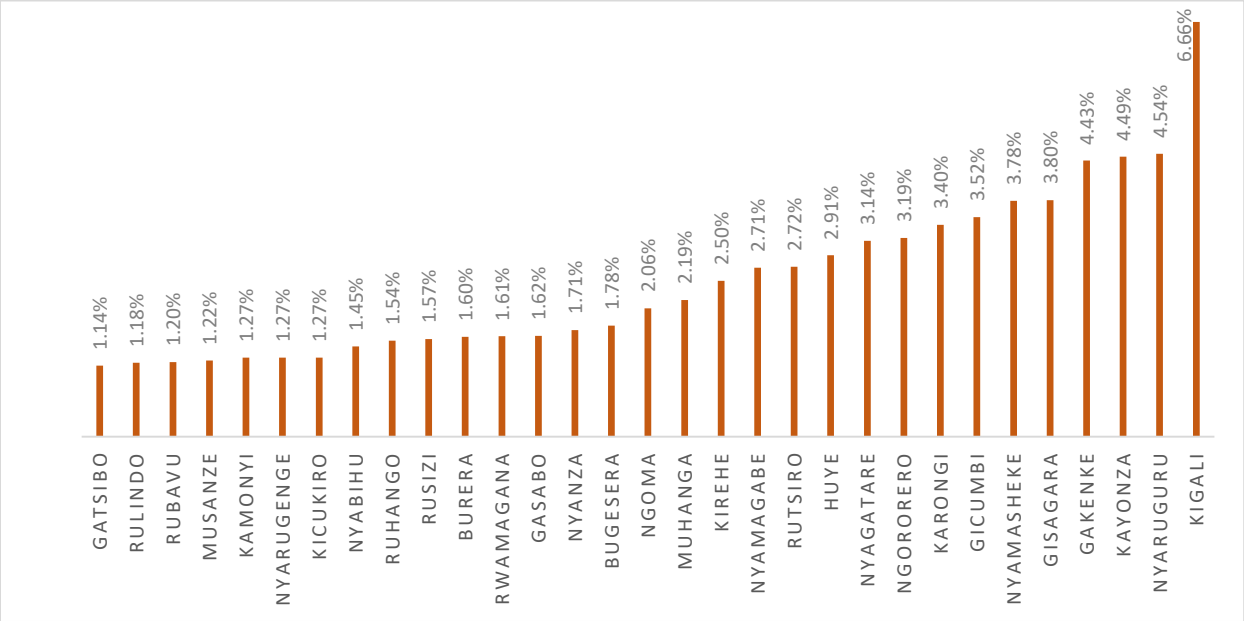
District spent a proportion of their expenditures in climate change and environment conservation. Notably, the proportionate expenditures on mitigation interventions declined over the year from 0.6% in 2013/14 to 0.2% in 2019/20. However, expenditures in adaptation related activities doubled from 0.7% to 1.4% over the same period. Moreover, district level investments on environment conservation averaged 1 per cent t throughout the study period (Table 3).

Table 3: Expenditure in Environment and climate change by districts

Year	Mitigation	Adaptation	Environment
2013/14	0.6	0.7	1.2
2014/15	0.5	0.9	1.2
2015/16	0.4	0.7	0.8
2016/17	0.3	1.2	1.1
2017/18	0.2	1.0	0.9
2018/19	0.1	0.9	0.7
2019/20	0.2	1.4	1.0
Average (7yrs)	0.3	1.0	1.0
Average (Pre-COVID 19)	0.3	1.0	1.0

The average expenditure for the years before the COVID pandemic is comparable to that of the review period implying that unlike the national level, the pandemic had far less impacts on district spending in environment and climate change. The analysis shows that districts invested more on environment and adaptation activities as compared to mitigation at the national level. This suggest that climate change impacts are localized and affect rural livelihoods. It further shows that districts have already started taking measure to reduce vulnerability and build resilience to climate change.

Different districts implemented different activities in collaboration with other stakeholders while others did similar intervention with aim of addressing climate change for the citizens at the grass roots. The level of expenditures with regard to these aspects were varied with Kigali City having the highest allocation on ECC. This is because the city attracts relatively more stakeholders that support these efforts.



The districts which spent the highest proportion of their budget (between 3.1% and 4.5%) included Nyagatare, Ngororero, Karongi, Gicumbi, Nyamasheke, Gisagara, Gakenke, Kayonza and Nyaruguru. Based on vulnerability index of 2018, these districts can be grouped into two categories as follows: (i) the districts which are landslide prone areas (Ngarururo, Karongi, Gicumbi, Nyamasheke, Gisagara, Gakenke, Kayonza and Nyaruguru (ii) drought prone areas (Nyagatare and Kayonza). Against expectation, districts with high vulnerability index do not have commensurate expenditure in climate change, suggest the need to link climate change to budgeting.

6. Effectiveness of environment and climate change expenditure

Rwanda's Green Growth and Climate Resilience Strategy (GGCRS) was adopted in 2011 as the government's centrepiece for mainstreaming the environment into each relevant environment and natural resources sector. The strategy aimed to support the country's transition to a climate-resilient and low-carbon economy by 2050 with a focus on energy security based on a low carbon supply that supports green growth. GGCRS had three strategic objectives, energy security and a low carbon energy supply that supports the development of green industry and services; sustainable land use and water resource management that results in food security, appropriate urban development and preservation of biodiversity and ecosystem services; and social protection, improved health and disaster risk reduction that reduces vulnerability to climate change. These objectives were to be supported through appropriate institutional arrangements, finance, capacity building and knowledge

management, technology, innovation and infrastructure as well as integrated planning and data management.

GGCRS was implemented through fourteen programmes of action (POA) meant to strengthen mainstreaming of environment and climate change: These are; 1) sustainable intensification of small scale farming; 2) agricultural diversity for local and export markets; 3) integrated water resource management and planning; 4) sustainable land use management and planning; 5) low carbon mix of power generation for national grid; 6) sustainable small-scale energy installations in rural areas; 7) green industry and private sector investment; 8) climate compatible mining; 9) efficient resilient transport systems; 10) low carbon urban settlements; 11) ecotourism, conservation and Payment of Ecosystem Services (PES) promotion; 12) sustainable forestry, agro-forestry and biomass energy; 13) disaster management and disease prevention and; 14) climate data and projections.

An evaluation of GGCRS conducted in 2018 assessed the extent to which the GGCRS strategic objectives were achieved. Four POAs (29%) were found to have been effectively implemented against 10 (71%) which were partially effective and needing enhancement. There were however gaps in achieving strategic objectives on energy security with low progress in phasing out energy generation from peat. Effectiveness was mainly hampered by weak coordination as the Technical Coordinating Committee lacked legal status.

7. Conclusion and Recommendations

7.1 Conclusion

- Rwanda's economy is prone, exposed and sensitive to adaptive challenges compared to other economies in the region, reflecting high dependence and sensitivity especially in agriculture signifying need for more and sustained investments in adaptation mechanisms against climate change. The highest proportion of the public revenue on environment and climate change comes from own source revenue.

- Rwanda has put in place a robust policy framework for advancing climate change mainstreaming into the planning and budget process. The green growth and climate resilience national strategy for climate change and low carbon development provide a roadmap for the country's transition to a climate resilient, low carbon economy, with a strong

services sector, low unemployment, and low levels of poverty. The strategy outlines programmes in mitigation and adaptation and contains seven pillars for realisation of mitigation and adaptation goals. These are institutional arrangements; finance; capacity building and knowledge management, technology, innovation, and infrastructure as well as integrated planning and data management.

- For environment and climate change expenditure, the study noted that the budgetary planning process and public sector development financing is robust and well entrenched at different levels and organs of the government, however, climate change expenditures are not accounted for in a systematic manner. In spite of this, Rwanda has incurred huge sums of investments done at both levels of governments in climate change mitigation, climate adaptation approaches and environmental conservation.

- FONERWA supported 37 projects valuing Frw 37,921,316,736 over the study period. Most of the supported projects were executed by governmental institutions. There were 13 private organisations which also got finances from FONERWA which shows an integration and involvement of the private sector in execution of environmental and climate change activities. Out of the total funds by FONERWA in this period, Frw 500,000,000 was annual contribution from the central government of Rwanda. This means the total Government of Rwanda contribution amounts to Frw 4,000,000,000.

- On average the government spent 3.12 % of total expenditure on environment and climate change, with the highest proportion (4.7%) happening in the 2014/25 fiscal year followed by 3.6% in the 2013/14 financial year. The lowest proportion (2.9%) was in 2017/2018. Although the outbreak of COVID 19 pandemic in 2019/20 affected national spending (0.2%), corresponding increase at the districts meant that the proportion of ECC expenditure activities remained above the 7-year average (3.5%).

- Four POAs (29%) were found to have been effectively implemented against 10 (71%) which were partially effective and needing enhancement. Effective POAs were found to have made significant progress in attaining their objectives. For the remaining POAs, effectiveness was mainly hampered by weak coordination as the Technical Coordinating Committee lacked legal

status and also lack of capacities for planning, implementation and monitoring at national and district level.

7.2 Recommendations

Based on these findings the following recommendation were made:

i. There is a need for REMA to work with all stakeholders to ensure that GGCRS priorities are included in the national and district budgets and their expenditures tracked appropriately.

ii. It will be necessary for the MoE to work with MINECOFIN to finalise the process of climate budget tagging to facilitate effective tracking of adaptation expenditure across the public institutions.

iii. In line with best practice, REMA should consider undertaking public expenditure reviews exclusively for climate change instead of mixing it with environment.

iv. There is need to have public expenditure reviews conducted at regular intervals preferably every five years to enable comparison of results within same time frame.

v. The contribution in improving capacities for planning, implementation and monitoring at national level and district level is limited. Continuous capacity building of relevant staff from concerned institutions need to be prioritised by all agencies involved in climate change. However, this has to be spearheaded by REMA and MOE. This includes central government, decentralised entities (districts), Private sector, Civil Society Organisations, NGOs as well as FONERWA. REMA should therefore conduct capacity building for stakeholders based on a capacity needs assessment.

vi. REMA should work with FONERWA and MINECOFIN to explore ways of unlocking financial opportunities using new green financial instruments such as green bonds and green T-bills. The complications in these areas stem from eligibility in terms of certification of the requirements needed for an entity to acquire such facilities to the financial sector development in Rwanda.

vii. There is a need for investment in blue and green infrastructure mainstreaming in secondary cities as well as rural areas, improvement of city and rural settlement, and to adopt climate smart agriculture by reducing the used mineral fertilisers.