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United Nations Development Programme

Terminal Evaluation of UNDP/GEF Project: Community Disaster Risk Management Due to Climate Change in Burundi (CDRM Burundi)

(GEF Project ID: 4990; UNDP PIMS ID: 4922)

Terminal Evaluation Report

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TABLE OF CONTENTS

	Page
SYNOPSIS	III
EXECUTIVE SUMMARY	IV
ABBREVIATIONS	IX
1. INTRODUCTION	1
1.1 PURPOSE OF THE EVALUATION	1
1.2 SCOPE AND METHODOLOGY	2
1.3 STRUCTURE OF THE EVALUATION REPORT	3
1.4 DATA COLLECTION AND ANALYSIS	3
1.5 ETHICS	4
1.6 LIMITATIONS	4
2. PROJECT DESCRIPTION AND DEVELOPMENT CONTEXT	5
2.1 PROJECT START AND DURATION	5
2.2 DEVELOPMENT CONTEXT	5
2.3 PROBLEMS THAT THE CDRM BURUNDI PROJECT SOUGHT TO ADDRESS	8
2.4 OBJECTIVE OF THE CDRM BURUNDI PROJECT	9
2.5 THEORY OF CHANGE	9
2.6 EXPECTED RESULTS	9
2.7 TOTAL RESOURCES REQUIRED BY THE PROJECT	9
2.8 MAIN STAKEHOLDERS	10
3. FINDINGS	11
3.1 PROJECT DESIGN AND FORMULATION	11
3.1.1 <i>Analysis of Project Planning Matrix</i>	13
3.1.2 <i>Risks and Assumptions</i>	13
3.1.3 <i>Lessons from Other Relevant Projects Incorporated into CDRM Burundi Project Design</i>	14
3.1.4 <i>Planned Stakeholder Participation</i>	16
3.1.5 <i>Linkages between the CDRM Burundi Project and Other Interventions within the Sector</i>	16
3.1.6 <i>Gender responsiveness of Project design</i>	18
3.1.7 <i>Society and Environmental Safeguards</i>	18
3.2 PROJECT IMPLEMENTATION	19
3.2.1 <i>Adaptive Management</i>	22
3.2.2 <i>Partnership Arrangements</i>	24
3.2.3 <i>Project Finance</i>	24
3.2.4 <i>M&E Design at Entry and Implementation</i>	27
3.2.5 <i>Performance of Implementing and Executing Entities</i>	28
3.3 PROJECT RESULTS	28
3.3.1 <i>Overall Results</i>	29
3.3.2 <i>Outcome 1: An operational Community Based Early Warning system established capable to engage and reach out target communities</i>	29
3.3.3 <i>Outcome 2: Community services, relevant ministry support services and provincial disaster risk platforms are trained</i>	34
3.3.4 <i>Outcome 3: Investing in relevant early warning systems and adaptive technologies</i>	36
3.3.5 <i>Relevance</i>	40
3.3.6 <i>Effectiveness</i>	41
3.3.7 <i>Efficiency</i>	42
3.3.8 <i>Overall Project Outcome</i>	42
3.3.9 <i>Sustainability of Project Outcomes</i>	42

3.3.10	<i>Country Ownership</i>	43
3.3.11	<i>Gender equality and women’s empowerment</i>	43
3.3.12	<i>Cross-cutting issues</i>	46
3.3.13	<i>GEF additionality</i>	46
3.3.14	<i>Catalytic/Replication Effect</i>	46
3.3.15	<i>Progress to impact</i>	46
4.	CONCLUSIONS, RECOMMENDATIONS AND LESSONS	47
4.1	MAIN FINDINGS	47
4.2	CONCLUSIONS	48
4.3	RECOMMENDATIONS	48
4.4	LESSONS LEARNED	50
	APPENDIX A – MISSION TERMS OF REFERENCE FOR CDRM PROJECT TERMINAL EVALUATION	51
	APPENDIX B – MISSION ITINERARY (FOR JANUARY-JUNE 2021)	58
	APPENDIX C – LIST OF PERSONS INTERVIEWED	60
	APPENDIX D – LIST OF DOCUMENTS REVIEWED	61
	APPENDIX E – PROJECT RESULTS FRAMEWORK FOR CDRM BURUNDI (FROM 9 OCTOBER 2015 PRODOC)	62
	APPENDIX F – GEF CORE INDICATORS AT TE FOR CDRM [PIMS ID 4922]	67
	APPENDIX G – RESPONSES TO COMMENTS RECEIVED ON DRAFT TE REPORT	71
	APPENDIX H – SIGNED TE REPORT CLEARANCE FORM (TO BE SIGNED BY CO AND RTA)	77
	APPENDIX I - EVALUATION CONSULTANT AGREEMENT FORM	78

SYNOPSIS

Title of UNDP supported GEF financed project: Community Disaster Risk Management Due to Climate Change (CDRM Burundi)

UNDP Project ID: PIMS 4922

GEF Project ID: 4990

Evaluation time frame: 1 August 2015 to 31 December 2020

CEO endorsement date: 12 November 2014

Project implementation start date: 1 August 2015

Expected Project end date: 10 September 2019

Revised Expected Date of Operational Closure: 31 December 2020

Date of evaluation report: 28 September 2021

Region and Countries included in the project: Burundi

GEF Focal Area Objective:

- CCA-1: Reducing vulnerability to the adverse effects of climate change, including variability at the local, national, regional and global levels;
- CCA-2: Increase adaptive capacity to respond to impacts of climate change, including variability at the local, national, regional and global levels
- CCA-3: Promote transfer and adoption of adaptive technologies

Implementing partner and other strategic partners: Implementing partner: Institute Geographique du Burundi (IGEBU)

Evaluation team members: Mr. Roland Wong, International Evaluator and Mr. Polisi Alphonse, National Evaluator.

Acknowledgements:

The Evaluator wishes to acknowledge with gratitude the time and effort expended by all project participants and stakeholders during the course of the Terminal Evaluation of the project “Community Disaster Risk Management Due to Climate Change”. In particular, the Evaluators wishes to acknowledge the contributions of UNDP Burundi and the stakeholders to the Terminal Evaluation. The Evaluators feel privileged and grateful to have met these people.

EXECUTIVE SUMMARY

This report summarizes the findings of the Terminal Evaluation Mission conducted during the 29 December 2020 to 30 September 2021 period for the UNDP-GEF Project entitled: “*Community Disaster Risk Management Due to Climate Change*” (hereby referred to as the CDRM, CDRM Burundi Project or the Project), that received a US\$ 8.715 million grant from the LDCF of the Global Environmental Facility (GEF) in October 2015.

Project Summary Table

Project Title:	<i>Community Disaster Risk Management Due to Climate Change (CDRM Burundi Project)</i>			
GEF Project ID:	4990		<u>at endorsement</u> (Million US\$)	<u>at completion</u> (Million US\$)
UNDP Project ID:	4922	GEF financing:	8.715	0.000
Country:	Burundi	IA/EA own:	7.800	0.000
Region:	Asia and the Pacific	Government:	18.500	0.000
Focal Area:	Multi-Focal	Other:	0.500	0.000
FA Objectives, (OP/SP):	CCA Objective 1 CCA Objective 2 CCA Objective 3	Total co-financing:	26.800	0.000
Executing Agency:	IGEBU	Total Project Cost:	35.515	0.000
Other Partners involved:		ProDoc Signature (date project began):		9 October 2015
		(Operational) Closing Date:	Proposed: 10 September 2019	Actual: 31 December 2020

Project Description

The CDRM Project supports a number of initiatives to reverse a number of trends that impact the overall well-being of communities through deteriorating environmental and agricultural conditions exacerbated by:

- steady declines of populations in several rural communities with decreasing incomes generated from agriculture and natural resource utilization socioeconomic being a primary cause of these declines;
- climate change that is now known to reduce agricultural production and natural resources yields, and vulnerable communities that are unable to adapt. This also includes increasing disparities in energy access for these vulnerable communities where unsustainable practices to generate energy are prevalent (such as firewood extraction or inefficient use of fossil fuels);
- increasing population densities that lead to stresses on agricultural land resulting and falling agricultural production and unsustainable practices for harvesting natural resources from the forests, leading to general land degradation.

CDRM was designed to overcome a wide range of socioeconomic and environmental barriers as identified in the 2015 ProDoc including:

- lack of economic opportunities resulting in high levels of poverty.
- rural based community organizations as well as those in urban areas lack the long-term vision and strategy for natural resource management coupled with weak management capacities;
- lack of coordination between community organizations to pursue collective actions in managing landscapes;
- lack of systematic sharing of project experiences between communities and community-based organizations that could foster innovation and replication;
- lack of sufficient financial resources;
- lack of capacity amongst community organizations to produce and adapt low carbon technologies at the community level; and
- lack of ownership of the development process at community levels.

The objective of CDRM Burundi was to “*strengthen the capacity of provincial, communal and local communities on disaster preparedness and response management to ensure the long-term reconstruction and emergency phase in the low-lying regions of Bugesera, Mumirwa and Imbo*”. To achieve this objective, the following intended outcomes were to be achieved with the resources of CDRM:

- Outcome 1: *An operational community-based early warning system capable of reaching target communities for climate change risk prevention and the climate change adaptation guide are being implemented;*
- Outcome 2: Community services, relevant ministry support services and provincial disaster risk platforms are trained to use risk management tools for long-term planning for climate change variability and projections;
- Outcome 3: Investing in relevant early warning systems and adaptive technologies to protect local infrastructure and livelihoods from climate impacts.

Project Results

The Project goal and objective and overall outcomes of the CDRM Project are summarized on Table A against intended outcomes in the CDRM Project Results Framework (PRF).

Table A: Comparison of Intended Project Outcomes from Revised PRF¹ of March 2017 to Actual Outcomes

Intended outcomes in PRF of 2017	Actual Outcomes as of December 2021 as observed by Terminal Evaluator
Project Objective: <i>The capacity of provincial, communal and local communities is being strengthened on disaster preparedness and response management to ensure the long-term reconstruction and emergency phase in the low-lying regions of Bugesera, Mumirwa and Imbo</i>	Actual achievement of Project objective: The capacities of provincial, communal and local communities has only been partially strengthened on disaster preparedness and response management, due to no training of provincial, communal services and local communities for disaster risks preparedness and responses management that ensures long term and sustainable emergency and reconstruction phase. However, training for IGEBU personnel was provided by ACMAD and the

Intended outcomes in PRF of 2017	Actual Outcomes as of December 2021 as observed by Terminal Evaluator
	CIMA Foundation to use and analyze data being generated by the hydrological stations.
Outcome 1: <i>An operational community-based early warning system capable of reaching target communities for climate change risk prevention and the climate change adaptation guide are being implemented</i>	Actual Outcome 1: An operational community-based early warning system has been installed with effective receipt of weather and hydrological information including extreme events such as floods that are tracked and reported. This improves the development of an early warning system for floods, water resource planning and management, and for protecting people and property. Training for the EWS, however, was not delivered to the 2,000 households in the 36 target collines partially due to the COVID-19 pandemic, and partially due to the lack of resources to train at least 2,000 households in the 36 target collines at the EOP of the Project.
Outcome 2: <i>Community services, relevant ministry support services and provincial disaster risk platforms are trained to use risk management tools for long-term planning for climate change variability and projections.</i>	Actual Outcome 2: The target for training of community services, relevant ministry support services and provincial disaster personnel was achieved to use risk management tools for long-term planning for climate change variability and projections.
Outcome 3: <i>Investment on relevant early warning systems and adaptation technologies to protect infrastructures and local livelihoods from climate impacts</i>	Actual Outcome 3: Investments have been made in relevant early warning systems and adaptive technologies to protect local infrastructure and livelihoods from climate impacts. However, the indicators on this outcome on the PRF reflect investments into watershed protection, landslide prevention, and adaptive technologies, not early warning systems.

Summary of Conclusions, Recommendations and Lessons

The overall rating for the CDRM Burundi Project is **moderately satisfactory** due to the exceedance of the numbers of targeted stakeholders trained and the provision of training in 2018, and hydrological data being generated until 2020. However, most hydrological stations now require sensor replacement which IGEBU plans to implement from now until June 2022. Additionally, training was provided by the Red Cross in partnership with UNDP for local communities, communal services and provincial authorities to build their capacity on disaster risks preparedness and responses management that will ensure long term and sustainable emergency and reconstruction phase in Bugasera, Mumirwa and Imbo provinces. Training was also provided by ACMAD and the CIMA Foundation for IGEBU experts responsible for analyzing and producing weather reports.

Though the funding of CDRM was never meant to be sufficient as a sustainable solution, it was intended as a measure to start the long process of watershed rehabilitation that would have the ability to catalyse more investments into disaster risk management for Burundi. To this end, smaller investment commitments made on watershed protection works done in isolation will not bring much benefit to the local stakeholders unless there are follow-up investments in watershed protection.

Action 1 (to UNDP and the Government of Burundi): Complete EWS training on the next project. Details are on Para 128.

Action 2 Action 2 (to UNDP and the Government of Burundi): Improve the technical capacities of institutions (i.e. IGEBU, provincial governments, communal services and local communities) to manage the mapping of climate-induced flood and erosion risks along the Ntahanqwa watershed. Details are on Para 129

Action 3: (to UNDP and the Government of Burundi): Establish an investment program that carries on the work of CDRM Project on the Ntahanqwa watershed. Details are on Para 130.

Action 4 (to UNDP and the Government of Burundi): Continue with investment programs to promote livelihood resilience and green entrepreneurship. Details are on Para 131.

Action 5 (to UNDP and the Government of Burundi): For subsequent projects to CDRM, prepare a PRF with SMART indicators with an economy of words. Details are on Para 132.

Lesson #1: Watershed rehabilitation should not be done in isolation. Details are on Para 133.

Lesson #2: A well prepared PRF is essential effectively guide implementation of a project. Details are on Para 134.

Evaluation Ratings²

1. Monitoring and Evaluation	Rating	2. IA & EA Execution	Rating
M&E design at entry	5	Quality of Implementation Agency - UNDP	4
M&E Plan Implementation	4	Quality of Execution – Implementing Partner (UNOPS)	4
Overall quality of M&E	4	Overall quality of Implementation / Execution	4
3. Assessment of Outcomes	Rating	4. Sustainability ³	Rating
Relevance ⁴	2	Financial resources	2
Effectiveness	3	Socio-political	4
Efficiency	3	Institutional framework and governance	3
Overall Project Outcome Rating	4	Environmental	2
		Overall likelihood of sustainability	2

² Evaluation rating indices (except sustainability – see Footnote 2, and relevance – see Footnote 3): 6=*Highly Satisfactory (HS)*: The project has no shortcomings in the achievement of its objectives; 5=*Satisfactory (S)*: The project has minor shortcomings in the achievement of its objectives; 4=*Moderately Satisfactory (MS)*: The project has moderate shortcomings in the achievement of its objectives; 3=*Moderately Unsatisfactory (MU)*: The project has significant shortcomings in the achievement of its objectives; 2=*Unsatisfactory (U)*: The project has major shortcomings in the achievement of its objectives; 1=*Highly Unsatisfactory (HU)*: The project has severe shortcomings in the achievement of its objectives.

³ Sustainability Dimension Indices: 4 = *Likely (L)*: negligible risks to sustainability; 3 = *Moderately Likely (ML)*: moderate risks to sustainability; 2 = *Moderately Unlikely (MU)*: significant risks to sustainability; and 1 = *Unlikely (U)*: severe risks to sustainability. Overall rating is equivalent to the lowest sustainability ranking score of the 4 dimensions.

⁴ Relevance is evaluated as follows: 2 = Relevant (R); 1 = Not relevant (NR)

ABBREVIATIONS

Acronym	Meaning
ACMAD	African Centre of Meteorological Application for Development
AFA	Administrative and financial officer
AMAT	Adaptation Monitoring and Assessment Tool
APR-PIR	Annual Project Report - Project Implementation Report
BD	Biodiversity
BFI	Burundi Francs
CB-EWS	Community-based early warning system
CBO	Community-Based Organization
CC	Climate Change
CCAP	Climate Change Action Plan
CCM	Climate Change Mitigation
CDR	Combined Delivery Report
CDRM	UNDP-GEF Project “Community Disaster Risk Management Due to Climate Change in Burundi”
CFSVA	Burundi Comprehensive Food Security & Vulnerability Analysis
CO	UNDP Country Office
CO ₂	Carbon Dioxide
COP	Conference of Parties
CP	Country Programme
CPAP	Country Programme Action Plan
CPC	Country Programme Coordinator
CPM	Country Programme Manager
CSO	Civil service organization
DPAE	Statistic Center and provincial officers (under the Ministry of Agriculture)
EOP	End-of-Project
ESIA	Environmental and Social Impact Assessments
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
EWS	Early warning system
FAO	Food and Agricultural Organization
FSP	Full sized Project (GEF)
FY	Fiscal Year
GDP	Gross Domestic Product
GEB	Global environmental benefit
GEF	Global Environment Facility
GHG	Greenhouse gas
GIS	Geographic information system
GoB	Government of Burundi
IA	Implementing agency
ICT	Information and communication technology
IGEBU	Burundi Geographical Institute
IP	Implementing partner
LD	Land degradation
LDCF	Least Developed Countries Fund
M&E	Monitoring and evaluation
MEEATU	Ministry of Water, Environment, Land Development and Urban Development
MoA	Ministry of Agriculture

Acronym	Meaning
MoU	Memorandum of Understanding
MTR	Midterm Review
NC	National Coordinator
NGO	Non-governmental organization
NIM	National implementation modality
NPC	National Project Coordinator
NPD	National Project Director
OBPE	Directorate General of the Burundi Environmental Protection Office
OFPP	GEF Operational Focal Point
OP	Operational Programme of GEF
PA	Project Associate
PANA	National Climate Change Adaptation Plan
PCDC	Community Plan for Community Development
PIF	Project Identification Form for GEF
PIMS	UNDP/GEF Project Information Management System
PIR	Project Implementation Report
PMU	Project Management Unit
PRF	Project Results Framework
ProDoc	UNDP Project Document
PSC	Project Steering Committee
SAP-SSA	Early Warning System and Food Security Monitoring in Burundi
SMART	Specific, Measurable, Attainable, Relevant and Time-bound
SOP	Standard Operating Procedure
SPAT	Schema Provincial de l'Amenagement du Territoire
STAR	System for Transparent Allocation of Resources
tCO ₂	Tonne of Carbon Dioxide
TAG	Technical Advisory Group
TAP	Technical Advisory Panel
TE	Terminal Evaluation
ToC	Theory of Change
ToR	Terms of Reference
UNCCD	UN Convention to Combat Desertification
UNDAF	UN Development Assistance Framework
UNDP	UN Development Programme
UNEP	UN Environment Programme
USD	US dollar

1. INTRODUCTION

1. This report summarizes the findings of the Terminal Evaluation Mission conducted during the 29 December 2020 - 30 September 2021 period for the UNDP-supported GEF-financed Project entitled: “Community Disaster Risk Management Due to Climate Change in Burundi (CDRM Burundi)” (hereby referred to as the CDRM Burundi Project, CDRM or the Project) that received a US\$8.715 million grant from the Global Environmental Facility (GEF). The objective of the CDRM Burundi was “strengthened capacity of provincial, communal and local communities on disaster preparedness and response management to ensure the long-term reconstruction and emergency phase in the low-lying regions of Bugesera, Mumirwa and Imbo”.

1.1 Purpose of the Evaluation

2. In accordance with UNDP and GEF M&E policies and procedures, all full and medium-sized UNDP supported GEF-financed projects are required to undergo a Terminal Evaluation (TE) upon completion of implementation of a project to provide a comprehensive and systematic account of the performance of the completed project by evaluating its design, process of implementation and achievements vis-à-vis GEF project objectives and any agreed changes during project implementation. As such, the TE for the CDRM Burundi Project serves to:
 - promote accountability and transparency, and to assess and disclose levels of achievements of the CDRM Project in the context of achieving the CDRM objective of building the capacity of provincial, communal services and local communities on disaster risks management from preparedness to response to ensure a relevant and sustainable emergency and reconstruction phase in Bugesera, Mumirwa and Imbo Lowlands’ regions;
 - synthesize lessons that may help improve the selection, design and implementation of future GEF activities;
 - provide feedback on issues that are recurrent across the community disaster risk management portfolio that require attention, and on lessons to be learned for possible follow-up efforts on how to support such projects in a challenging least developed country (LDC) environment; and
 - contribute to the GEF Evaluation Office databases for aggregation, analysis and reporting on effectiveness of GEF operations in achieving global environmental benefits and on the quality of monitoring and evaluation across the GEF system.
3. This TE was prepared to:
 - be undertaken independent of Project management to ensure independent quality assurance;
 - apply UNDP-GEF norms and standards for evaluations;
 - assess achievements of outputs and outcomes, likelihood of the sustainability of outcomes, and if the Project met the minimum M&E requirements; and
 - report basic data of the evaluation and the Project, as well as provide lessons from the Project on broader applicability. This would include an outlook and guidance in charting future directions by UNDP and the Government of Burundi, regarding continued support for early warning systems, and strengthened community capacity for implement measures to mitigate land degradation and adopt climate change adaptations.

1.2 Scope and Methodology

4. The scope of the TE for the CDRM Burundi Project was to evaluate all activities funded by GEF and activities from parallel-financing. The Terms of Reference (ToRs) for the TE are contained in Appendix A. Key issues addressed on this TE include:
 - the effectiveness and sustainability of the strengthened capacity of IGEBU and personnel from provincial and community governments responsible for EWS management on hydro-meteorological forecast training;
 - the status of IGEBU and other key stakeholders in moving forward with advancing EWS systems and planning and implementing climate change adaptation measures using the technologies provided by the Project, and for being the driver behind land degradation mitigation and climate change adaptation measures;
 - how future project management and institutional arrangements can be improved to more efficiently deliver development services for investments for climate change adaptation and land degradation mitigation. This may include sufficient staffing levels for both technical experts and monitoring and evaluation personnel, methods of communication to key stakeholders, and follow-up actions by the PMU;
 - Sustainability of Project outcomes and the Project exit strategy; and
 - Recommendations, lessons learned, best practices from implementing this Project that could be used on other similar projects.
5. The Project was evaluated for overall results in the context of:
 - *Relevance* – the extent to which the outcome is suited to local and national development priorities and organizational policies, including changes over time;
 - *Effectiveness* – the extent to which an objective was achieved or how likely it is to be achieved;
 - *Efficiency* – the extent to which results were delivered with the least costly resources possible; and
 - *Sustainability* - The likely ability of an intervention to continue to deliver benefits for an extended period of time after completion.
6. All possible efforts have been made to minimize the limitations of this independent Terminal Evaluation. With the COVID 19 pandemic limiting international travel, mission and field visits to Burundi could not be made by the International Evaluator. Instead, this TE was reliant on the work of the National Evaluator who was responsible for:
 - analysis of relevant information, including project documents: project preparation document, PIF, UNDP start-up plan, social and environmental selection procedure of the SESP, project reports, legal and institutional framework of projects, logical framework, GEF core project evaluation indicators, UNDP guidelines and other relevant documents;
 - maintains communication with Project coordinator to obtain relevant information related to the implementation of the Project and lessons learned and links with other UNDP-funded projects;
 - interviews with the management of the National Project Management Institution (IGEBU) holding the project reports;

- field visits to sites where GEF investments for data collection (the collection of local information from stakeholders, submission of a questionnaire to beneficiaries, and interviews with the local administration, steering committee members and other stakeholders);
- photographs resulting from his visits to various sites where GEF investments were made;
- report writing based on information and data collected;
- submission of the report document to the international consultant.

1.3 Structure of the Evaluation Report

7. This TE report is presented as follows:

- An overview of CDRM activities from commencement of operations in 9 October 2015 to 31 December 2020;
- An assessment of Project results based on Project objectives and outcomes through relevance, effectiveness and efficiency criteria;
- Assessment of monitoring and evaluation systems;
- Assessment of progress that affected Project outcomes and sustainability;
- Assessment of sustainability of Project outcomes; and
- Lessons learned and recommendations.

8. This evaluation report is designed to meet GEF’s “Guidelines for Conducting Terminal Evaluations of UNDP-Supported, GEF Financed Projects” of 2020:

http://web.undp.org/evaluation/guideline/documents/GEF/TE_GuidanceforUNDP-supportedGEF-financedProjects.pdf

1.4 Data Collection and Analysis

9. Data and information for this TE was sourced from:

- Project documentation (i.e. APR/PIRs, meeting minutes of Project Steering Committee meetings) and pertinent background information;
- Virtual interviews with key project personnel including the current Project staff, UNDP staff, technical advisors, and Project developers;
- Interviews with relevant stakeholders including community-level stakeholders and other government agencies and institutes. Considering the time available for the Evaluation and the travel issues related to the COVID-19 pandemic, the International TE consultant was unable to travel to Burundi for field visits; and
- The national TE consultant who was relied upon to undertake field missions whenever considered safe to observe, interviewed beneficiaries and Project personnel and to collect any information, if available, on gender impacts of CDRM activities.

A detailed itinerary of the TE Mission is provided in Appendix B. A full list of people interviewed and documents reviewed are given in Appendix C and Appendix D respectively. The TE Mission Team for the UNDP-GEF project was comprised of one international TE consultant and one national TE consultant.

1.5 Ethics

10. This Terminal Evaluation was undertaken as an independent, impartial and rigorous process, with personal and professional integrity and is conducted in accordance with principles outlined in the UNEG Ethical Guidelines for Evaluations, and UNDP-GEF M&E policies, specifically the August 2020 UNDP “Guidance for Conducting Terminal Evaluations of UNDP-supported, GEF-financed Projects”.

1.6 Limitations

11. There are limitations to this TE process, mainly due to the COVID-19 pandemic and the inability of the International Evaluator to travel to Burundi to conduct face-to-face meetings. This task was instead undertaken by the National Evaluator. The information collected by the National Evaluator was then passed onto the International Evaluator. This resulted in the filling of information gaps which provided the TE with an improved knowledge base for assessing CDRM performance on the basis of relevance, effectiveness, efficiency and sustainability. Notwithstanding, limitations to this TE include:

- the National Evaluator only being able to interview a certain number of stakeholders;
- the National Evaluator only being able to visit a certain number of investment projects under Outcome 3 (in the order of 20% of the interventions as detailed in para) to draw conclusions on that aspect of the work;
- difficulties experienced in accessing some sites due to logistical issues and security concerns.

12. To minimize these limitations, the Evaluation was organized as follows:

- After an office review of all CDRM documents, the TE team decided on the best course of action for collecting data starting with interviews with personnel from the Project, Government of Burundi, UNDP, and IGEBU on project progress, followed by their recommendations on sites to be visited and personnel from communes to interviewed;
- Travel to the various communes and sites by the National Evaluator to view physical progress of land degradation mitigation and climate change adaptation investments;
- National evaluator prepared field visit reports and then had detailed discussions with International Evaluator on physical progress in the field to entry into the TE; and
- Draft TE report is circulated with all stakeholders for feedback.

Information from these site visits and meetings were then used to reconcile the outcomes of various grant projects with the PRF in the ProDoc. The Terminal Evaluator has made every effort to understand the Project and present a fair and a well-considered assessment of the Project.

13. However, the International Evaluator was not able to take the opportunity to get to know the stakeholders better. Actual visits to the offices of the stakeholders by the International Evaluator are usually an opportunity for the stakeholders and the PMU to make a 2-3 hour presentation followed by question-and-answer period. This has many intangible benefits including the collection of information not documented. With the virtual visits on Zoom, the opportunity to make these 2-3 hour presentations and conduct a question-and-answer period is limited. By this limitation to the International Evaluator, he has limited exposure to the stakeholder teams, and as such, the Terminal Evaluation to a large extent is dependent on the documentation from progress reports, PIRs and the National Evaluator. This dependence on documentation is also limiting the Terminal Evaluation in terms of findings.

2. PROJECT DESCRIPTION AND DEVELOPMENT CONTEXT

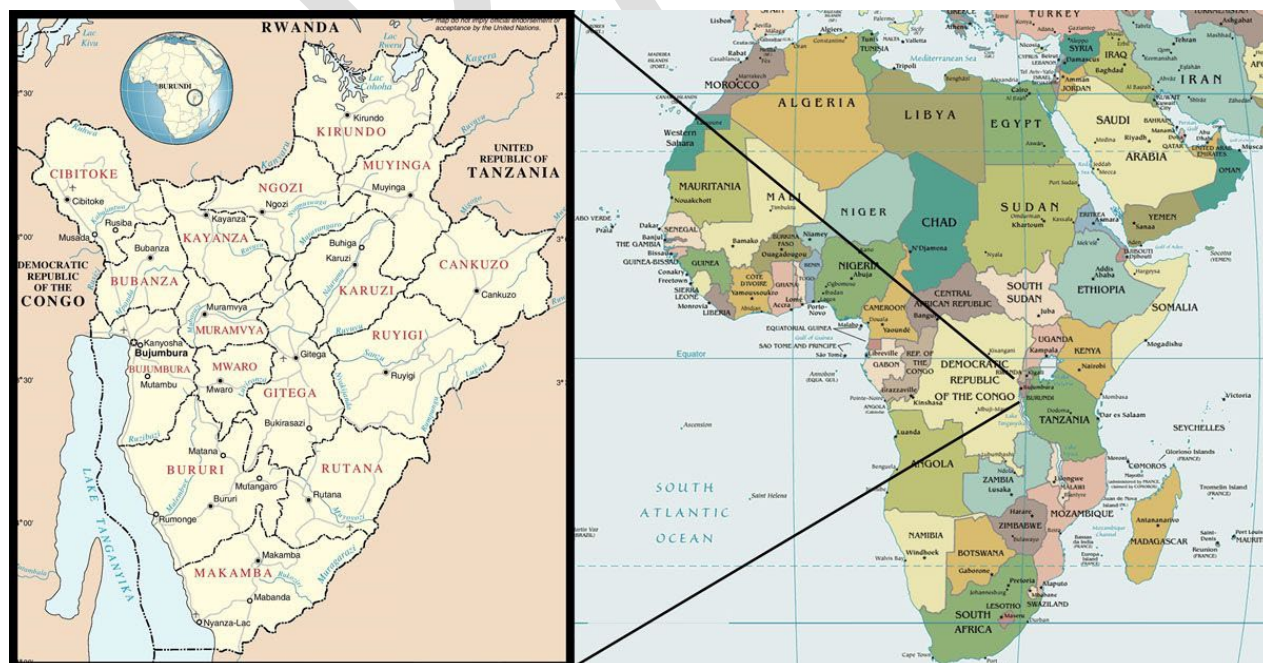
2.1 Project Start and Duration

14. The PIF for SGP 6 was approved by GEF Council on 30 November 2012, with GoB signing the ProDoc on 9 October 2015, marking the official start date of the CDRM Burundi Project. The Project duration for CDRM was originally planned for 4 years ending in 10 September 2019. CDRM Burundi was extended to terminate on 31 December 2020.

2.2 Development Context

15. Burundi is a landlocked country in Central Africa with an area of 27,834 km² (as shown on Figure 1) and a population of 11.89 million as of 2020, up from 8.05 million in 2008 (a growth rate of 3.3% annually). With Burundi having the smallest urban population in Africa of 11%, and a GDP of US\$3.13 billion in 2020, the GDP growth rate of Burundi's economy is reflected in Figure 2, which shows 2015 and 2020 as years of negative growth sandwiched by other years of positive GDP growth between 0.54% in 2015 and a projected 3.1% in 2021. The country is primarily agrarian as shown in Figure 3, accounting for 28.9% of the GDP in 2019 (down from 35% in 2014)⁵ and 92% of the workforce⁶. Most farmers are women with Burundi having the smallest urban population in Africa, ~11%⁷. The main crops in Burundi are beans, cassava, sweet potato, banana, and sorghum. Agricultural exports are mostly coffee, tea, cotton that represent 70-85% of the country's external revenue.

Figure 1: Map of Burundi



⁵ <https://www.statista.com/statistics/451426/share-of-economic-sectors-in-the-gdp-in-burundi/>

⁶ <https://www.helgilibrary.com/charts/which-country-has-the-most-workers-in-agriculture/>

⁷ <https://www.afdb.org/en/documents/burundi-national-climate-change-profile>

16. Considering that agriculture is by far the largest economic sector of the country, climate change does indeed determine the economic fortunes of Burundi. Christian Aid as of 2019 now estimate that Burundi is one of the most vulnerable countries in the world to the impacts of climate change on its food production systems. With Burundians producing 0.027 tonnes of CO₂ per person per year, the equivalent of CO₂ emissions from some of the developed countries such as the US and Russia would be in the order of 581 and 454 tonnes of CO₂ per year respectively⁸.
17. There are a number of climate models that predict an increasing number of extreme weather events for Burundi these models are associated with general increases in temperature between one and 2°C and increased rainfall reaching about 200 mm per year where by 2100. The increases in the rainfall seem to be associated with higher intensity rainfall events rather than the frequency of rainy days. By 2100, the range of projected temperatures may show increases of up to 3 to 5°C. With an agricultural country such as Burundi, agricultural subsectors such as crop and animal husbandry which make up more than 28% of the GDP, the increase in temperatures and more extreme rainfall events are a cause for concern for Burundi's economy and all the small landholdings at large. With a large number of people living below the poverty line, the population has very limited capacity to adapt to these climate change events. Though the population is highly rural, increasing poverty levels at the rural levels translates into higher urbanization rates and increasing poverty levels in growing urban settlements. This should be a cause for concern, and hence, the need for this Project and others in terms of managing the impacts of disasters, and the provision of safe water sanitation and health services.
18. Climate models also predict alternating 10-year cycles of dry-rainy-dry events from now until 2100. Projections of monthly rain were highly variable between October and November and from February to April in Bujumbura and Kirundo, and the high-altitude regions of Gisozi and Musasa⁹. Droughts have been more prevalent in the northern provinces of Kirundo and Muyinga where the situation has been worsening starting in 2000. The impacts of rainfall deficits have been monitored by FAO's Early Warning System and Food Security Monitoring in Burundi (SAP-SSA) to the Burundi Comprehensive Food Security & Vulnerability Analysis (CFSVA) of WFP5, and to the Food Security Monitoring System of WFP6. There were several fatalities due to hunger in 2000 in Kirundo and Muyinga despite these regions being considered the country's breadbasket for the drought.
19. Associated heavy rainfall in the islands of the Congo Nile basin have caused devastating floods associated with excessive rainfall along the plains of Imbo and rivers of Kajeke, Dama, Murembwe, and Rwaba. Floods have exacerbated riverbank erosion causing dramatic damage that is visible in Bujumbura, especially along the main drainage channels crossing from East to West. This would include damage to private and public infrastructure in the areas of Ntahangwa, Muha and Kanyosha. In January 2010, Bujumbura International Airport was blocked with floods on the National Road 5.
20. The impacts of these climate change phenomenon of warmer temperatures and extreme weather events (droughts and floods) has had an impact on Burundi's main economic activities:
 - Agriculture:
 - a decrease in yield per hectare for all food crops;

⁸ <https://www.bbc.com/news/science-environment-49181594>

⁹ Burundi National Climate Change Profile, October 2018, available on: <https://www.afdb.org/en/documents/burundi-national-climate-change-profile>

- rapid decline in plantation productivity due to climate variations;
- degradation of soil fertility in the Imbo plains and Bugesera due rapid deforestation and droughts;
- disappearance of some cultivars leading to genetic erosion of traditional species and varieties of sorghum, beans and potato seed;
- Livestock:
 - herders have been forced to regroup animals around rivers and other reliable sources of water;
 - extreme rainfall events that led to forage crops and national pastors never reaching full maturity;
 - extreme drought has raised the mortality rate of the animal population;
- Public infrastructure and transportation: experienced severe flooding of the Ntchangwa river in 1983, 1986, 2006 and 2009 caused enormous losses in Bujumbura (estimated at about 3 billion BFI), including the destruction of houses, deterioration of equipment in the industrial areas, and destruction of warehouses stocks.

21. The impacts of climate change also affect the public health of Burundi:

- increased temperatures during the rainy seasons favours the transmission of diseases such as malaria meningitis and cardio respiratory diseases;
- damaging floods cause destruction of infrastructure, notably infrastructure to drinking water;
- women who make up more than 90% of the workforce in Burundi's agricultural sector, and other vulnerable groups such as the elderly and youth, have a lower capacity to adapt to the risks and damages from climate change. The cause of this is the mass exodus of men and young people that produces social changes and results in the increase of divorces, and women becoming the head of household and the only ones to support the needs of the family.

22. Burundi has a “Vision 2025”, which amongst many other issues, aims to (i) influence negative GDP trends from US\$137 in 2008 to US\$720 in 2025; and (ii) halve the poverty rate (estimated at 65% of the population in 2013¹⁰). The Vision has as part of its strategy to adapt to climate change, whose impacts jeopardize development and growth efforts.

23. As a Least Developed Country (LDC), Burundi has been eligible for the Least Developed Countries Fund (LDCF) managed by GEF. This fund was used to formulate a project, the “Community Disaster Risk Management Due to Climate Change in Burundi” or CDRM Burundi Project designed to strengthen the capacity of provincial, communal and local communities on disaster prevention and risk management by implementing the Community-based Early Warning System (EWS) and making it operational; integrating adaptation to climate change into communal development plans, producing and disseminating real-time weather information/climate forecasts; strengthening community capacity to cope with climate change; and implementing interventions in watershed land management. The CDRM concept was approved in 2012, with the CDRM Project approved by GEF in 2014 and by the Government of Burundi in October 2015 for US\$8,715,000. The Burundi Geographical Institute (IGEBU) was the implementing agency for the CDRM Burundi Project with the United Nations Development Programme (UNDP) undertaking quality assurance.

¹⁰ <https://knoema.com/atlas/Burundi/Poverty-rate-at-national-poverty-line>

2.3 Problems that the CDRM Burundi Project Sought to Address

24. Despite the 2025 Vision, and policies and measures in place, the agriculture and livestock sectors of the country (which is more than 50% of its GDP) been increasingly and adversely affected by climate change, which will have negative impacts on agricultural and pastor productivity, cascading into difficult socioeconomic conditions in villages with growing poverty rates and undermining the government's development efforts.
25. The CDRM Project sought improvements to the management of climatic risks and potential disasters that contribute to the deterioration of livelihoods and the communes. This was to be done under CDRM through the establishment of early warning systems, appropriate risk management systems, implementation of measures that mitigate land degradation and adapt to climate change, and the promulgation of government policies to ensure the resilience of these communities. Barriers that CDRM sought to address included the following:
 - *Barrier 1: Lack of an operational system for community management of climate-related disaster risks.* Although a National Platform for Disaster Risk Reduction (RRC) was created in 2007¹¹, national and local platforms were not fully operational due to a lack of technical and financial resources. This includes the lack of a system for collecting, analyzing and disseminating information on early warning and vulnerability to climate risks at the local level. This has resulted in high-risk communities not sufficiently accessing information necessary to respond to and mitigate impacts of extreme weather events;
 - *Barrier 2: Low capacity of national services to produce real-time hydro-meteorological information that can be used for alerting the public.* Though IGEBU manages the network of meteorological and hydrological stations, the network as of 2015 had been disrupted and reduced in size since the socio-political crisis of 1993¹². At that time, the network of 169 pre-crisis stations was reduced to 20 operating weather stations, and of the 3 IGEBU automatic weather stations, only one is working properly. With hydrological stations decreased from 53 to 3, there is a very limited hydrological network to monitor flooding, which also does not have historical data available to produce and disseminate reliable information on flood forecasting as part of a flood risk management system for the city of Bujumbura and elsewhere¹³;
 - *Barrier 3: Limited technical and financial capacity to protect communities and public infrastructure against the risks of climate-related disasters.* As of 2015, local government officials had very little knowledge and information on climate risks and measures to mitigate these risks and adapt climate change in consideration of the magnitude of climate-related disasters of floods and droughts. Moreover, their abilities to integrate climate change and to develop programs, especially with the agricultural sector, needs development.

¹¹ Staffed by representatives from various United Nations ministries and agencies, the Red Cross and other civil society actors. In 2015, the only existing and functional alert systems were the "Early Warning and Food Security Surveillance System" (SAPSSA), managed by FAO, and the Food Security Surveillance System (FSMS) managed by the World Food Programme (WFP). Both systems are more focused on food availability and accessibility

¹² Data collection remains a critical issue with data collected by the IGEBU focal points and stored in an external disk. This method appears to be less effective and more expensive. Automatic weather stations with data transmission over the Internet are needed to solve this problem.

¹³ Flood forecasting should be developed on the basis of strengthening the hydrological observation network through automatic hydrological stations connected to a server (at least to cover project areas) and by training on forecast analysis and dissemination of information through appropriate means to report flooding. As of 2015, the Departments of Hydrometeorology and Agro Meteorology, which are mandated to provide reliable climate information, did not have qualified staff with capacities for analysis, production of information and dissemination on climate risks.

2.4 Objective of the CDRM Burundi Project

26. The Project objective as taken from the ProDoc and its PRF from 2015 was to “*strengthen the capacity of provincial, communal and local communities on disaster preparedness and response management to ensure the long-term reconstruction and emergency phase in the low-lying regions of Bugesera, Mumirwa and Imbo*”. The CDRM Burundi PRF from 2015 is contained in Appendix E.

2.5 Theory of Change

27. No theory of change was done for this Project.

2.6 Expected Results

28. To achieve the specific objective of “*strengthened capacity of provincial, communal and local communities on disaster preparedness and response management to ensure the long-term reconstruction and emergency phase in the low-lying regions of Bugesera, Mumirwa and Imbo*”, the CDRM Burundi Project was designed for the removal of barriers (listed in Para 25) with the following expected **Project outcomes**:

- *Outcome 1*: An operational community-based early warning system capable of reaching target communities for climate change risk prevention and the climate change adaptation guide are being implemented ;
- *Outcome 2*: Community services, relevant ministry support services and provincial disaster risk platforms are trained to use risk management tools for long-term planning for climate change variability and projections;
- *Outcome 3*: Investing in relevant early warning systems and adaptive technologies to protect local infrastructure and livelihoods from climate impacts.

2.7 Total resources required by the Project

29. Total resources required by the CDRM Project are shown on Table 1.

Table 1: Total Resources Required by CDRM Project

Project Fund Sources		
Total Budget: \$2,407,800 Project Period: October 2015-December 2020		
Source	Amount(\$)	Main Applications
GEF	8,715,000	Technical assistance, investments
UNDP grant	8,000,000	Technical assistance, investments
a. Local Government in-kind	500,000	Technical assistance
b. Local Government grant	14,500,000	Technical assistance, investments
c. Other multilateral agency	4,000,000	Technical assistance, investments

2.8 Main Stakeholders

30. The intended primary stakeholders of the CDRM as of 2015 are listed on Table 2. An analysis of the roles of these stakeholders on the CDRM Burundi Project is provided in Section 3.2.2 (Paras 54 to 56).

Table 2: Involvement of stakeholders during the preparatory phase

Stakeholders	Specific contribution
Ministry of Water, Environment, Land Development and Urban Development (MEEATU), including IGEBU	<ul style="list-style-type: none"> -Project Strategy Guidelines -Coordinating partners (identifying key partners, contact partners, organized meetings) -Identification of project sites; -Facilitate local meetings -Contribute to the Project document (review and information); -Contribute to assessments of climate information needs, community support -Recruit international and national consultants
Ministry of Agriculture and Livestock including CCADs	<ul style="list-style-type: none"> -Project Strategy Guidelines -Participate in consultation meetings -Contribute to the Project document (review and information), specific contribution to the identification and design of accompanying measures, identify capacity needs to support community-based adaptation measures
SETEMU (technical services, municipal)	<ul style="list-style-type: none"> -Project Strategy Guidelines (works in Bujumbura specifically) -Participate in consultation meetings -Contribute to the Project document (review and information) -Contributions in identifying hydraulic work initiated in Bujumbura; identify capacity needs to support actions in Bujumbura
Administrators and councillors of the cities of Rumonge, Nyanza Lac, Isare (Bujumbura Rural), Busoni (Kirundo),	<ul style="list-style-type: none"> -Project Strategy Guidelines -Facilitate and participate in local consultation meetings -Contribute to the project document (review and information)- -Early warning systems based on communities and support measures
Governor and Councillors of Kirundo Province	<ul style="list-style-type: none"> -Project Strategy Guidelines -Facilitate and participate in local consultation meetings -Contribute to the project document (review and information)- -Community-based early warning systems specifically,
Representatives of fishermen's organizations,, women's groups in Kirundo and Nyanza Lac and other population groups (youth in Isare, women in Bugewillbe)	<ul style="list-style-type: none"> -Participate in local consultation meetings -Contribute to the project's strategy, -Community-based early warning systems and support measures specifically
International partners (UN Habitat, WFP, FAO, UN Peacebuilding Fund, Red Cross (HQ coordinator and field volunteers), GIZ	<ul style="list-style-type: none"> -Project Strategy Guidelines -Identification and coordination mechanisms with existing initiatives

3. FINDINGS

3.1 Project Design and Formulation

31. The CDRM Burundi Project was developed through an inclusive and participatory process, involving the participation of a wide range of stakeholders. Key stakeholders and a selection of direct beneficiaries were involved in settings priorities with a Project formulation process led by IGEBU between 2012 and 2014 as follows:

- *IGEBU led the formulation of the Project, organizing several meetings including:*
 - working sessions between IGEBU, UNDP, and a team of consultants to develop a common understanding of the Project that would bring into focus the socio-economic, early warning, hydrogeological, climatological and land use concerns of the Project;
 - a series of meetings with a broader section of stakeholders to agree on the content and operationalization of the Project. This would include a baseline situation analysis, priority criteria, and priority sites chosen for intervention;
 - a public consultation with all institutional stakeholders to validate the proposed design;
 - a national workshop to present, analyze and validate the Project strategy, logical framework, budget and institutional mechanisms.
- *series of meetings with key stakeholders in the field to prioritize intervention sites, set criteria and operationalize the Project.* This included provincial, communal territorial and community governments and state technical services (who carry out watershed planning and implementation), territorial administrations (who raise awareness of disaster risks and maintenance of erosion ditches and micro-reforestation sites), municipal technical services (involved with environment, agriculture and livestock issues) as well as hill chiefs and their constituents, who were all consulted;
- *public consultations with institutional stakeholders to validate the CDRM design, notably the locations of investments to be made for land degradation measures and adaptation programs in September 2013.* This set of consultations included members of partner associations who undertake work to protect watersheds through micro-reforestation (production of nurseries, planting and first maintenance) and the excavation of anti-erosion ditches;
- *a national workshop in March 2014 to present the Project and validate the strategies, logical framework, budget and institutional mechanisms.* The Consultation Report (PPG Report 1) provides a summary of the key stakeholders, their interests stakeholders, and plans for participation on the CDRM Project in Annex E.

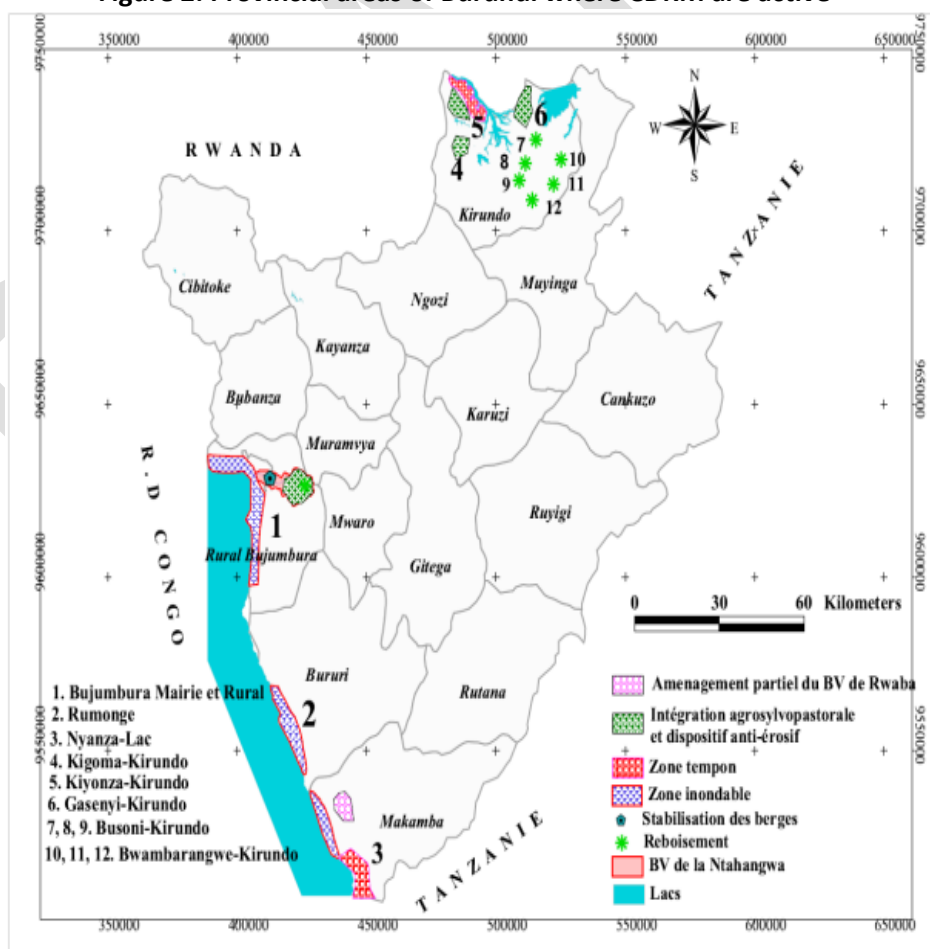
32. Following working sessions with UNDP and a team consultants, a common understanding and consensus was reached on how the CDRM Burundi Project design was to build the capacity of the local communities, local governments and the national government to holistically address their responses to effectively respond to climate change risks, and to plan and budget for these risks and climate resilient activities. This translates into actions by CDRM to:

- establish an operational community-based Early Morning System that can reach high risk targeted communities to respond to and minimize impacts from extreme weather events;
- strengthen the capacity of local communities and governments to undertake long-term planning using new variabilities of climate change projections;
- invest in responses to climate risks with climate change adaptations that would protect infrastructure and local livelihoods from extreme weather events.

33. The consultation process resulted in the CDRM Burundi Project in 2015 proposing activities in the following provinces and municipalities (as illustrated also in Figure 2):

- Bujumbura Rural, with activities centered in the municipality of Isare, but also in Mugongo-Manga, Kanyosha and Nyabiraba. The municipality of Isare will be the heart of the planned interventions in the region. In the vicinity of Isare, the Mumirwa region exhibits severe erosion caused by high-altitude hill runoff in the municipalities of Nyabira, Mugongo-Manga and Kanyosha which are sub-watersheds of the Ntahangwa River. The heavy rains and runoff from these watershed results in damaging floods to public and private infrastructure in low-lying areas down in Bujumbura Town Hall Valley;
- Rumonge Province, specifically the Bururi municipality that is affected by runoff from high altitudes;
- Makamba Province, specifically the municipality of Nyanza-Lac that is affected by runoff and flooding of the Rwaba River;
- Kirundo Province where several intervention sites were planned including the municipalities of Bugabira and Busoni are affected by the severity of drought and water shortages that have impacts on agricultural production, livestock and timber, lowering water levels in northern lakes and living conditions of communities.

Figure 2: Provincial areas of Burundi where CDRM are active¹⁴



¹⁴ From CDRM ProDoc

3.1.1 Analysis of Project Planning Matrix

34. Well-prepared Project Results Frameworks (PRFs) are important tools for all GEF projects including the CDRM Burundi Project, for preparing work plans to achieve the intended objective and outcomes, as well as for the effective monitoring and managing of CDRM Project activities. While the CDRM PRF in the CEO Endorsement Document meets some of the SMART criteria¹⁵ for preparing PRFs, there are some issues with the CDRM PRF:
- An economy of words to describe the outcomes, indicators, baseline and targets would have been more desirable in terms of clarity. There is far too much detail in all the descriptors in the PRF (including the indicators, targets, and baseline descriptions) that are needlessly repeated. For example, Outcome 1 indicators could have been written as follows:
 - the first indicator could be “number of targeted responders with access to information and alert from advanced analysis and weather forecasting (gender-disaggregated), with a target of “2,000 households in 36 targeted hills”;
 - the second indicator on Outcome 1 can be “number of community-based early warning systems established to deliver messages on hydrometeorological and climate risk alerts to the population” with a target of “10”.
 - Some of the targets, notably for Outcome 2, only have the ambition to train people. A more ambitious target would have been the actual use of DRR platforms as well as GIS tools and software and other climate disaster risk management tools, and actual long-term climate plans being completed for dissemination to households;
 - There is a difference between the PRF in the ProDoc and the CEO Endorsement Document for Outcome 3 where there are more investments described in the ProDoc version. Considering the investment amount in Outcome 3, the description in the ProDoc appears more realistic;
 - Outcome 3 claims that investments have been made in relevant early warning systems and adaptive technologies to protect local infrastructure and livelihoods from climate impacts. However, the indicators on this outcome on the PRF reflect investments into watershed protection, landslide prevention and adaptive technologies, not early warning systems;
 - The AMAT indicators on the PRF do not match the indicated descriptions on the 2014 Tracking Tool for CCAPs. Furthermore, AMAT indicators were to be replaced by CCA core indicators the during the MTR; however, this was not achieved. Moreover, the indicators on the CDRM PRF are far too descriptive, and reduces the clarity of the indicators in the Tracking Tool;
 - There were no midterm targets set for the Project.
35. Overall, the quality of the CDRM PRF can be rated as **moderately unsatisfactory** mainly for reasons pertaining to the quality of the PRF for monitoring purposes and the reasons as outlined in Para 34. A recommendations regarding the preparation of future type projects of a PRF with SMART indicators is made in Para 132.

3.1.2 Risks and Assumptions

36. Risks were provided in the CDRM PRF and in Annex VII of the ProDoc. Comments on how the risks were presented include:
- the risks on the PRF reasonably match the risk log in Annex A of the ProDoc;

¹⁵ Specific, Measurable, Attainable, Relevant and Time-bound

- the risks that were listed appear to be manageable, and not external to the Project with the exception of social conflicts.
 - each risk was properly paired with Project countermeasures and management responses in the risk log of Annex A;
 - though general GEF guidance for the number of risks to be entered into the risk log is around 5 to 6, the 8 risks listed under the CDRM ProDoc appears to be warranted and reasonable.
37. Assumptions for CDRM were under Para 60 in the ProDoc as well as in the PRF. Comments on the assumptions for smooth implementation of CDRM include:
- effective cooperation between all relevant stakeholders (i.e. mainly various levels of governments) will strengthen their capacities that will enable them to integrate climate change adaptation issues into local policies and budget processes;
 - successful establishment of the community-based EWS will provide real-time climate information;
 - there will be sufficient training and capacity building programs for government stakeholders and community personnel to operationalize and manage climate resilience activities at selected sites;
 - replication of adaptation measures using lessons learned from demonstration sites that have been integrated into local policies; and
 - sufficiently strengthened capacities at household levels should increase the sustainability of climate adaptation measures being undertaken.

3.1.3 Lessons from Other Relevant Projects Incorporated into CDRM Burundi Project Design

38. According to the ProDoc, CDRM draws from a number of ongoing and yearly completed initiatives in partnership with various donor organizations that cover disaster risk reduction, food security and economic recovery.
39. ***The Government of Burundi's the "Village-Based programme"***. This 2010 programme served as an emergency response for people affected by decades of crisis and who are landless. The operationalization of relevant national policies through this initiative was to help the Government of Burundi manage and address the challenge posed by the tension between emergency response and long-term development goals. The objectives were to: (i) provide a permanent source of income, (ii) create services and businesses necessary to improve agricultural productivity and household living conditions; and (iii) begin a process of self-development (empowerment) at the village level. The hope was that this programme would gradually contribute to transforming a subsistence economy into a more market-oriented economy, diversifying household sources of income, thereby reducing the structural causes of poverty. This programme laid the foundation for long-term community development on which the Least Advanced Countries Fund project will strengthen the socio-economic resilience of war-affected populations ***Need more information on this project as to how it relates to disaster risk management – actually need this for all these project – what is its current status***
40. ***UNDP's "Assistance to the Burundi Internally Displaced Persons Project"***: The target sites are Kirundo and Muyinga provinces with the overall goal of supporting sustainable solutions in host communities for the most vulnerable by increasing stability, social cohesion and peaceful coexistence for the creation of an environment conducive to development. This reference project

was to provide a platform for coordinating efforts at the communal level and ensuring the effective participation of target communities. In addition, the project would have strived to improve the availability, quality and maintenance of important infrastructure, and supported the reintegration of targeted populations and poverty reduction by catalyzing productive activities including the promotion of local entrepreneurship.

41. **UNDP/BCPR "Implementation of the Disaster Risk Reduction, Preparation and Emergency Response Action Plan: Project Support to Build National Capacity".** The main objective of the project was to build national capacity in the area of disaster risk prevention, preparedness and response to emergencies. To achieve this goal, the programme focused on three priority areas: (i) building institutional capacity to reduce disaster risk (ii) the establishment of an integrated disaster risk information system; (iii) augment and strengthen operational preparedness and response capabilities in emergency situations.
42. **UNDP "The National Public Administration Reform Programme Project".** This project aimed to strengthen the Government's management capacity by re-establishing governance principles in the management of public services and improving the performance of the public service so that it is more citizen-oriented. The project was to consider human resources management reform, the establishment of core competencies, the implementation of a one-stop-shop for red tape at the provincial level, and the development of capacity in information and communication technologies (ICTs); **Are these still projects closely linked with CDRM??**
43. **The Watershed Management and Climate Resilience Improvement Project (PABVARC) of Burundi.** This project, implemented from 2013 up to 2018, contributed to the food security of an estimated 77,000 persons by strengthening the resilience of agricultural and forestry production systems. Stakeholders supported were women's groups. The project supported development and construction works of infrastructures through a community-based participatory process that contributed to the improvement of community living conditions that included nutrition and human health, and to the strengthened capacity of 85 forest service staff and IGEBU, 42 technicians and 60 observers on the technical aspects of watershed management and climate change. With activities in 6 provinces (that included Bujumbura Rural, Bururi, and Makamba which are targeted provinces for CDRM) for watershed management activities and at the national level for actions supporting the hydrometeorological system, lessons were taken from early PABVARC experiences that included (i) management of climate risks for 26 micro-watersheds that included reforested areas of 6,800 ha, and construction of 1,000 km of new vegetated trenches; (ii) production of a strategic guide for considering climate change risks in watershed management; (iii) rehabilitation of 21 meteorological stations and 21 hydrological observation points; and (iv) establishing a hydro-meteorological information and data exchange system to be used in particular for climate change adaptation .
44. **GIZ Project "Adapting to climate change to protect water and soil".** This project, implemented from 2013-2018 for US\$ 10 million, consisted of a 3-pronged strategy to reduce the vulnerability of Burundi's population by (i) integrating climate change and adaptation into the political framework with cross-sector user groups, as well as public education and training of public servants, to improve coordination and effectiveness; (ii) implementing specific adaptation measures in particularly vulnerable watersheds that included public education, training of user groups as facilitators, agricultural extension, and the implementation of local pilot projects in infrastructure; (iii) supporting implementation of a national early warning and information system for daily and seasonal weather forecasts and extreme events. These activities were complimentary to CDRM, and built on

activities involving IGEBU that included training to be used for information providers to disseminate weather and climate information.

3.1.4 Planned Stakeholder Participation

45. The stakeholder participation plan for CDRM was based on a series of meetings during the Project Inception phase where consensus was reached on the content and operationalization of the CDRM Project. This plan has been comprehensively covered in the CEO Endorsement Document commencing on page 34, covering 3 levels of stakeholders commencing with public institutions and government, followed by NGOs and CSOs involved in direct support to the Project, and the beneficiary communities in targeted areas that includes vulnerable groups such as women. The stakeholder participation plan was tied to each output where the lead stakeholder and the roles were listed.
46. Some important stakeholder distinctions that were listed in Table 2 of the CEO Endorsement Document are as follows:
 - the local communities for DRR and community organization groups in the targeted provinces of Bujumbura Rural, Kirundo and Makamba Provinces were to be setup for establishing EWS to manage climate change related risks and for communication and dissemination of messages;
 - IGEBU were to be setup for the establishment of the hydro-meteorological network as well as the management of the National platform for DRR that includes management of the database and production all relevant information, and coordination of the training of local government officials;
 - The Ministries of Water, Environment, Land Management and Urban Development were charged with planning and supervision of vegetated ditch erosion control structures in Bugabira, Busoni and Kirundo-rural to mitigate hilltop soil erosion. This would include oversight of work performed by local government and community organizations;
 - Municipality of Bujumbura were charged with planning and supervision of bank stabilization works of the Ntakangwa and Gasenyiy Rivers that would have an impact on reducing the risk of flooding and landslides in Bujumbura city;
 - local governments were to plan and supervise activities related to adaptation activities by local community organizations and extension services.

3.1.5 Linkages between the CDRM Burundi Project and Other Interventions within the Sector

47. The CDRM Burundi Project was designed to link with interventions led by the Government of Burundi to operationalize its 2009 "Strategy of Disaster Risk Reduction"¹⁶. This Strategy was to be implemented through established platforms at the national, provincial and municipal levels that provide robust and permanent coordination with all relevant stakeholders involved in DRR management. The contribution of these platforms to CDRM is related to the mobilization of key stakeholders and building their capacity to enable operationalization of the EWSs, mitigate climate change risks, manage disasters and undertake climate change adaptation measures. Co-financing of US\$500,000 was expected from the GoB on this Strategy.

¹⁶ <https://www.preventionweb.net/english/hyogo/national/list/v.php?id=28>

48. A number of other donor projects were also implemented prior to and during CDRM, whose activities are linked closely with CDRM. These projects are listed in the following paras.
49. **UNDP/BCPR supporting implementation of the Action Plan on Disaster Risk Reduction, Preparedness and Response to Emergencies through a “Project support to build national capacities”** (2014-2016 – currently closed). This project, as of 2017, has been effectively used to strengthen the operation and coordination mechanisms of provincial platforms and establishing local committees at the hills level. These were used as a vehicle for establishing the EWS under CDRM. In addition, this project provided technical assistance to develop support services risk assessment and analysis tools using GIS and best practices to evaluate and analyse natural hazards maps for communes and provincial agencies.
50. **IGEBU’s management of meteorological and hydrological networks (data collection); centralization, control, processing and publication of data from different observation networks (data management); and research and analysis (data analysis).** The CDRM Project strongly intersects with ongoing programme with existing capacities in IGEBU to collect, analyze and disseminate weather and hydrological forecast services. The oldest hydrological station in Burundi was established in 1960. A network of 54 stations was established in 1974 with many of them destroyed during the 1993-2004 civil war, leaving as of 2008, only 35 working stations, 5 of which are automatic. With all data stored on an electronic database at IGEBU, data is normally transmitted by regular mail from IGEBU focal points or transmitted directly from the automatic stations. The expected co-financing associated with IGEBU activities is US\$ 10 million, taking into account all investments related to hydro meteorological and agro-meteorological observation network, maintenance, and functional operations (see attached co-financing letter from the General Director of IGEBU). **This does not seem to be the case in the ProDoc.**
51. **The Burundi branch of the Red Cross.** The Red Cross has developed in Bujumbura Rural and Bugasera, some impressive organizational structures at the hills collines level (around 150 volunteers each hill) resulting in locally-based consistent response mechanisms to assist the most vulnerable families with food and other basic items. They were also to serve as a key partner of the different platforms on DRR. With the Red Cross warning system, a megaphone has been used to alert populations prior to the onset of heavy meteorological events, to evacuate exposed and vulnerable households. Challenges for CDRM to improve the system with its community-based EWS, were mainly more reliable communication amongst the lower levels, colline to commune and vice versa.
52. **FAO’s “Food Security Early Warning System” (SAPSSA).** They have been operating a system to collect data on only 50-60 families in each province by NGOs (CARE and CRS) since 2011. Data are collected on paper questionnaires, sent to FAO for entry into a database, where certain indicators can be used as early warning with a focus on agriculture (i.e.: pests) or generic danger (i.e.: stray dogs). SAPSSA is also managed by the Ministry of Agriculture, UNICEF, PAM, CARE, and CRS.
53. **WFP “Food Security Monitoring System” or FSMS in collaboration with Ministry of Agriculture (MoA).** This project operating since 2009 has national data coverage (with the support of NGOs) that has built the capacity of the Statistic Center and provincial officers (DPAE) of the MoA to make the system sustainable. Provincial officers conduct data collection twice a year collect data through mobile phones through the internet on a simple platform.

3.1.6 Gender responsiveness of Project design

54. The people centred Early Warning System was to be tested out as a system capable of involving and reaching communities, putting them in relations to the national level, and also connect it to sensitization activities as well as to infrastructural work to work as a connecting ring between climate changes adaptation measure and DRR interventions. The intervention was oriented at mitigating the low attention to preparedness at local level, and as such it was intended to contribute as a response to the lack of articulation (and effectiveness) between national and lower levels, highlighted by the Interagency Evaluation of National Capacity for risk reduction in Burundi. Training was to be based on raising awareness and building capacity of local authorities and the general public on the type of risks lived and experienced by the population itself, by gender and social strata.
55. The Project design also responds to gender in the following ways:
- CB-EWS focal points were to be trained and regularly re-trained. Introduction to climate risk and to vulnerability in a gender sensitive way to better sensitize target communities on severe climate (i.e. excessive rain, drought), could have had a stronger impact and be related to deforestation, and the importance of land management measures to prevent soil erosion;
 - developing Standard Operating Procedures (SOPs) with work on indicators to start in parallel to the gender sensitive risk analysis to be done as participative and inclusive as possible;
 - a gender sensitive climate risk assessment conducted in a participatory fashion and with significant attention to gender analysis in the first step of the implementation of the CB EWS. This gendered risk assessment was to core down to in-depth local knowledge, and was to be conducted with the use of participatory tools as well as with existing risk assessment frameworks to mainstream gender in climate disaster preparedness.
56. The Project was to ensure that all key outputs take account of the specific gender related concerns, such as the linkages between women and children and natural disasters and differences in access to key infrastructure between men and women. Specifically, the implementing partner and communities were to mainstream gender concerns when designing soft and hard adaptation measure to be implemented. Gender and the specific role of women in the use and maintenance of village and household level infrastructure, specifically water provisioning infrastructure and measures to mitigate disaster risk, was also considered a critical element for the proposed interventions. Information about climate change and adaptation measures was to be designed and disseminated to ensure that women and girls (especially those who are poor or have been denied the right to an education), can easily have access to and utilize the necessary information.
57. In conclusion, efforts to reach out to individual women and to women's group, has allowed key issues to be identified to inform of gender knowledge the DRR tools and mechanisms. Under Component 2, a gender risk analysis (Output 2.2) was planned to improve adaptation intervention, early warning indicators and mechanism, and planning policies. Moreover, the outputs and outcomes of the Project were designed to contribute to the understanding of how adaptation measures can increase resilience and response mechanisms in emergencies in a manner that promotes gender equality.

3.1.7 Society and Environmental Safeguards

58. The Project was rated as a Category 3a, with small scale, site-specific and manageable environmental and social impacts with no adverse long-term impacts anticipated. The Project essentially provides:

- assistance to the community to enhance communities understanding of climate risks to prepare them to cope with the impact of climate disaster risks by facilitating information access and data resources, disseminating data and information, and foster public awareness about the potential impacts of climate change;
 - a positive impact in the planning process at subnational levels by strengthening national capacities in climate risks management by providing necessary knowledge and tools for development decision-making in the selected Provinces and Communes; and
 - better protection against floods in urban and rural areas that reduces risk of losing livelihoods and assets, such as housing and crops, thereby providing a highly positive social and environmental impact.
59. The only anticipated negative environmental and social impacts of the Project would result mainly from civil works associated with construction of vegetated ditches erosion control, and the stabilization works undertaken in Ntakangwa and Gasenyi Rivers to reduce the risk of flooding landslides in Bujumbura City. The Project-generated Environmental and Social Management Framework (ESMF) provided Government with guidance and measures with clear roles and responsibilities along with capacity strengthening measures for effective implementation and monitoring. The document provided key steps for screening all Project components, outlines procedures for preparing, reviewing, clearing, disclosing and monitoring subproject-specific Environmental and Social Impact Assessments (ESIAs)/Environmental and Social Management Plan (ESMPs).

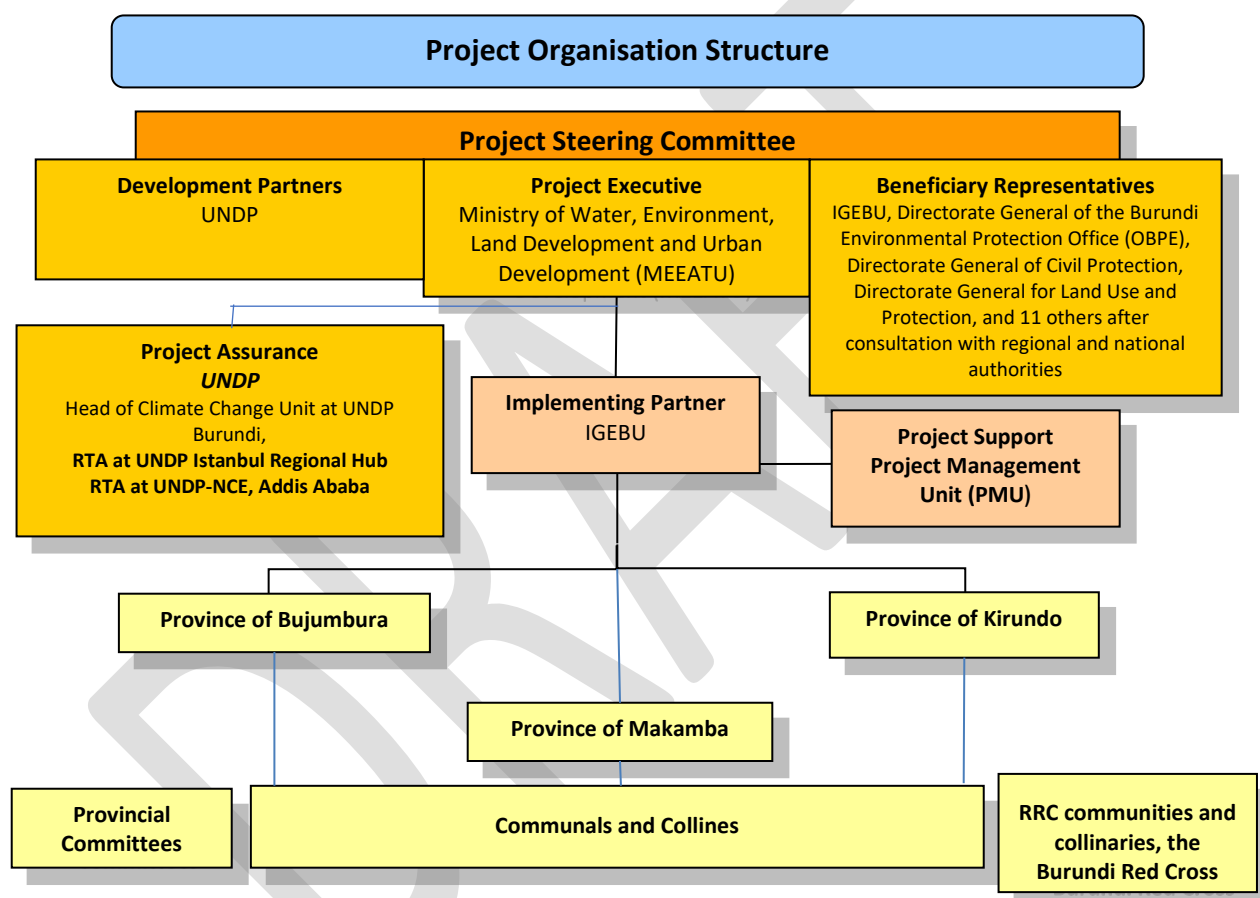
3.2 Project Implementation

60. The following is a compilation of key events and issues of the CDRM Burundi Project implementation in chronological order:
- CEO endorsement of CDRM was on 9 October 2015;
 - Inception workshop was held on 26 March 2016;
 - By August 2017, 20 automatic weather and hydrological stations and 20 pluviostations, 2 weather automatic stations and one synoptic station were installed, with over 100 households being sensitized on the importance of these stations in sending out climate alerts;
 - By July 2017, 14 staffs from IGEBU and 15 provincial and communal DRR platform staff were trained on weather forecasting and climate changes themes. This grew to at least 2,000 persons at the provincial, communal and collinal levels;
 - From August 2017 to January 2019, 10 automatic agro-meteorological stations, 10 hydro-meteorological stations, one automatic synoptic station and 19 rainfall gauge stations, all producing data for the Community-based Early Warning System;
 - By June 2018, Burundi's National Development Program 2018-2027 has been updated to now include climate change risks and adaptation as a national priority;
 - By January 2019, alert messages are not yet produced and disseminated to target communities out of Outcome 1 due to no technical training in hydrometeorological forecasting using the weather and hydrological data are received from the network's stations;
 - From January 2019 to March 2020, activities were implemented to train local communities in adopting adaptation technologies such as constructing anti-erosion ditches to strengthen food

- security, the use of 250 improved stoves and 2,500 kg of briquettes from biodegradable waste, on climate change resilience technologies and green technology products;
- The ministry with oversight of the Project's implementing partner changed in May 2018 from the Ministry of Water, Environment, Land Management and Urban Planning (where IGEBU was under this ministry) to the Ministry of Environment, Agriculture and Livestock;
 - 2020, 3 PCDCs are aligned to the Burundi National Development Plan and integrate gender issues related to climate change;
 - From January 2018 to August 2020, Ntahagwa riverbed stabilization works were implemented with gabions;
 - In March 2020, the COVID-19 pandemic affects pace of outputs by the Project;
 - A Project extension was granted in 2020 allowing for the training of EWS personnel to produce and disseminate alert messages to local communities;
 - A second Project extension was granted on June 2020 to complete alert messaging production and dissemination to the local communities, watershed management works and the 3rd phase of the Ntangwa river stabilization works;
 - The Project terminal date was 31 December 2020;
 - On 6 January 2021, the final PSC meeting for CDRM was held.
61. CDRM Burundi was under a national implementation modality (NIM). The implementing partner on CDRM was the Burundi Geographical Institute (IGEBU), which closely coordinates with the Directorate General of the Burundi Environmental Protection Office (OBPE), Directorate General of Civil Protection, and the Directorate General for Land Use and Protection. At the local level, IGEBU was responsible for coordinating local action with governors, mayors and council members in the target provinces.
62. The Project steering committee (PSC) for the CDRM Burundi Project played a key role in monitoring and evaluating of the Project, through ensuring that the necessary resources were engaged to resolve internal conflicts, and to negotiate solutions to problems with external agencies. In addition, it approved the appointment and responsibilities of the Project Coordinator and any delegation of his responsibilities. As illustrated in Figure 3, MEEATU chaired the PSC with IGEBU assuming the role of Secretary. The remaining members were comprised of representatives of key institutions involved in the Project activities and representatives from beneficiary municipalities. UNDP under the NIM modality, had a seat on the Steering Committee along with provincial representatives.
63. The PSC also reviewed and approved annual work plans (AWPs) as well as quarterly plans and approved any essential deviations from the original plans. To ensure UNDP's ultimate accountability for the Project's results, the decisions of the PSC were made in accordance with standards that ensure management for results development, better value of money, fairness, integrity, transparency and effective international competition.
64. The Gitega-based IGEBU had a Project Management Unit (PMU) that implemented and managed CDRM's day-to-day activities as well as working closely with municipalities and intervention communities with PMU personnel having been recruited by IGEBU with UNDP support. The PMU was comprised of a National Project Coordinator (NPC), an RAF, an expert for monitoring and evaluation, an administrative assistant, an SAP expert, an environmentalist, 4 drivers, a utility worker and 2 security guards. Primary responsibility of the NPC was to ensure that the CDRM Project produces the results covered in the ProDoc to the required quality standard and within the time and

cost parameters. National and international consultants supported the NPC including an expert on the international early warning systems, an expert on EWS at national level, a national communication expert, a national gender expert, and a national training expert. Other responsibilities of the PMU included development of an MoU with extension services to Bujumbura Town Hall to support the activities of resilient communities, and to hire personnel to support project management in some provinces (some of which have involved with hiring of UNV personnel).

Figure 3: Current Management Arrangements for the UNDP-GEF Project “Community Disaster Risk Management Due to Climate Change in Burundi” (CDRM Burundi)



65. Feeding into the comunals and collines were consultations with:

- the provincial committees consisting of officers of the extension services of OBPE, the Directorate General of Agricultural Vulgarisation, the General Directorate of Land Use and Protection and other representatives of the institutions concerned; and
- the Red Cross and RRC community committees who were to bring together beneficiaries including municipal representatives, NGOs and farmer organizations. These consultation committees were to meet every 3 months and be responsible for monitoring and implementing pilot adaptation initiatives involving rural people, review and provide advice on the financial

aspects of local activities, and be involved in planning and approving activity expenditures at the local level.

3.2.1 Adaptive Management

66. Adaptive management is discussed in GEF terminal evaluations to gauge Project performance and the ability of a project to adapt to changing regulatory and environmental conditions, common occurrences that afflict the majority of GEF projects. Without adaptive management, GEF investments would not be effective in achieving their intended outcomes, outputs and targets. Some examples of adaptive management on CDRM are included in the following text.
67. While the CDRM Project has been laid out in Appendix E, there were inevitably a number of adaptive management changes that were made on the CDRM Project. These are listed on Table 3 with the intended actions listed on the left-hand column, and the adaptive measures undertaken in their place on the right column.

Table 3: Adaptive management undertaken within CDRM

Original Outcomes and Actions	Actual adaptive management measures completed
1. A community-based early warning system established and operationalized as a platform for climate-related disaster risk reduction and for guiding the implementation of climate change adaptation activities	1a. Strengthened community preparedness for climate-related disaster risks: <ul style="list-style-type: none"> - Established an operational structure of the Community-based Early Warning System for Climate Change Risks in Bujumbura Rural, Kirundo and Makamba provinces; - Upgrading of the hydrometeorological network and improving the ability to generate real-time information and weather data sets for dissemination of information to target communities; - Established an effective and effective communication and dissemination system to reach all end-users.
- Trained provincial, communal and hillpoint focal points	1b. Building resilience and responding capacity of local communities: <ul style="list-style-type: none"> - Established an effective and effective communication and dissemination system to reach all end-users; - Gender and climate vulnerability assessments to guide local response to climate change.
2. Communal services, technical staff departments integrate cost-effective adaptation investments and options into sectoral and local development planning instruments, taking into account weather variability and climate change projections	<ul style="list-style-type: none"> - Assistance to policy makers, technical staff and communities on comprehending the appropriate use of climate risk tools and raising awareness of the impacts of climate change; - Support for the development of provincial and municipal development plans and revised and updated annual budgets to integrate climate risk management.
3. Necessary investments provide to protect infrastructures and local livelihoods from climate impacts and build the socio-	See below for adaptive management measures.

Original Outcomes and Actions	Actual adaptive management measures completed
economic resilience of crisis-affected population	
- Extension of project interventions (stabilization work on the banks of the Ntakangwa River, reforestation, barriers and FAE) to other hills	- 500 km of vegetated ditches for erosion control in Bugabira, Busoni and Kirundo-rural - Work to protect watersheds in the Mumirwa and stabilize the banks of the Ntakangwa and Gisenyi riverbanks; - Partial development of the Rwaba watershed and delimitation of a Tanganyika Lake buffer zone.
- Support for livelihoods: agriculture, small business or market gardening	- Implementation of accompanying measures to strengthen food security for vulnerable households; - Strengthening household capacity in cooking technology to reduce the risk of CC-related disasters.
- Support for agricultural production: access to improved seeds and more resistant to the impacts of climatic hazards, access to agricultural tools	- Used watershed water collection in combination with the establishment of vegetable gardens for hill households; - Support for households living around lakes (Tanganyika, Cohoha and Kanzigiri) to undertake climate-resilient agriculture.

68. In reality, projects such as CDRM are bound to have varying degrees of adaptive management. The examples showed on Table 3 reflects some of the major adaptive management measures undertaken, especially where there was no definition of activities or insufficient details to implement an activity. However, there were some issues regarding deviations from the original intent of works. For example, on the Nthangwa River:

- Riverbank stabilization works were to be originally done by communities but was instead done by a private contractor who specialized in river engineering that was required to stabilize the site;
- There was limited funding being provided to the private contractor for the riverbank stabilization works due to the contractor's capacity to manage funds, often delaying payments;
- While the priority should have been to work with farmers upstream to protect the upper watershed through anti-erosion measures, much of this work was not done in sufficient quantities;
- Though protection of the school and church was viewed as a priority, detailed watershed plans would have located these structures in less risky locations that would not have been exposed to the flood flows of the Nthangwa River;
- The completion of the Nthangwa riverbank protection of the school and the church has left other reaches of the river upstream and downstream, unprotected. More immediate actions will be required in the future to ensure the protection of these areas;
- No ESMF safeguard management risk assessment was done with the riverbank stabilization works and other interventions. Some of the ESMF work would have revealed the presence of indigenous peoples (Batwa people) which would have involved a stakeholder engagement plan which was not performed for this Project;
- Other smaller investment commitments were made on other watersheds which does not amount to good value for money. With these downstream watershed protection works done in

isolation, there is a real risk that these sites will not bring much benefit to the local stakeholders, primarily due to the lack of follow-up investments in watershed protection.

69. There were many other delays that affected the performance of the Project which in some ways affected the adaptive management actions:
- the Project did not start in October 2015 and was delayed until 2016 with consultation meetings and establishing focal points of the Project at the provincial, communal and hill level;
 - there were delays in the installation of the EWS equipment causing a delay in the operationalization of the EWS stations and a subsequent delay in training staff in the operation and dissemination of data transmitted by these automatic stations;
 - delays in the monitoring and evaluation expert for approximately 7 months. The Project had to temporarily recruit an environmental specialist from MEEATU to monitor activities.
70. In conclusion, efforts to adaptively manage this Project were ***moderately satisfactory***.

3.2.2 Partnership Arrangements

71. The CDRM Project has made every effort to effectively involve all stakeholders involved in the Project implementation. This includes territorial administrations, municipal technical services such as the environment, agriculture and livestock, as well as hill chiefs and populations who are involved in identifying sites for weather, water and rainfall stations, micro-reforestation and anti-erosion ditching. Moreover, provincial and communal territorial, community governments and state technical services (directors of the provincial offices of environment, agriculture and livestock, communal administrators, hill chiefs) have been involved with watershed planning and implementation of watershed activities. Territorial administrations and partner associations were also involved in raising awareness of the risks of disasters and the maintenance of anti-erosion ditching and micro-reforestation sites. Finally, members of partner associations took part in the work to protect watersheds through micro-reforestation (through the operation of nurseries, planting and maintenance) and the excavation of anti-erosion ditching. This work was carried out according to the HIMO approach:
72. Overall efforts by the CDRM Project to facilitate strengthened partnerships were **satisfactory**. The primary rationale for this was that the partnership arrangements from CDRM activities had resulted in several good developmental outcomes, generating considerable interest on these projects to setup potential partnerships with both local and provincial governments of Kirundo, Makamba and Bujumbura.

3.2.3 Project Finance

73. The CDRM Project had a GEF budget of US\$8,715,000 that was to be disbursed over a 4-year period. Table 4 depicts the disbursement levels up to the end of the Project, 31 December 2020, revealing the following:
- Funds expenditures for 2016 and 2017 were only 50% of planned expenditures. Expenditures in 2018 and 2019 were closer to planned. The balance of funds was expended in 2020;

Table 4: GEF Project Budget and Expenditures for CDRM Project (in USD as of 31 December 2020)

CDRM Outcomes	Budget (from ProDoc)	2015 ¹⁷	2016	2017	2018	2019	2020 ¹⁸	Total disbursed	Total remaining
OUTCOME 1: A community-based early warning system established and operationalized as a platform for climate-related disaster risk reduction and for guiding the implementation of climate change adaptation activities.	1,839,450	73,272	129,629	209,066	294,657	138,388	465,796	1,310,808	528,642
OUTCOME 2: Communal services, technical staff departments integrate cost-effective adaptation investments and options into sectoral and local development planning instruments, taking into account weather variability and climate change projections	1,460,207	0	10,570	408,478	159,552	363,628	314,836	1,257,064	203,143
OUTCOME 3: Provide necessary investments to protect infrastructures and local livelihoods from climate impacts and build the socio-economic resilience of crisis-affected population	5,000,343	0	397,304	611,928	1,282,034	1,526,316	1,937,413	5,754,995	-754,652
Project Management	415,000	52,193	104,082	113,637	238,480	145,748	111,162	765,302	-350,302
Total (Actual)	8,715,000	125,465	641,585	1,343,109	1,974,723	2,174,080	2,829,207	9,088,169	-373,169
Total (Cumulative Actual)	8,715,000	125,465	767,050	2,110,159	4,084,882	6,258,962	9,088,169		
Annual Planned Disbursement (from ProDoc)	8,715,000	116,000	1,180,251	2,804,852	2,418,977	2,194,920			
% Expended of Planned Disbursement		108%	54%	48%	82%	99%			

¹⁷ Starts 9 October 2015¹⁸ Up to 31 December 2020

Table 5: Co-Financing for CDRM Burundi Project (as of 31 December 2020)

Co-financing (type/source)	UNDP own financing (million USD)		Government (million USD)		Partner Agency ¹⁹ (million USD)		Private Sector (million USD)		Total (million USD)	
	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual
Grants	8.000	7.500	18.500 ²⁰	Xxx – support fror GoB for cost overrun?					26.500	7.500
Loans/Concessions										
• In-kind support			0.500	0.500 ²¹					0.500	0.500
• Other										
Totals	8.000	7.500	19.000	0.500					27.000	8.000

¹⁹ These are the grantees.

²⁰ This was divided into US\$14.5 million from the Ministry of Finance and US\$4.0 million from the World Bank through the Ministry of Finance.

²¹ Government of Burundi in-kind support

- Fund expenditures for Outcome 1 were underspent by slightly more than US\$500,000. This was probably due to the inability to fully implement the training program for EWS;
 - Fund expenditures for Outcome 3 were US\$754,000 over the intended expenditure of US\$ 5.0 million. The cost overrun was covered by the Government of Burundi *who covered the cost overrun?? If Government of Burundi did this, then their co-financing should go up;*
 - Project management costs were 8.4% of the total budget;
 - The CDRM Project has a mechanism to determine and adjust budgets that is not entirely clear to the Evaluator in terms of its functionality *Was this a Government of Burundi mechanism?*
74. Co-financing was US\$8.0 million against a target of US\$27.0 million. No co-financing was realized from the GoB except for US\$0.5 million in in-kind financing. UNDP co-financed US\$7.5 million, mainly into Outcome 3.
75. Overall, the cost effectiveness of the CDRM Project has been **moderately satisfactory** in consideration of the cost overruns of Outcome 3 and the lack of co-financing from the GoB.

3.2.4 M&E Design at Entry and Implementation

76. The M&E design of the CDRM Project is contained on pages 40 to 42 in the CEO Endorsement Document for the CDRM Project. The M&E design of the CDRM Project is comprehensive as well as standard to other similar GEF projects within UNDP. The design included the Inception Workshop and report, measurements of means of verification for project results and progress, PIRs, midterm valuations, final evaluations, audits, and visits to deal sites. However, as mentioned in Para 34, the quality of the PRF did leave some issues regarding effective monitoring and evaluation of the project activities that could have included an economy of words to describe the outcomes, indicators, baseline and targets in terms of clarity. As such, the M&E design is rated as **moderately satisfactory**.
77. M&E implementation was not quite as organized. This had much to do with the delays and changes in Project design which were outlined in Para 67 and Table 3.
78. It was evident from the PMU that there were travel budget shortages for M&E visits. In hindsight, a serious discussion should have been raised at the Inception Workshop or shortly thereafter to review and ensure the M&E budget was sufficient for required M&E activities with onus placed on the NC and the PMU on ensuring sufficient budgets for M&E-related travel. For these reasons, the *M&E plan implementation is rated as moderately satisfactory*. Ratings according to the GEF Monitoring and Evaluation system²² are as follows:
- M&E design at entry - 4;
 - M&E plan implementation - 4;
 - Overall quality of M&E – 4.

²² 6 = HS or Highly Satisfactory: There were no shortcomings;

5 = S or Satisfactory: There were minor shortcomings,

4 = MS or Moderately Satisfactory: There were moderate shortcomings;

3 = MU or Moderately Unsatisfactory: There were significant shortcomings;

2 = U or Unsatisfactory: There were major shortcomings;

1 = HU or Highly Unsatisfactory

U/A = Unable to assess

N/A = Not applicable.

3.2.5 Performance of Implementing and Executing Entities

79. The performance of the implementing agency of the MEETAU can be characterized as follows:

- Strong support to mobilize IGEBU to manage exposure of the EWS in 2017 and 2018 to its personnel as well as to stakeholders such as provincial and communal territorial, community governments and state technical services;
- Failure to develop and operationalize community-based EWSs due to issues in sending 15 IGEBU executives for training abroad (see Para 88 for more details);
- Mobilizing communities for PCDCs in Busoni, Bugabira and Kanyosha;
- Mobilizing communities for the implementation of capital cost works including erosion control ditching, forestry plantations, agro-forestry plantations and gabion installations along the Ntahangwa River.

Overall performance of MEETAU on the CDRM Burundi Project is assessed as being **moderately satisfactory** considering most of the targets were met.

80. The performance the executing partner, UNDP, can be characterized as follows:

- Successful delivery of EWS equipment to IGEBU;
- Successful training for IGEBU for community-based EWS;
- Failing to meet the target of least 50 extension staff and 100 DRR personnel for staff trained in weather forecasting. Only 50 provincial and communal government staff and 14 IGEBU were trained;
- Mobilizing 3 communities for PCDC formulation;
- Managing the budget for Component 3 capital works.

Overall performance of UNDP on the CDRM Burundi Project can be assessed as being **moderately satisfactory**.

81. A summary of ratings of the executing agency and executing partner of the CDRM Burundi Project are as follows:

- *Implementing Entity (MEETA)* – 4;
- *Implementing Partner (UNDP)* – 4;
- *Overall quality of execution (MEETA/UNDP)* – 4.

3.3 Project Results

82. This section provides an overview of the overall Project results and assessment of the relevance, effectiveness and efficiency, country ownership, mainstreaming, sustainability, and impact of the CDRM Burundi Project. In addition, evaluation ratings for overall results, effectiveness, efficiency and sustainability are also provided against the October 2015 Project PRF (as provided in Appendix E)²³. For Tables 7, 9, 10, and 11, the “status of target achieved” is color-coded according to the following scheme:

²³ Evaluation ratings are on a scale of 1 to 6 as defined in Footnote 28.

Green: Completed, indicator shows successful achievements	Yellow: Indicator shows expected completion by the EOP	Red: Indicator shows poor achievement – unlikely to be completed by project closure
-----------------------------------------------------------	--------------------------------------------------------	-------------------------------------------------------------------------------------

3.3.1 Overall Results

83. With regards to the key objective-level targets of CDRM Burundi, the Project was aiming to achieve *“strengthened capacity of provincial, communal and local communities for strengthened disaster preparedness and response management to ensure the long-term reconstruction and emergency phase in the low-lying regions of Bugesera, Mumirwa and Imbo”* by the EOP.
84. The ambition of the indicator in the Project objective was to build the capacity of 150 technical staff from extension services and municipalities, 50 members of DRR platforms and 1,000 households to be able to manage and implement the climate resilient measures in the face of extreme weather events. To this effect, learning by doing approaches were undertaken during 2017 up to early 2019 to train the stakeholders on various measures undertaken by the Project including:
- adaptation and mitigation techniques for sustainable watershed management;
 - implementation of climate change adaptation measures;
 - early warning system operations; and
 - erosion control measures using water basin terracing techniques.
85. The number of trained stakeholders is provided on Table 6 and a summary of Project-level achievements against CDRM Project targets is provided in Table 7. In summary, the numbers of targeted stakeholders to be trained under this Project have been exceeded. However, the results towards achievement of the CDRM Burundi Project-level targets are rated as ***moderately satisfactory***, given that the IGEBU technical training in hydro-meteorological forecasting has been effective but without training at least 2,000 households trained in the 36 target collines to frequently access climate risk information and alerts generated by advanced hydro-meteorological forecasts from IGEBU. The Project met the expectations of training IGEBU on hydrometeorological forecasting. However, with no Project resources remaining by the time the IGEBU training with the CIMA Foundation was completed, there was no training of provincial, communal services and local communities for disaster risks preparedness and responses management to ensure long term and sustainable emergency and reconstruction phase. A strong point of the Project was the passing of local knowledge through community groups and decentralized services empowering local administrations.

3.3.2 Outcome 1: An operational Community Based Early Warning system established capable to engage and reach out target communities

86. Under this Component, the expected outcome was “an operational Community Based Early Warning system established capable to engage and reach out target communities for climate change disasters risks prevention and guiding the implementation of adaptation activities”. A summary of actual achievements of Outcome 1 with evaluation ratings are provided on Table 8. A summary of hydrological and rainfall automatic weather stations is shown on Table 9.

Table 6: Numbers of trained persons on CDRM to increase their adaptive capacities to reduce risk of and respond to climate variability

Year	Numbers trained				Remarks
	Extension services and municipalities	Members of DRR platforms	Households	Others	
2020	0	0	0	0	
2019	0	0	0	0	Due to Project reaching targets and the exhaustion of the budget line, training was concluded in early 2019.
2018	25	122	1,050	188	Personnel from DRR platforms and technicians from the extension services and municipalities were trained on adaptation and mitigation techniques for sustainable watershed management.
2017	51	28	450	20	All this training during this year was related climate change adaptation measures. The 20 decisions-makers were also trained on watershed management techniques

Table 7: Project-level achievements against CDRM Project targets

Intended Outcome	Performance Indicator	Baseline	Target	Status of Target Achieved	Evaluation Comments	Rating ³⁶
Project Objective: <i>Provincial, communal services and local communities capacitated on disaster risks preparedness and responses management to ensure long term and sustainable emergency and reconstruction phase in Bugasera, Mumirwa and Imbo Lowlands' regions, Republic of Burundi</i>	No. and type of actors in Kirundo, Makamba, Bururi and Bujumbura Provinces with increased adaptive capacity to reduce risks of and response to climate variability (AMAT indicator 2.2.1.)	Type and level: 0 The capacity of communities, local governments, and national government to respond effectively to climate change risks remains limited due to the non-availability of relevant data and management tools, the lack of local technical expertise, and the low contributions in financial resources. There is insufficient indigenous knowledge on weather forecasting indicators and skills in the future. In addition, climate change risks and climate resilient activities are not considered into the planning and budgeting systems at the local government and community levels	At least, 150 technical staffs from extension services, municipalities, 50 members of DRR platforms and 1,000 households (with a gender balance) implement adaptive and more resilient measures to climate change impacts	<i>As of January 2019, all targets for the number of trainees have been reached, including 147 technicians from DRR platforms and 1,500 households. However, no training was provided to provincial, communal services and local communities for disaster risks preparedness and responses management to ensure long term and sustainable emergency and reconstruction phase.</i>	See Para 85	4
Overall Rating – Project-Level Targets						4

³⁶ Ibid 22

Table 8: Component 1 achievements against targets

Intended Outcome/Output	Performance Indicator	Baseline	Target	Status of Target Achieved	Evaluation Comments	Rating ³⁷
Outcome 1: A community-based early warning system established and operationalized as a platform for climate-related disaster risk reduction and for guiding the implementation of climate change adaptation activities.	No. and type of stakeholders targeted in target collines with access to information and alerts proceeding from advanced data analysis and hydro meteorological forecasts (gender disaggregated)	<p>No. and type: at least 500 households received alert messages from Civil Protection officers and the Burundi branch of the Croix Rouge. Civil protection officers use megaphone to encourage evacuation in case of strong rains and floods.</p> <p>The Burundi branch of the Croix Rouge has developed – at least in the provinces identified as main target of the present project, Bujumbura rural and Bugasera – an impressive structure with high capillary presence at hill level (around 150 volunteers each hill) and locally-based consistent response mechanisms to assist the most vulnerable families with food and other basic items</p>	At least 2000 households in the 36 target collines have access frequently to climate risks information and alerts proceeding from advanced data analysis and hydro meteorological forecasts	<i>Target was not achieved partially due to the COVID-19 pandemic, and partially due to the lack of resources to train at least 2,000 households in the 36 target collines (at the EOP of the Project) to frequently access climate risk information and alerts from advanced hydro-meteorological forecasts, essential to operationalizing the EWS. However, IGEBU were trained by the CIMA Foundation and ACMAD in forecast training.</i>	See Paras 87-89	3
	Type and No. of information systems in place to support CB EWS in target collines (AMAT indicator 2.1.2.	<p>Type and No.: 2</p> <p>FAO and WFP, have developed nation wide monitoring systems: the “Système d’Alerte Précoce et Suivi de Sécurité Alimentaire” (SAPSSA). But, the FAO’s system is more focused on agricultural production and animal husbandry, while WFP FSMS more on food security and access to food</p>	At least 10 community based Early Warning systems established to convey down accurate hydrometeorological previsions messages & climate risks alerts to population	<i>Only 7 community-based EWSs actually setup. There are plans to expand the EWSs during the next phase after the EOP.</i>	See Para 90	4
Overall Rating – Component 1						6

³⁷ Ibid 22

Table 9: Automatic Weather, Hydrological and Rainfall Stations³⁸

No	Station	Type	Common	Problem/risk initially identified	Affected populations		
					Household number	Number of people in the household	
						Men	Women
1	Kiyonza Marine	Hydro	Bugabira	Lack of information on the risks of flooding, coastal erosion, rising water and lake water pollution	1703	3579	4928
2	Bugabira	Weather	Bugabira	Lack of information on the risks of extreme events: excess rainfall, deficits and related negative impacts	1967	4395	4976
3	Yaranda	Hydro	Bugabira				
4	Kigozi	Pluvio	Bugabira	Lack of information on the behaviour of the rainfall regime in watersheds			
5	Kiyonza	Pluvio	Bugabira				
6	Busuni	Weather	Busuni		3347	6081	7420
7	Kirundo	Weather	Kirundo		1809	4248	4898
8	Kanzigiri	Hydro	Bwambarangwe	Lack of information on flood risks	1049	2269	2888
9	Bwambarangwe	Weather	Bwambarangwe		2307	5231	6355
10	Kabuyenge	Pluvio	Bwambarangwe				
11	Ntahangwa-High	Hydro	Bujumbura-Mairie				
12	Buja Aero	Synoptic	Bujumbura-Mairie	Risks of lack of weather information for air navigation			
13	Kanyosha-Bas	Hydro	Bujumbura-Mairie				
14	Ntahangwa-Bas		Bujumbura-Mairie				
15	Mubimbi	Pluvio	Mubimbi				
16	Isare	Weather	Isare		6872	16234	17325
17	Nyambuye	Pluvio	Isare				
18	Kibuye	Pluvio	Isare				
19	Kirombwe	Pluvio	Kanyosha				
20	Kanyosha	Weather	Kanyosha		2523	6285	6834
21	Nyambiraba	Weather	Nyambiraba		2430	6126	6835
22	Kanyosha-High	Hydro	Nyambiraba				
23	Kankima	Weather	Mugongo Manga		1576	5345	5762
24	Mugongo-Manga	Pluvio	Mugongo Manga				
25	Saga Lesha	Weather	Rumunge				
26	Vugizo	Pluvio	Vugizo				
27	Makamba	Weather	Makamba				
28	Rwaba Buheka	Hydro	Nyanza Lake				
29	Nyanza Lake	Weather	Nyanza Lake		6913	14193	17067
30	Rwaba Nyanza	Hydro	Nyanza Lake				

³⁸ Source: GCRCCBu Project

87. Activities for this outcome commenced with the procurement of the early warning systems and equipment. Though this Project was NIM, the MEETAU and IGEBU sought the assistance of UNDP Copenhagen to procure the EWS equipment. The equipment was procured and installed over 2017 and 2018. The automatic stations that comprised this equipment were installed and set up with the vendor visiting Burundi at least 3 times during the course of the Project, to show everyone how to set up and how to operate and maintain. This included 10 automatic agro-meteorological stations, 10 hydro-meteorological stations, one automatic synoptic station and 19 rainfall gauge stations, all installed by 2019 and receiving field data to the main computer server at the IGEBU headquarters. An estimated 100 households have been sensitized on the importance of weather and hydrological automatic station and the importance of disseminating or sending an alert message, far from the target of 2,000 households.
88. In addition, one of the main expected results of implementation of Outcome 1, namely the development and operationalization of a community-based EWS, has not been achieved. Certainly, a system of collection and transmission of early warning data for climatic hazards (floods, droughts) has been developed through the installation and equipment of some 30 stations even though hydrological sensors are currently needed to operationalize some of the stations. Notwithstanding the fact that training was carried out for IGEBU by the CIMA Foundation and ACMAD, the training was not provided to least 2,000 households in 36 target collines, communal services and local communities due to the COVID-19 pandemic and the lack of Project resources being available for such training. Thus, the objective of strengthening the capacity of these stakeholders and in particular, training the collines and communal services personnel for the operationalization of the community-based EWS, could not be achieved by 2021 as planned. When asked about the reasons for the delay, the Project Coordinator revealed that, as early as 2018, steps had been taken to select 15 IGEBU executives and send them to train abroad. However, the process to send the executives for training could not have been conducted due administrative reasons mentioned involving a procedural problem proposing a partnership with the Weather Service.
89. By March 2020, weather and hydrological data were being received from the network's stations in real time. However, alert messages were not generated and disseminated to target communities due to the lack of technical training in hydrometeorological forecasting. Training and awareness raising were eventually passed on from the suppliers of equipment to IGEBU, but not to provincial personnel, and community and village focal points due to no resources left on the Project at the end of the Project, December 2020. However, with many surplus EWS equipment being procured from other project budgets, awareness raising was being done outside this Project which proved to be valuable; this facilitated the setup of a future program to be set up with a Red Cross partnership to collect SMS data and have coverage throughout the country.
90. The Evaluation Team was unable to verify the quality and performance of the equipment installed in the stations and whether they were functioning well and transmitting data in real time. Furthermore, even with 7 community-based EWS having been established by March 2020, operationalizing the EWS was not yet achieved, primarily due to the COVID-19 pandemic and the training of IGEBU staff on forecasting extreme hydro-meteorological events still to be done (performed from October 2020 the end of the Project, December 2020). While the Niger-based African Centre of Meteorological Application for Development (ACMAD) and the CIMA Foundation delivered training on collection and processing of data through software and a server adapted for data processing, it failed to set up and

operationalize the EWS (detailed training on how to collect data using mobile phones, and sending SMS messages to IGEBU) due to problems getting approvals for IGEBU and other government personnel from the President's office for international training in Niger. As a result, this ACMAD training was only partially delivered. ACMAD, though, has agreed to provide on-line training on a subsequent phase of the CDRM Project with the Burundi Red Cross to deliver services related to training of IGEBU and the communities on the operationalized EWS.

91. The CIMA Foundation dedicated itself to training on strengthening the forecasting, monitoring and risk management capabilities of the IGEBU³⁹, between October and December 2020. During these months, in collaboration with the ACMAD and the United Nations Economic Commission for Africa, the CIMA Foundation supported the development of tools for the country's hydro-meteorological risk. In particular, it created a specific access to the myDEWETRA.world platform, developed starting from the myDEWETRA integrated system. The platform allows, on the one hand, to improve forecasting capabilities, exchange and sharing of data locally and globally; on the other, it offers the possibility of drawing up alert bulletins. The latter, which represent a fundamental tool of EWSs, can be shared with civil protection institutions and with the population through various channels (such as websites and social media), so as to improve the effectiveness and timeliness of risk prevention and mitigation actions. The training by the CIMA Foundation was not fully delivered due to COVID-19 restrictions.
92. In conclusion, the results of Outcome 1 can be rated as **moderately satisfactory** based on the failure to achieve all the above targets.

3.3.3 Outcome 2: Community services, relevant ministry support services and provincial disaster risk platforms are trained

93. Under this Component, the expected outcome was community services, relevant ministry support services and provincial disaster risk platforms are trained to use risk management tools for long-term planning for climate change variability and projections. Summary of the actual achievements of the activities of Outcomes 2.1, 2.2 and 2.3 with evaluation ratings are provided on Table 10.
94. The target number of staff that trained on adaptation and climate risk management teams and tools was not achieved. This only included 50 staff from provincial and communal governments responsible for DRR management who have been trained on climate change risks, adaptation approaches, and management tools, and 14 IGEBU staff trained in weather forecasting at ICPAC in Nairobi, Kenya in early 2019 (this training was more general and additional training was required for established EWS operations). **What are the reasons for not reaching the target of 50 extension staff and 100 DRR platform members as trained on climate change issues in the operation of the EWS?**

³⁹ <http://www.cimafoundation.org/fondazioni/progetti/burundi.html>

Table 10: Achievements of Outcome 2 against targets

Intended Outcome	Performance Indicator	Baseline	Target	Status of Target Achieved	Evaluation Comments	Rating ⁴⁰
Outcome 2: Communal services, technical staff departments integrate cost-effective adaptation investments and options into sectoral and local development planning instruments, taking into account weather variability and climate change projections	No. and types of staff trained on adaptation and climate risk management instruments and themes (broken down by gender) (AMAT 2.2.1.1)	No et types: 0 By tools available for extension services and platforms to support communities in managing climate risks la DRR Low capacity of IGEBU staff to produce real-time information on weather, climate and agro-climatic forecasts	At least 50 extension staff and 100 DRR platform members trained on climate change issues including climate risk management, and the operation of CB-EWS At least 15 IGEBU staff trained in Geographic Information System and Software Tools, remote sensing and image interpretation, weather analysis, climate risk information management,	165 provincial and communal government staff and 350 local elected officials and policy makers responsible for DRR management been trained on topics such as climate change risks, adaptation approaches and associated management tools, and 14 IGEBU have staff trained in weather forecasting (at Nairobi, Kenya in early 2019). Participation in the training was not gender disaggregated.	See Para 94	3
	Number of SPATs and PLDCs including specific actions and budget for adaptation to climate change (AMAT indicator 1.1.1.1)	A. 0 Most policy makers and local communities have limited capacity to integrate climate change into all relevant sectoral activities and development strategies in general.	At least 2 SPATs and 3 PCDCs are being updated for climate risks and climate change issues (including the budget), and to support the implementation of adaptation measures.	3 PCDC for 3 communes (Busoni, Bugabira and Kanyosha) have been finalized and disseminated.	See Para 95	4
	% of community groups sensitized to negative impacts, risk reduction, risk management, and appropriate adaptation responses (broken by gender) (AMAT 2.3.1)	Less :15: Civil protection officers using megaphones in the event of a severe weather event, asking households in high-risk areas (such as those along ravines) to evacuate. There is a limited understanding of the risks and opportunities associated with climate change and the potential opportunities of climate change-related activities	More than 75% of the target population is aware of the expected impacts of climate change and appropriate adaptation measures, including at least 50% of women.	In 2019, around 55% of the targeted population is aware of the impacts of climate change and appropriate allocation responses. This included at least 50% women.	See Para 96	4
Overall Rating – Component 2						4

⁴⁰ Ibid 22

95. With regards to the preparation and updating of 2 SPATs and 3 PCDCs, sensitization workshops were organized in 2017 for 2,000 people at the provincial, communal and collinal levels to sensitize key community members of the importance of long-term climate change planning. By mid-2019, support for the development of 3 new PCDCs strengthened the capacity of provinces and municipalities to take charge of their own planning by integrating climate risks. By end of 2019, the elaboration of 3 PCDCs was annual budgets updated to integrate climate risk management. SPATs were not considered relevant to this initiative.
96. With regards to community groups sensitized to adverse impacts of climate change, risk reduction, risk management, and appropriate adaptation responses, the percentage of achievement of the results is around 55% targeted population aware of predicted impacts of climate change and appropriate adaptation responses (including at least 50% of women), off the 75% targeted. However, a gender-related vulnerability analysis report was produced and published to improve the integration of gender considerations into many activities including income generating activities.
97. In conclusion, the results of Outcomes 2 can be rated as **satisfactory** based on achieving the targets for 50 staffs from extension services and 100 members from DRR Platforms trained on climate changes themes including climate risks management and functioning of community-based EWS.

3.3.4 Outcome 3: Investing in relevant early warning systems and adaptive technologies

98. Under this Component, the expected outcome was investing in relevant early warning systems and adaptive technologies to protect local infrastructure and livelihoods from climate impacts. Summary of the actual achievements of the activities of Outcome 3 with evaluation ratings are provided on Table 11. IGEBU managed all funds and contracts for Component 3. The NPC had oversight of setting up contracts and expenditures that included the largest contract, the river bank stabilization works in collaboration with the Ministry Cabinet and the Ministry of Infrastructure. Some of the listing of the works under this Outcome 3 is provided in Tables 12 and 13 below. There is a disconnect between targets and the work performed on this Component, mainly due to the slope stabilization works on the Ntakangwa River which was viewed as more important work.
99. The slope stabilization works on the Ntakangwa River (including 11,720 m³ of gabion to stabilize river bank) began in 2017. With the GoB's agreed in-kind contribution (with equipment and technical staff), work proceeded under the assumption that the community would still be involved in rehabilitation. However, given the technical complexities and engineering required to repair the riverbank, a private contractor was recruited to do the engineering and rehabilitation of the riverbank in 2018. In 2018, 6,000 m³ of gabion have been installed to stabilize the Ntakangwa river bank. In 2019, another 11,720 cubic meter of gabion was installed to stabilize 314 m of the Ntakangwa River banks⁴¹. In 2020, another 664 meters of the banks of the Ntakangwa River was stabilized with more than 50 houses saved directly from the landslide phenomenon and reconstruction of Mukaraka road on 150m long and 30m large. **When did the contract begin and when did it end? Were there any problems monitoring progress and paying the contractor?**

⁴¹ Beneficiaries of these works included the Nyakabiga Public Garden Primary School with 1,106 children attending, a church with an average attendance of 1,700 worshippers weekly, and 1,000 houses with an average of 6 persons per household.

Table 11: Achievements of Outcome 3 against targets *need a final listing of interventions for this table*

Intended Outcome	Performance Indicator	Baseline	Target	Status of Target Achieved	Evaluation Comments	Rating ⁴²
Outcome 3: Investment on relevant early warning systems and adaptation technologies to protect infrastructures and local livelihoods from climate impacts	The type of relevant climate change adaptation technology implemented in the area chosen by participatory stakeholders (AMAT 3.1.1.2)	<p>The lowlands of the Imbo and Mimirwa regions are threatened by the effects of increased rainfall, which result in increased linear erosion along rivers that cause destruction and/or damage to many public and private infrastructure located in different parts of Bujumbura.</p> <p>Most of the current investments (e.g. roads, schools, urban drainage systems) address the lack of basic infrastructure in key cities such as Bujumbura, Gitega and Ngozi. Low and dispersed investments are underway at target sites to mitigate the impacts of erosion.</p>	<p>At most, 300 hectares of vegetated ditches for erosion control in Bugabira, Busoni and Kirundo-rural to protect and preserve community land from higher risks of upland rain erosion</p> <p>Digging of erosive pits for 500 km on farms in the communities of Bugabira commune (Kiyonza and Kigoma areas);</p> <p>At most 800 km of vegetated level curve to control erosion in Imbo and Mimirwa and 300ha of reforestation undertaken to stabilize the upstream watersheds in Bujumbura;</p> <p>At least 20 km will be demarcated as a buffer zone along Lake Tanganyika in Nyanza Lake commune</p> <p>At least 50 km of anti-erosive device is set up in the Rwaba Basin in the Nyanza lake commune and the slope stabilization work carried out to correct the Ntahangwa bed</p> <p>At least 100 households, including a minimum of 25% of women-headed households,</p>	<p><i>1,400 km of erosion control vegetated ditches have been installed in Mimirwa, Bugesera and Imbo</i></p> <p><i>2,886 km of vegetated anti-erosive ditch in Bujumbura province (1646 km), Kirundo (1140 km) and Makamba (100km)</i></p> <p><i>12,769,982 forestry trees have been produced and planted on 1,643 ha</i></p> <p><i>1,037,566 agroforestry trees have been produced and planted in the local communities for agricultural exploitation</i></p> <p><i>11,720 m³ of gabion have been installed to stabilize the Ntahangwa river bank. This includes 664 linear meters stabilized with modification of Ntahangwa riverbed with more than 50 houses saved directly from landslides and reconstruction of Mukaraka road (150m long).</i></p> <p><i>40 km of the buffer zone have been demarcated in Kirundo province on Lake Cohoha and</i></p>	See Paras 100 to 103	6

⁴² Ibid 22

Intended Outcome	Performance Indicator	Baseline	Target	Status of Target Achieved	Evaluation Comments	Rating 42
			have access to adequate subsistence measures aimed at climate resilience (e.g. IGA, water collection, vegetable gardening, improved homes) to enhance food security for vulnerable households	Kanzigiri what were the works - reforestation? 20 km in Makamba province on the coast of Lake Tanganyika in Nyanza-Lac commune what were the works - reforestation? 120 households, including 20% households headed by women, are currently using this green technology products		
	Number of targeted households that have adopted adaptive technologies by technology type (AMAT 3.1.1)	<p>Basic situation: At least 25 households are involved in subsistence activities such as fishing.</p> <p>Many families are forced to retreat from land adjacent to Lake Cohoha (an extra belt of 50 m) that produce better even in the event of insufficient rains or drought.</p> <p>However, there was no alternative support, which led to serious food insecurity and increased poverty (due to high food prices in the area).</p> <p>In addition, communities are undermining the effectiveness of reforestation activities through excessive tree exploitation.</p>	<p>Target: At least 100 households, including a minimum of 25% of women-headed households, have access to adequate climate resilience measures (e.g. IGA, water collection, vegetable gardening, improved homes) to enhance food security for vulnerable households</p>	<p>250 improved stoves and 2500kg of briquettes from biodegradable waste was produced and disseminated to the local communities.</p> <p>40 persons (18 women and 22 men) have been trained on climate change resilience technologies</p> <p>120 households, including 20% households headed by women, are currently using this green technology products</p>	See Para 104	4
Overall Rating – Component 3						5

Table 12: Watershed Development – Anti-Erosion Ditches

No	Province	Common	Km of anti-erosion ditches			Problem/risk initially identified	Affected populations		
			in 2017	in 2018	Total		Households	Men	Women
1	Kirundo	Kirundo	0	20	20	Erosion	4,400	806	849
2	Kirundo	Bugabira	105	155	260	Erosion	1,445	3,374	3,772
3	Kirundo	Busoni	40	100	140	Erosion	721	1,684	1,920
4	Kirundo	Bwambarangwe	50	100	150	Erosion, raw	1,483	3,171	4,155
5	Bujumbura	Isare	120	180	300	Erosion of the soil	1,676	4,307	4,770
6	Bujumbura	Kanyosha	80	100	120	Erosion, raw	839	2,445	2,283
7	Bujumbura	Nyabiraba	80	150	230	Erosions, floods	870	2,106	2,430
8	Bujumbura	Mugongo Manga	40	50	90	Erosion, raw	145	317	345
9	Makamba	Nyanza Lake	25	25	50	Erosion, raw	755	1,591	1,846
Total			540	880	1,420		8,334	19,801	22,370

Table 13: Mini-reforestation on Outcome 3

No	Province	Common	Number of forest plants produced in 2017	Area embalmed with forest plants in 2017 (ha)	Number of forest plants produced in 2018	Area embalmed with forest plants in 2017 (ha)	Total plant-embalmed area (ha)	Problem/risk initially identified
1	Kirundo	Kirundo	0	0	0	0	0	
2	Kirundo	Bugabira	0	0	0	0	0	Erosion, lake pollution
3	Kirundo	Busoni	61,821	39	92,732	58	97	Erosion, rainfall deficit
4	Kirundo	Bwambarangwe	42,000	70	108,204	68	138	Erosion, lake pollution
5	Bujumbura	Isare	305,068	191	497,000	311	502	Erosion, raw
6	Bujumbura	Kanyosha	141,110	88	128,250	80	168	Erosion, raw
7	Bujumbura	Nyabiraba	317,567	198	476,350	298	496	Erosion, raw
8	Bujumbura	Mugongo Manga	-	-	224,000	140	140	Erosion, raw
9	Makamba	Nyanza Lake	100,000	62.5	270,000	140	140	Erosion, pollution
Total			967,566	648.5	1,796,536	1,095	1,743.5	

100. Watershed stabilization efforts also differed considerably from original targeted activities including:

- 2,840 km of vegetated anti-erosion ditches have been put in place in by the Project: Kirundo (1,140 km), Bujumbura (1,500 km) and Makamba (100 km), an effort that started in 2018 and was completed in 2019. These works were mainly completed by affected households who used the money earned from this work to access climate resilience livelihood measures;
- 12,769,982 trees have been produced and planted on 1,643 ha as of 2020 **none of these figures match Table 13. Is the total number of trees produced 1,796,536?**; These comprised some of the anti-erosion measures and watershed management (“basin versant”) that were undertaken upstream on the Ntahagwa River Basin that may affect the downstream bank stabilization works by the Minister of Environment;

- 1,037,566 agroforestry trees have been produced and planted in the local communities agricultures exploitation as of 2020 *where is this summarized?*
101. For these 2 activities and others listed in Table 11, the target has been achieved in the context of volume of useful work. During the activity of digging the anti-erosive ditches, the cash for work approach was used. The labor was cheaper than planned and the Project increased the number of works including tree plants due to demand. The participants had a daily wage and part of the money was saved in cooperatives during the period of the employment with the participants being trained on how to initiate income generating activities. Some started livestock activities and others small businesses.
102. The Project also promoted the use of green technology such as 250 improved stoves and 2,500 kg of briquettes from biodegradable waste that was produced and disseminated to the local communities. A total of 40 persons (18 women and 22 men) have been trained on climate change resilience technologies with 120 households (20% women households) currently using this green technology.
103. For the number of targeted households that have adopted adaptive technologies by technology type, more than 50 households including 30% of women have accessed climate resilience livelihood measures such as erosion impact mitigation and associating agriculture to livestock and funds generating to strengthen the food security of vulnerable households.
104. However, as mentioned in Para 68, there were issues with these capital works:
- Riverbank stabilization works were to be originally done by communities but was instead done by a private contractor who specialized in river engineering;
 - While priority should have been to work with farmers upstream to protect the upper watershed through anti-erosion measures, much of this work was not done in sufficient quantities;
 - Though protection of the school and church was viewed as a priority, detailed watershed plans would have located these structures in less risky locations that would not have been exposed to the flood flows of the Nthangwa River;
 - The completion of the Nthangwa riverbank protection of the school and the church has left other reaches of the river unprotected. More immediate actions will be required in the future to ensure the protection of these areas;
 - No ESMF safeguard management risk assessment was done with the riverbank stabilization works and other interventions. Some of the ESMF work would have revealed the presence of indigenous peoples (Batwa people) which would have involved a stakeholder engagement plan which was not performed for this Project;
 - Other smaller investment commitments were made on other watersheds which does not amount to good value for money. With these downstream watershed protection works done in isolation, there is a real risk that these sites will not bring much benefit to the local stakeholders, primarily due to the lack of follow-up investments in watershed protection.
105. In conclusion, the results of Outcomes 3 can be rated as **satisfactory** based on the achievement of extra works being done with the resources.

3.3.5 Relevance

106. CDRM has relevance to:

- GEF programmes, specifically:
 - CCA-1: Outcome 1.1: Mainstreamed adaptation in broader development frameworks at country level and in targeted vulnerable areas;
 - CCA-1: Outcome 1.2: Reduce vulnerability in development sectors;
 - CCA-2: Outcome 2.1: Increased knowledge and understanding of climate variability and change-induced risks at country level and in targeted vulnerable areas;
 - CCA-3: Outcome 3.1: Successful demonstration, deployment, and transfer of relevant adaptation technology in targeted areas.
- The Burundi CO follows the “Country Programme Document for Burundi (2019-2023)”⁴³ contributing to:
 - Strategic result 2: The crises, disasters and resources are managed for improved community resilience;
 - National Priority or Goal 3: Environmentally sustainable management, climate change and land use planning;
 - UNDAF Outcome involving UNDP 4: By 2023, the national and decentralized authorities adopt and apply disaster risk management and prevention mechanisms, sustainable natural resources management (water, land, forests), climate change mitigation and adaptation and ecosystems protection to ensure a better community resilience; and
 - Related Strategic Plan Outcome: 3. Building resilience to crises and shocks, in order to safeguard development gains.
- SDGs including: 1 (No poverty), 2 (Zero hunger), 3 (Good health and well-being), 4 (Quality education), 5 (Gender equality), 6 (Clean water and sanitation), 7 (Affordable and clean energy), 8 (Decent work and economic growth), 9 (Industry, innovation and infrastructure), 10 (Reduced inequalities), 11 (Sustainable cities and communities), 12 (Responsible consumption and production), 13 (Climate action), 14 (Life Below Water), 15 (Life on Land), 17 (Partnerships for the Goals).

3.3.6 Effectiveness

107. The effectiveness of the CDRM has been rated as **moderately unsatisfactory** for a range of reasons:

- While the Project promised to train government staff to establish and operationalize the EWS system for early climate warnings, it did so with trainings for IGEBU but not for provincial, communal services and local communities mainly due no Project resources remaining by the time the IGEBU training with the CIMA Foundation was completed, as mentioned in Para 85. As a result, there is not yet an operational EWS system for early climate warnings;
- While some local authorities have knowledge on managing climate change risks appropriately into a local plan, they are unable to prioritize such preventative measures. This will likely result in significant losses in the communities and negative feedback on their adaptation measures;
- While there was a target of at least 100 households to have access to adequate climate resilience measures that would open livelihood options and entrepreneurship support, this Project while meeting the target, made only a small impact. As such, there are still limited options for entrepreneurship support for climate resilience, particularly for underrepresented populations such as women and youth. This needs more support.

⁴³ Available on: <https://erc.undp.org/evaluation/managementresponses/keyaction/documents/download/860>

3.3.7 Efficiency

108. The efficiency of the CDRM has been **moderately unsatisfactory** for a range of reasons. At least three factors positively affected the efficiency of the Project including:

- the provision of offices to the Project by the IGEBU allowing the Project to save on rental costs;
- the use of volunteers (provincial, communal and hill focal points) reducing the cost of carrying out the Project. It should be noted that US\$30,000 was to be used to motivate volunteers, but was ultimately not spent;
- the management of the Project's human and financial resources in accordance with the management principles of the UNDP agencies (based on principles on the optimal use of resources to obtain project results, transparency, and control) positively affected the efficiency of the Project.

109. Factors that negatively impacted the efficiency of the Project include:

- delays in starting Project activities in the field;
- the late release of funds at the end and beginning of the year (cited by the Coordinator and the Administrative and Financial Officer);
- lack of staff and experts;
- delays in payment for some suppliers, some weather station watchers and members of associations that have participated in the excavation of anti-erosion ditching and micro-reforestation⁴⁴. This affects the confidence and credibility of these people on the Project and UNDP.

3.3.8 Overall Project Outcome

110. The overall Project outcome of the CDRM has been as follows:

- An operational community-based early warning system has been installed but without effective training of stakeholders from provincial, communal services and local communities (mainly due no Project resources remaining by the time the IGEBU training with the CIMA Foundation was completed, as mentioned in Para 85);
- Target was achieved for community services, relevant ministry support services and provincial disaster personnel for training to use risk management tools for long-term planning for climate change variability and projections; and
- Investments have been made in relevant early warning systems, watershed protection measures, riverbank erosion protection measures and adaptive technologies to protect local infrastructure and livelihoods from climate impacts.

3.3.9 Sustainability of Project Outcomes

111. In assessing sustainability of the CDRM, the evaluators asked “how likely will the CDRM outcomes be sustained beyond Project termination?” Sustainability of these outcomes was evaluated in the dimensions of financial resources, socio-political risks, institutional framework and governance, and environmental factors, using a simple ranking scheme:

⁴⁴ Source: Audit Report 2017

- 4 = *Likely (L)*: negligible risks to sustainability;
- 3 = *Moderately Likely (ML)*: moderate risks to sustainability;
- 2 = *Moderately Unlikely (MU)*: significant risks to sustainability;
- 1 = *Unlikely (U)*: severe risks to sustainability; and
- U/A = *unable to assess*.

Overall rating is equivalent to the lowest sustainability ranking score of the 4 dimensions as summarized in Table 14. .

112. *The overall CDRM sustainability rating is moderately unlikely (MU).* The primary determinant for CDRM sustainability is the continued dependence of the GoB on external funding to carry out these works, and the concerns over whether or not environmental benefits were realized on the anti-erosion measures in the upper watershed and downstream watershed protection works done in isolation. The amount of funds provided on CDRM was certainly never meant to be a sustainable solution but a stopgap measure that would catalyze more investments into disaster risk management for Burundi. For example, on the Ntahangwa watershed, all the works on CDRM provided some riverbank protection and forestry plantation protection in the watershed. However, there is still a need to extend the vegetation coverage in the watershed and protect other parts of the river that remain unprotected, possibly posing a risk with a change of the river course with the next extreme precipitation event. This would certainly require external donor funding.

3.3.10 Country Ownership

113. Burundi ratified the UNFCCC in 1995 and the Kyoto Protocol in 2004. The country has elaborated a National Adaptation Plan of Action (NAPA), which was submitted to UNFCCC in July 2006. Burundi is therefore eligible for the support of LCDF to implement its NAP. Burundi's national development priorities include "Vision Burundi 2025", and the National Disaster Risk Management Strategy and the PANA.

3.3.11 Gender equality and women's empowerment

114. Gender was managed on the Project as follows:

- On Component 1, gender was monitored in the attendance to training for IGEBU, provincial governments, communal services and local communities;
- On Component 2, gender was a central theme in the preparation of PCDCs. In November 2019, a gender-sensitive risk analysis was produced alongside of a climate vulnerability assessment to inform the response to climate change. This risk analysis involved the role of women and children in mitigating climate risks;
- On Component 3, women and young people participated on the different activities of the project, namely the Ntahangwa river bed stabilization works, terracing, anti-erosion ditching and tree planting through women's associations. With women, youth and vulnerable groups of these local communities being the main beneficiaries, the Project also provided advice to these groups that has led to improvements in livelihoods (savings used to invest in livestock, renting plots of land for farming), and using the proceeds to pay for school fees for their children and buy essentials.

Table 14: Assessment of Sustainability of Outcomes

Actual Outcomes (as of January 2021) against the PRF of October 2015	Assessment of Sustainability	Dimensions of Sustainability
<p>Actual Outcome 1: An operational community-based early warning system has been installed but without effective training of stakeholders from provincial, communal services and local communities (due to equipment not generating hydrological data during the training sessions).</p>	<ul style="list-style-type: none"> • <u>Financial Resources:</u> While finances are available for the purchase of EWS equipment from other donor projects, finances for training services to operationalize the EWS are available mainly from the donor community if requested. The financing is not available now but can be mobilized if required. As such, country will require external financing assistance for training the EWS network and capable stakeholders to operate and disseminate messages from the EWS; • <u>Socio-Political Risks:</u> All stakeholders have been willing to operationalize EWS training, and adopt climate change adaptations. This included stakeholders from IGEBU provincial, community and village focal points many of whom became aware of the EWS systems based on awareness raising events stunned by the Project. Unfortunately, hydrological data was not being generated during the training that took place in 2017 and 2018. The partnership with the Red Cross was set up to help collect SMS data and increase the coverage of EWS throughout Burundi; • <u>Institutional Framework and Governance:</u> There were problems concerning the training of IGEBU and other government staff to receive training on long-term weather forecasts and the set up and operationalization of the EWS from another international institute (ACMAD). Due to COVID-19 pandemic, this training will now take place in a subsequent project after the EOP and online if necessary; • <u>Environmental Factors:</u> Environmental factors were not issue in terms of sustainability. <p style="text-align: right;"><u>Overall Rating</u></p>	<p>2</p> <p>4</p> <p>3</p> <p>4</p> <p>2</p>
<p>Actual Outcome 2: Only a partial target of community services, relevant ministry support services and provincial disaster personnel were trained to use risk management tools for long-term planning for climate change variability and projections.</p>	<ul style="list-style-type: none"> • <u>Financial Resources:</u> Government likely does not have the fiscal resources to fund PCDC activities. Financing resources for the training of relevant staff and preparation of the long-term plans for climate variability and projections will need to come from donor agencies; • <u>Socio-Political Risks:</u> There is a high degree of willingness of all stakeholders to participate on the disaster risk platforms and to plan on climate change variability and projections; • <u>Institutional Framework and Governance:</u> There are no risks with regards to allow the relevant ministry support and provincial disaster risk platforms to be trained for long term planning for climate change variability and projections; • <u>Environmental Factors:</u> Environmental factors were not issue in terms of sustainability. <p style="text-align: right;"><u>Overall Rating</u></p>	<p>2</p> <p>4</p> <p>4</p> <p>4</p> <p>2</p>
<p>Actual Outcome 3: Investments have been made into watershed protection, landslide prevention,</p>	<ul style="list-style-type: none"> • <u>Financial Resources:</u> Funding for further watershed protection, landslide prevention, and adaptive technologies to protect local infrastructure will need to come from the donor community since the GoB likely does not have sufficient funding to cover the entire watersheds that are covered under this Project; 	<p>2</p>

Table 14: Assessment of Sustainability of Outcomes

Actual Outcomes (as of January 2021) against the PRF of October 2015	Assessment of Sustainability	Dimensions of Sustainability
and adaptive technologies protect local infrastructure and livelihoods from climate impacts.	<ul style="list-style-type: none"> • <u>Socio-Political Risks</u>: There is a high degree of participation on all intervention investments on this Project. Socio-political risks are not a factor in sustainability; 	4
	<ul style="list-style-type: none"> • <u>Institutional Framework and Governance</u>: The GoB has been a willing partner in the investment interventions. The likelihood of government support for the replication of these investments is high this is highly dependent on whether or not GoB funded the cost overrun in Component 3; 	4
	<ul style="list-style-type: none"> • <u>Environmental Factors</u>: There are concerns whether or not environmental benefits were realized on the anti-erosion measures in the upper watershed, which was not done in sufficient quantities, and downstream watershed protection works done in isolation. 	2
	<u>Overall Rating</u>	2
	<u>Overall Rating of Project Sustainability:</u>	2

3.3.12 Cross-cutting issues

115. The main cross-cutting issues of the CDRM Project is gender disaggregation. This is mentioned in Section 3.3.11.

3.3.13 GEF additionality

116. The issue of GEF additionality is quite clear on the CDRM Project. Without the Project, there would be no activity regarding development and operationalization of a community-based EWS, no capacity building amongst provincial and communal government staff on climate change risks and adaptation approaches, no capacity building amongst provincial, communal and collinal personnel on long term planning for climate resilience and PCDCs, and no investments into riverbed stabilization, anti-erosion ditching, and re-forestation.

3.3.14 Catalytic/Replication Effect

117. The catalytic and replication effect has been mixed. There has been enthusiasm for the works being done on this Project from all stakeholders including provincial, communal and collinal personnel and women's groups. However, the efforts of the Project still, to a large extent, are dependent on government funding which has been lacking and donor funding which has been available. To this end, the catalytic and replicating effect of the Project is somewhat restrained.

3.3.15 Progress to impact

118. The impact of CDRM interventions can be characterized as follows:

- The impact of the community-based EWS has not been very strong since there has been no training of national expertise on extreme hydro-meteorological event forecasting and only 7 EWSs (out of 10 intended) were setup. However, it is expected that this training will be carried on a subsequent project in the near future. In addition, only 100 households have been sensitized on the importance of these weather and hydrological automatic stations and their role in disseminating alert messages on extreme climate events. More households need to be sensitized to the EWS equipment if there is to be a significant impact;
- The impact was strong on the community services, relevant ministry support services and provincial disaster risk platforms on the use of risk management tools for long-term planning for climate change variability and projections. With good participation from all stakeholders on preparation of the PCDCs, there was good progress to impact from this activity;
- The impact was mixed for providing necessary investments to protect infrastructures and local livelihoods from climate impacts. The visibility of these investments brings much more awareness amongst the local population on the impact of these investments. However, the impact was less for the work with farmers upstream to protect the upper watershed through anti-erosion measures. This is due to the fact that much of this work was not done in sufficient quantities; only 50 households have accessed climate resilience livelihood measures such as erosion impact mitigation and associating agriculture to livestock and funds generating to strengthen the food security of vulnerable households. **Do we have actual household numbers??** In addition, the completion of the Nthangwa riverbank protection of the school and the church has left other reaches of the river, upstream and downstream, unprotected leading to more immediate actions required to ensure the protection of these areas.

4. CONCLUSIONS, RECOMMENDATIONS AND LESSONS

4.1 Main Findings

119. The achievement of the CDRM Burundi Project-level targets is rated as **moderately satisfactory** due to the exceedance of the numbers of targeted stakeholders trained. However, the effectiveness of the training has been questionable due to the equipment being installed in 2018, no hydrological data being generated until 2019, and no training activities in 2019 and 2020.
120. In Component 1, the development and operationalization of a community-based EWS has not been achieved. Though a system of weather and hydrology data collection and transmission of early warning messages for climatic hazards (floods, droughts) has been developed through the installation and equipment of 40 hydrometeorology stations. The training for IGEBU, provincial government, communal services and local communities, was not totally effective mainly due no Project resources remaining by the time the IGEBU training with the CIMA Foundation was completed (as mentioned in Para 85) and the COVID-19 pandemic which led to a delays in delivery of training. The hydrological stations included 10 automatic agro-meteorological stations, 10 hydro-meteorological stations, one automatic synoptic station and 19 rainfall gauge stations, all received field data to the main computer server at the IGEBU headquarters as of 2019. The target for households having access to climate risk information and alerts was not met with an estimated 100 households trained and sensitized in 2018, against a target of 2,000 households. This was due to a lack of resources to train at least 2,000 households in the 36 target collines to frequently access climate risk information and alerts proceeding from advanced hydro-meteorological forecasts.
121. For Component 2, the target number of staff that trained on climate change risks, adaptation approaches, and management tools was achieved. This training included 165 provincial and communal government staff and 350 local elected officials and policy makers responsible for DRR having been trained on topics such as climate change risks, adaptation approaches and associated management tools, and 14 IGEBU have staff trained in weather forecasting against a target of at least 50 extension staff and 100 DRR platform members. With regards to the preparation and updating of PCDCs, the development of 3 new PCDCs in 2019 strengthened the capacity of provinces and municipalities to take charge of their own planning by integrating climate risks, resulting in updated annual budgets to integrate climate risk management.
122. In Component 3, the slope stabilization works on the Ntchangwa River included 17,720 m³ of gabion to stabilize nearly 1 km of river bank with 50 houses saved directly from the landslides and 150 m of Mukaraka road reconstructed. With the GoB's agreed in-kind contribution (with equipment and technical staff), work proceeded under the assumption that the community would still be involved in rehabilitation. However, given the technical complexities and engineering required to repair the Ntchangwa riverbank, a private contractor was recruited to do the engineering and rehabilitation of the riverbank in 2018.
123. Component 3 work also consisted of 1,400 km of erosion control vegetated ditches in Mumirwa, Bugesera and Imbo, 2,886 km of vegetated anti-erosive ditch in Bujumbura province, 12,769,982 forestry trees produced and planted on 1,643 ha upstream on the Ntahagwa River Basin, and 1,037,566 agroforestry trees produced and planted in the local communities for agricultural exploitation.

4.2 Conclusions

124. On the Project-level objectives of the CDRM Burundi Project, additional training will need to be done for local communities, communal services and provincial authorities to build their capacity on disaster risks preparedness and responses management that will ensure long term and sustainable emergency and reconstruction phase in Bugesera, Mumirwa and Imbo regions. This has been necessary so that training can be conducted with installed equipment that is generating hydrological data, leading to improved learning.
125. On Outcome 1, more training and awareness raising will be required to establish community-based EWS. Training would be required for IGEBU staff as well as provincial government, communal services and local communities, for analyzing and interpreting data being generated by the hydrological stations, and for disseminating alter messaging in the event of an extreme climate event. Awareness raising would be required for more than 2,000 households in the frequent access to climate risk information and alert processing:
126. On Outcome 2, PCDCs have been established as a means of getting communities to update their climate risks, issues and budgets that will support implementation of adaptation measures. However, additional DRR platform members need to be trained on climate risk management and operation of community-based EWS
127. On Outcome 3, community members are pleased with the investments made to protect watersheds and riverbanks of the Ntakangwa River. However, the funding of CDRM was never meant to be sufficient as a sustainable solution but a measure to start the long process of watershed rehabilitation that would have the ability to catalyse more investments into disaster risk management for Burundi. To this end, smaller investment commitments made on watershed protection works done in isolation will not bring much benefit to the local stakeholders unless there are follow-up investments in watershed protection.

4.3 Recommendations

128. Action 1 (to UNDP and the Government of Burundi): Complete EWS training on the next project by:
- With regards to CIMA-trained IGEBU experts responsible for analyzing and producing weather \ reports, finalize flood forecast training after the multimodal software (ACMAD and MyDEWETRA: weather and hydrological forecasting tools) is operational after its design phase;
 - Ensure the maintenance of the hydrological stations by purchasing sensors as some of them have been worn out;
 - Putting into place a contingency plan for the EWS by conducting simulation exercises; and
 - Training EWS focal points on the effectives use of the EWS communication tools at IGEBU. This would mead that EWS communication tools should be distributed to the EWS focal points and the emergency management and decision-making team in the field.
129. Action 2 (to UNDP and the Government of Burundi): Improve the technical capacities of institutions (i.e. IGEBU, provincial governments, communal services and local communities) to manage the mapping of climate-induced flood and erosion risks along the Ntakangwa watershed. This informs climate-resilient integrated watershed management. This would help enable the use of hydrological data and climate models to map out climate-sensitive flood and erosion risks in the Ntakangwa

watershed, assist in avoiding watershed works done in isolation, and catalyse more investment into more sustainable watershed protection. With operational early-warning system as of 2021 managed and funded by the GoB, there will be limited resources to build the capacities of government personnel and communities for planning and managing the climate-induced flood and erosion risks along the Ntakangwa watershed. Capacities need to be built for:

- a climate information system for the Ntakangwa River to monitor changes in ecosystem health and to determine climate risks and resiliency of the Ntakangwa watershed;
- hydrological modelling to map out climate-sensitive flood and erosion risks in the Ntakangwa watershed;
- an integrated watershed management plan to provide an understanding of the key areas in the watershed for the provision of ecosystem services for flood and erosion control and to guide the development and rehabilitation of the Ntakangwa watershed in critical sites for flood and erosion control;
- flood and erosion risks maps developed to determine priority sites in climate-resilient planning including urban development in Bujumbura and local development in communes of the Ntakangwa watershed.

This will require cross-sectoral cooperation and intense stakeholder consultations involving vulnerable and under-represented groups of people, such as women, youth, and indigenous people (indigenous Batwas are known to be present in the Ntakangwa watershed).

130. Action 3: (to UNDP and the Government of Burundi): Establish an investment program that carries on the work of CDRM Project on the Ntakangwa watershed. The investment plan will be based and built on the evidence from the climate-resilient integrated watershed management plan provided in Component 3 and would include:

- a continuation of tree planting on the vulnerable hilltops of the upper Ntakangwa watershed especially sites connected to Bujumbura;
- anti-erosion ditching and terracing on vulnerable hills critical for the ecosystem health and resilience of the Ntakangwa watershed;
- flood control measures along the Ntakangwa river where public and private infrastructure is at risk of experiencing a landslide during extreme climate events. Protective measures against floods will help stabilize critical riverbanks in at-risk populated areas of Bujumbura while interventions will restore or maintain ecosystem services for flood and erosion control.

131. Action 4 (to UNDP and the Government of Burundi): Continue with investment programs to promote livelihood resilience and green entrepreneurship. This builds on synergistic opportunities between populations in urban, peri-urban and rural areas of the watershed, resulting in increased resilience to climate change for populations in the watershed. Activities can include:

- Conducting a climate-sensitive market analysis looking at relevant value and supply chains along the lines of climate-resilient agricultural and food products, crops and farming inputs, livestock and fisheries, and non-timber forest products and assessing economic impacts and market barriers;
- Technical and financial support for resilient livelihood options that are compatible with watershed resilience such as orchards and food processing and preservation;

- Working with micro-finance institutions to develop micro-finance products to support small business development with a focus on women and youth entrepreneurs. By supporting green entrepreneurship, innovation will be fostered and investment and support will be provided for start-up businesses complete with skill training, access to improved technologies, mentorship and networking.

132. Action 5 (to UNDP and the Government of Burundi): For subsequent projects to CDRM, prepare a PRF with SMART indicators with an economy of words. The PRF should include project-level outcomes that show results of the training rather than the more ambition to train people. The PRF should also contain indicators relevant to the outcome, and contain mid-term targets.

4.4 Lessons Learned

133. Lesson #1: Watershed rehabilitation should not be done in isolation. Watershed rehabilitation works done in isolation are not sustainable due to the risks of the lack of protection upstream and downstream of the works. For example, the works to protect the school and church in Bujumbura do not protect the upstream areas of the watershed. The risk of the river changing its course isolating the church and school from road infrastructure, is significant.
134. Lesson #2: A well prepared PRF is essential effectively guide implementation of a project. An economy of words to describe the outcomes, indicators, baseline and targets would have been more desirable to clarify the intentions of the CDRM Project. In addition, indicators should reflect the intended outcomes such as Outcome 3's investments into watershed protection, landslide prevention, and adaptive technologies, not early warning systems.

APPENDIX A – MISSION TERMS OF REFERENCE FOR CDRM PROJECT TERMINAL EVALUATION

Services/Work Description: Terminal Evaluation of GEF project

Project/Programme Title: CLIMATE CHANGE RELATED COMMUNITY DISASTER RISK MANAGEMENT IN BURUNDI

Consultancy Title: International consultant

Duty Station: Bujumbura/Burundi

Duration: 30 working days

Expected start date: November 30, 2020

1. BACKGROUND

1. General Information about the national context which motivated the formulation of the project

According to PANA, Burundi is negatively affected by climate change. Analysis of climatic data over the last thirty years shows: - significant irregularities in the temporal and spatial distribution of early and late precipitation during the rainy season; - a high frequency of extreme weather phenomena and an increased frequency of low precipitation especially in the region of Bugesera. Climate models predict extreme weather phenomena due to a temperature increase of 1 ° C and 2 ° C, combined with a 10-year cycle of (drought - rains - drought) alternation from 2010 to 2050. Current fluctuations observed within the same year should continue and even increase. If we consider the monthly rainfall forecast, it appears that the variability is very high in October, November, and February to April in Bujumbura and Kirundo, and they will affect the high altitude region, Gisozi and Musasa.

The change in climatic conditions is felt differently in the various natural regions of the country and has had a diverse impact on the anthropogenic environment. The drought is more widespread in the northern provinces, especially Kirundo and Muyinga where the situation has been deteriorating since 2000. The drought was so intense that the state of national disasters was declared as it recorded several deaths and refugees due to the famine. The places which are severely affected are: Bugabira, Busoni, Bwambarangwe and Gitobe. According to the Early Warning System and Food Security Surveillance in Burundi (SAPSSA) managed by FAO and the Extended Vulnerability and Security Analysis of Burundi (CFSVA) of WFP2, and the Surveillance System for Food Security (FSMS) of the WFP3, insecurity still exists today in certain parts of the country following the rainfall deficits of cropping season A (e.g. : in 2007, between October and January, a person died of hunger every day in Kirundo and Muyinga, although these regions were considered as the breadbasket of the country before the drought).

Currently, devastating floods remain frequent especially after excessive rains. In the Imbo plains, some rivers such as Kajeke, Dama, Murembwe, Rwaba are flooded following heavy rainfall in the high altitudes of the Congo-Nile basin. In January 2010, a flood invaded Bujumbura International Airport and blocked national road 5 (Figure 3). The Muha and Kanyosha rivers regularly cause flooding, with increased impacts. The floods worsen the erosion of river banks, and their dramatic increased effects are visible in the city of Bujumbura, particularly along the main drainage canals that cross it from east to west. The banks are destroyed, especially along the urban lines of Ntahangwa, Muha and Kanyosha, with great damage to public infrastructure.

Most socio-economic activities are already affected by the impacts of observed climate change:

- **Agriculture.** The impacts identified in the agricultural sector are as follows:

- Decrease in production per hectare during the two cropping seasons A and B on all food crops (except rice) between 1995 and 2001. The most extreme case is typically wheat, whose production fell significantly from 1995 to 2005. The productions of season B are generally lower than those of season A, because the rainy season started earlier in April for more than a decade.
 - Rapid decline in the productivity of plantations can also be attributed to climatic variations.
 - Degradation of soil fertility in Bugesera and in the Imbo plain following rapid deforestation and prolonged drought from 1998 to 2004.
 - Genetic erosion of traditional species and varieties of sorghum, beans and potato seeds observed in several places due to the disappearance of certain cultivars.
- **Livestock:** Analyses carried out on pastures in Bugesera region indicate that, due to the decrease in rainfall, pastoralists have been forced to resort to transhumance and to gather their animals around rivers. In the central Imbo and Kumoso areas, the early end of the rainy season at the end of April no longer allows fodder crops and natural pastures to fully mature. Likewise, the extreme drought killed nearly 35% of the animal population between 1998 and 2005, caused a shortage of fodder plants and a generalized food crisis for livestock.
 - **Public infrastructure and transport:** In 1983, 1986, 2006 and 2009, Bujumbura faced severe flooding due to the overflow of Ntahangwa river. These floods caused enormous losses estimated at around BFI 3 billion, including the destruction of houses which caused many homeless people in the Buyenzi district in 1983, or the deterioration of equipment in the industrial district, including the destruction stocks of companies and warehouses in flooded areas (COGERCO, RAFINA, BRARUDI, SEP), and the demolition of the port of Bujumbura.
 - **Health:** The increase in average temperatures during the rainy season creates relatively more favorable conditions for the cycle of transmission and survival of vectors of certain diseases, including malaria, meningitis, measles and cardio-respiratory diseases. Floods cause displacement while destroying infrastructure and reducing the availability of drinking water. The effect of climate change on public health is a direct negative impact.
 - **Vulnerable groups:** The impacts of climate change are particularly severe on vulnerable groups such as women, young people and the elderly. Women play a very important role in the country's agro-sylvo-pastoral production (97% of the workforce) in Burundi. They participate in agricultural work and are responsible for vegetable production and small-scale livestock activities. With regard to forest production, they participate, as well as men, in the production of seedlings, the planting and maintenance of crops. Women are the part of the population that has suffered the most from inter-ethnic clashes and the socio-political crisis. The mass exodus of men and young people is a common coping strategy that produces social changes and leads to an increase in divorces: women become heads of households and are the only ones to meet the needs of the family. Women are therefore likely to suffer more damage from climate risks and have low adaptive capacity. Women and children are also largely responsible for collecting water and firewood, and other natural resources for use in the household. In the context of Burundi where only a small percentage of the population has direct access to drinking water, an additional impact of the drought is the increase in the distance to be traveled to collect drinking water, which limits the time and energy for production activities.

It is expected that these impacts will be exacerbated in the near future. Examples of current and possible future impacts and vulnerabilities associated with climate variability and climate change are provided in the GIEC GT2 (2007) 2 report, which mentions impacts on crops and possible agricultural losses in terms of GDP. The report adds that additional risks that could be exacerbated by climate change include further soil erosion and inadequate agricultural production, with smallholder farmers being the most affected.

These impacts will probably cause, among others: loss of income, deterioration of the quality of life, displacement of the population and reduction in agricultural production. Thus, the capacities of

communities, local administrations, and the national government to respond effectively to the risks of climate change remain limited due to the non-availability of relevant data and management tools, the lack of local technical skills, and low financial contributions. There is a lack of local knowledge on weather forecasting indicators and skills in the future. In addition, disaster risks associated with climate change and climate resilient activities are not considered in planning and budgeting systems at government and community level.

The challenge is to prepare communities and local decision makers to adapt. The ongoing reconstruction in Burundi presents an opportunity to ensure that disaster risks related to climate change are mainstreamed into current government efforts. Resources from the Least Developed Countries Fund will strengthen local response to climate disaster risks through the use of relevant disaster management tools and the promotion of adaptation technologies in urban and rural areas to ensure the socio-economic resilience and well-being of vulnerable communities. Climate change-related disaster risks will need to be factored into capacity and vulnerability assessment, and a new development model is needed now - and not just based on life-saving emergency activities but also on development process to stimulate development. New partnerships will need to be forged, not only with governments, NGOs and United Nations partners, but also with local decision-makers and vulnerable communities, especially when it comes to early warning.

2. PROJECT INTERVENTION ZONES

The project will intervene in the following provinces and communes:

- **Kirundo:** Bugabira, Busoni, Bwambarangwe and Kirundo communes affected by the severity of drought and water shortages which have impacts on agricultural production, livestock and wood and which deteriorate the living conditions of the populations. and decrease water levels in northern lakes;
- **Bujumbura:** the communes of Isare, Mugongo-Manga, Kanyosha and Nyabiraba. The municipality of Isare will be the heart of the interventions planned in the region. It is located in the Mumirwa region, and exhibits severe erosion caused by runoff from the hills at high altitudes in Nyabira, Mugongo-Manga and Kanyosha municipalities. These hills outline the subwatershed of the Ntahangwa River. In case of heavy rains, runoff and flooding from low-lying areas down into Bujumbura city valley destroy the banks and public and private infrastructure;
- **Makamba:** the commune of Nyanza-Lac is greatly affected by runoff and flooding from the Rwaba river;

3. PROJECT OVERALL GOAL:

Improving local capacities of communities on climate-related disaster risk preparedness and management of interventions to ensure a sustainable phase of reconstruction and long-term emergency in Bugesera, Mumirwa and in the regions at low altitude of the Imbo.

This project supports the specific goals through the three Millennium Development Goals (MDGs) 1, 3 and 7.

- **MDG 1: Eradicating extreme poverty and hunger** - at least 100 households will be supported to develop activities related to climate resilient livelihoods with the aim of reducing risks, improving ecosystems and targeting vulnerable households. Useful climate information such as seasonal forecasts will be provided to more than 10,000 people in 36 hills to support poor, climate-threatened and disaster-prone communities to be prepared and take action in an appropriate and timely manner, to reduce the risk and impact of disasters. Seasonal forecasting can enable the rural population to take agricultural measures to adapt and protect productivity;
- **MDG 3: Promoting gender equality and empower women** - community early warning systems and relevant training will be tailored to the needs of beneficiaries, especially the needs of women who have

little access to climate information. Women's groups and associations will become partners in implementing climate change resilient adaptation and awareness raising activities. As underlined in section II.2, the project aims to implement adaptation measures in a very participatory way, by the inclusion of all social groups, including the marginalized, in order to guarantee maximum coverage of impact and structural consideration of the most

- **MDG 7: Ensuring environmental sustainability** - The basis of this project is to ensure environmental sustainability by integrating climate-related disaster risk management into local policies, planning and decision-making. This approach can help in the sustainable use of natural resources through good watershed and soil management practices.

To achieve this, the following secondary objectives for the project were considered:

1. Encouraging decision-makers and other stakeholders to consider the National Strategy for Disaster Risk Management and Reduction as a national priority for community resilience:
2. Identifying, assess and monitor disaster risks and strengthen the early warning system:
3. Using knowledge, innovation and education to build a culture of risk:
4. Reducing underlying factors
5. Strengthening disaster preparedness for effective emergency response at all levels

The project revolves around 3 outcomes, namely:

Outcome 1: A Community-based Early Warning System operational and capable of reaching target communities to prevent disaster risks related to climate change and to guide the implementation of adaptation activities is put in place.

Output 1.1: Setting up an operational structure for the Community-based Early Warning System for risks related to climate change in the provinces of Bujumbura Rural, Kirundo and Makamba.

Output 1.2: Upgrade of the hydro meteorological network and improvement of the capacity to generate real-time weather information and data sets for information dissemination to target communities.

Output 1.3: Setting up an efficient and effective communication and dissemination system to reach all end users.

Outcome 2: Effective adaptation options that take into account weather forecasting and climate change are integrated into local development planning and budgeting instruments.

Outcome 2: Effective adaptation options that take into account weather forecasts and climate change are integrated into local development planning and budgeting instruments.

Output 2.1: Gender and climate vulnerability assessment to guide the implementation of a local response to climate change.

Output 2.2: Policymakers, technical staff and communities assisted with training on the appropriate use of climate risk tools and sensitized on the impacts of climate change to support the identification of effective options for investments in adaptation and adjust plans, programs and projects according to new climate experiences

Output 2.3: Provincial and communal development plans and annual budgets reviewed and updated to integrate climate risk management to further support climate-sensitive investments.

Outcome 3: Public infrastructures are protected to withstand extreme events such as floods while the socio-economic resilience of communities vulnerable to the negative impacts of climate change is improved.

Output 3.1: Construction of 500 km of vegetated ditches for erosion control in Bugabira, Busoni and rural-Kirundo in order to protect and preserve the lands of the communities against higher risks of rain erosion in the uplands.

Output 3.2: Watershed protection works in Mumirwa to control erosion and stabilize the banks of the Ntahangwa and Gasenyi Rivers in order to reduce the risk of landslides due to flooding in the city of Bujumbura.

Product 3.3: Partial development works of Rwaba watershed and delimitation of Tanganyika Lake buffer zone.

Sub-output 3.3.1: The palm groves located along RWABA river are protected against flooding by erosion control devices over 20 km in Nyanza-Lac commune.

Sub-output 3.3.2: Tanganyika Lake buffer zone is delimited over a length of 20 km and forest seedlings and fixing grasses such as Pennicetum are planted along Tanganyika Lake in Nyanza Lac commune.

Output 3.4: Support measures aimed at strengthening the food security of vulnerable households.

The TE report will assess the achievement of project results against what was expected to be achieved, and draw lessons that can both improve the sustainability of benefits from this project, and aid in the overall enhancement of UNDP programming. The TE report promotes accountability and transparency, and assesses the extent of project accomplishments.

4. SCOPE OF WORK, RESPONSIBILITIES AND DESCRIPTION OF THE PROPOSED WORK

The choice of an external evaluation is privileged in order to help ensure the independence, impartiality and credibility of the process. In close collaboration with the entire project team as well as the UNDP Burundi team, including the monitoring and evaluation officers, the project's operational partners and the beneficiary communities, the consultant will have to conduct a terminal evaluation with the following objectives:

- Assessing the results and effects achieved by the project, with reference to the project results framework;
- Measuring the successes achieved in the implementation of the project;
- Assessing the effectiveness of the methodological approach used by the project - our activities and our methods - in relation to the expected results. This should include an assessment of the approaches used at the community level and the level of participation of partners and beneficiaries in carrying out the project;

On the basis of the above points, formulating concrete and specific recommendations that can guide future interventions by the UNDP and the Government, in particular the Ministry of the Environment, Agriculture and Livestock.

1. Expected Outputs and deliverables

#	Deliverable	Description	Timing	Responsibilities
1	TE Inception Report	TE team clarifies objectives, methodology and timing of the TE	No later than 2 weeks before the TE mission: <i>Dec 27th, 2020</i>	TE team submits Inception Report to Commissioning Unit and project management
2	Presentation	Initial Findings	End of TE mission: <i>14th Jan 2021</i>	TE team presents to Commissioning Unit and project management
3	Draft TE Report	Full draft report (<i>using guidelines on report content in ToR Annex C</i>) with annexes	Within 3 weeks of end of TE mission: <i>24th Jan 2021</i>	TE team submits to Commissioning Unit; reviewed by RTA, Project Coordinating Unit, GEF OFP
5	Final TE Report* + Audit Trail	Revised final report and TE Audit trail in which the TE details how all received comments have (and have not) been addressed in the final	Within 1 week of receiving comments on draft report: <i>February 8th, 2020</i>	TE team submits both documents to the Commissioning Unit

2. Institutional arrangements/reporting lines

a. Reporting line and Responsibilities

The principal responsibility for managing the TE resides with the Commissioning Unit. The Commissioning Unit for this project's TE is UNDP.

The Commissioning Unit will contract the evaluators and ensure the timely provision of per diems and travel arrangements within the country for the TE team. The Project Team will be responsible for liaising with the TE team to provide all relevant documents, set up stakeholder interviews, and arrange field visits.

b. TE team composition

A team of *two independent evaluators* will conduct the TE – *one team leader (with experience and exposure to projects and evaluations in other regions) and one team expert, usually from the country of the project*. The team leader will be responsible for the evaluation methodology, the overall quality of and the timely submission of all the deliverables. The team expert will *contextualize the tools, evaluation methodology, organize contacts and interviews locally, assess emerging trends with respect to regulatory frameworks, work with the Project Team in developing the TE itinerary, etc.*

The evaluator(s) cannot have participated in the project preparation, formulation and/or implementation (including the writing of the project document), must not have conducted this project's Mid-Term Review and should not have a conflict of interest with the project's related activities.

c. Experience and qualifications

I. Academic Qualifications: Master's degree in environment, agronomy, geography, meteorology or other closely related field;

II. Years of experience: 7 years

III. Language: Fluency in written and spoken English. French and if possible

Kirundi IV Experience & Competencies:

- Relevant experience with results-based management evaluation methodologies;
- Experience applying SMART indicators and reconstructing or validating baseline scenarios;
- Competence in adaptive management, as applied to adapted climate resilience
- Experience in evaluating projects;
- Experience working in *Burundi or Great Lakes Region*
- Experience in relevant technical areas for at least *8 years*;
- Demonstrated understanding of issues related to gender and *climate resilience*; experience in gender responsive evaluation and analysis;
- Excellent communication skills;
- Demonstrable analytical skills;
- Project evaluation/review experience within United Nations system will be considered an asset.

d. Payment Modality

Payment to the individual contractor will be made based on the actual number of days worked, deliverables accepted and upon certification of satisfactory completion by the manager as following:

- 20% payment upon satisfactory delivery of the final TE Inception Report and approval by the Commissioning Unit
- 40% payment upon satisfactory delivery of the draft TE report to the Commissioning Unit
- 40% payment upon satisfactory delivery of the final TE report and approval by the Commissioning Unit and RTA (via signatures on the TE Report Clearance Form) and delivery of completed TE Audit Trail

Criteria for issuing the final payment of 40%:

- The final TE report includes all requirements outlined in the TE TOR and is in accordance with the TE guidance;
- The final TE report is clearly written, logically organized, and is specific for this project (i.e. text has not been cut & pasted from other TE reports).

The Audit Trail includes responses to and justification for each comment listed

APPENDIX B – MISSION ITINERARY (FOR JANUARY-JUNE 2021)

Need Mr Alphonse Polisi to fill in dates for meetings he had in the field

#	Activity	Stakeholder involved	Place
25 January 2021 (Monday)			
1	Kick-off meeting with CDRM team	UNDP	Zoom
29 January 2021 (Friday)			
2	Meeting with Ms. Marie Ange Kigeme, UNDP coordinator	UNDP	WhatsApp
10 February 2021 (Wednesday)			
3	Meeting with Ms. Marie Ange Kigeme, UNDP coordinator	UNDP	WhatsApp
26 March 2021 (Friday)			
4	Meeting with Ms. Marie Ange Kigeme, UNDP coordinator, Idris Bexi Warsama, UNDP Technical Advisor, and Mr. Rene Manirakiza, Consultant	UNDP	Zoom
7 April 2021 (Wednesday)			
5	Meeting with Ms. Marie Ange Kigeme, UNDP coordinator, and Mr. Alphonse Polisi, Consultant	UNDP	Zoom
?? 2021			
?? 2021			
?? 2021			
?? 2021			
?? 2021			
?? 2021			

#	Activity	Stakeholder involved	Place
?? 2021			
?? 2021			
?? 2021			

Total number of meetings conducted: 29

APPENDIX C – LIST OF PERSONS INTERVIEWED

Need Mr Alphonse Polisi to fill persons he met in the field

This is a listing of persons contacted in Bujumbura, and CDRM project locations visited by the National Evaluator (unless otherwise noted) during the Terminal Evaluation duration. The Evaluators regrets any omissions to this list.

1. Mr. Marie Ange Kigeme, National Coordinator, UNDP Burundi;
2. Mr. Julien Simery, RTA, UNDP;
3. Mr. Alexis Nimubona, CDRM Coordinator;

APPENDIX D – LIST OF DOCUMENTS REVIEWED

1. UNDP-GEF Project Document for “Community Disaster Risk Management Due to Climate Change in Burundi”;
2. UNDP-GEF CEO Endorsement Document for “Community based climate change related disaster risk management in Burundi”;
3. Mid-Term Review of the project "Community Management of Disaster Risks due to Climate Change in Burundi", June 2019;
4. Project PIRs for 2017, 2018, 2019 and 2020;
5. PSC meeting minutes for project "Community Disaster Risk Management related to Climate Change in Burundi" (GCRCCCBU) , 6 January 2021;
6. Community Development Plan (PCDC) for Busoni by the Ministry of Interior, Patriotic Training and Local Development of the Province of Kirundo, Commune Busoni;
7. UNDP-GEF draft PIF for “Landscape restoration for increase resilience in urban and peri-urban areas of Bujumbura”;
8. Dr. Stefan Liersch, Rocio Rivas, Kerstin Fritzsche, “Climate Change Projections for Burundi, a Summary for Policy Makers”, GIZ;
9. Climate Change Profile Burundi, Ministry of Foreign Affairs of the Netherlands, April 2018;
10. Third National Communication on Climate Change (TNCCC), Ministry of Environment, Agriculture and Livestock, Republic of Burundi, October 2019.

APPENDIX E – PROJECT RESULTS FRAMEWORK FOR CDRM BURUNDI (FROM 9 OCTOBER 2015 PRODOC)

<p>This project will contribute to achieving the following Country Programme Outcome as defined in CPAP 2014-2016:</p> <p>Outcome 2.1.6: The institutional, organisational and technical capacities at national, local and community levels for the management of the environment, natural resources et climate changes adaptation are strengthened</p> <p>Outcome 2.2.1: The institutional, organisational and technical capacities at national, local and community levels for the prevention, preparation of disasters risks, including natural, are strengthened.</p>
<p>Country Programme Outcome Indicators:</p> <p>Number of mechanisms and tools for the regulation, coordination, management and expertise of the environment and natural resources, climate change and disaster risk revitalized and / or established, and operational.</p> <p>Number of techniques, technologies and infrastructure for the preservation of the environment and resources, and the resilience to the impacts of climate change and natural disasters</p> <p>Existence of an integrated and functional information, evaluation and supervision system on Climate change & disasters risks and reduction</p> <p>Existence of technical tools, technical expertise and appropriate equipment</p> <p>Existence of a climate risks adaptation program</p>
<p>Primary Application Key Environment and Sustainable Key Result in the middle (same as on the guard page, circle one):</p> <p>3. Promoting adaptation to climate change</p>
<p>Applicable GEF Strategic Objective and Program:</p> <p>CCA-1: Reduce vulnerability to the adverse impacts of climate change, including variability, at local, national, regional and global level</p> <p>CCA-2: Increase adaptive capacity to respond to the impacts of climate change, including variability, at local, national, regional and global level</p> <p>CCA-3: Promote transfer and adoption of adaptation technology</p>
<p>Applicable GEF Expected Outcomes:</p> <p>Outcome 1.1: Mainstreamed adaptation in broader development frameworks at country level and in targeted vulnerable areas</p> <p>Outcome 2.3: Strengthened awareness and ownership of adaptation and climate risk reduction processes at local level</p> <p>Outcome 3.1: Successful demonstration, deployment, and transfer of relevant adaptation technology in targeted areas</p>
<p>Applicable GEF Outcome Indicators: (following AMAT tool)</p> <p>Indicator 1.1.1. Adaptation actions implemented in national/sub-regional development frameworks</p> <p>Indicator 2.3.1. % of targeted population awareness of predicted adverse impacts of climate change and appropriate responses</p> <p>Indicator 3.1.2. Type of relevant climate change adaptation technology implemented in selected areas by participatory stakeholders</p>

	Indicator	Basic situation	Project objectives	Source of verification	Risks and Assumptions
Project goal⁴⁵ <i>The capacity of provincial, communal and local communities is being strengthened on disaster preparedness and response management to ensure the long-term reconstruction and emergency phase in the low-lying regions of Bugesera, Mumirwa and Imbo</i>	No. and type of actors in Kirundo, Makamba, Rumonge and Bujumbura provinces with increased adaptive capacity to reduce risk and response to climate variability (AMAT 2.2.1.)	Type and level: 0 The capacity of communities, government at the local and national level to respond effectively to the risks of climate change remains limited due to the lack of availability of relevant data and management tools, lack of local technical skills and low inflows of financial resources. There is a lack of knowledge of weather indicators and climate forecasting. In addition, the risks of climate change and activities that are resilient to climate change are not considered in government and community-level planning and budgetingsystems.	At least 150 technical staff from extension services, municipalities, 50 DRR platform members and 1,000 households (with gender equality) are implementing adaptation measures that are more resilient to the impacts of climate change	Search by interviews APRs/PIR	<u>Assumptions</u> <ul style="list-style-type: none"> ➤ Good coordination and consistency in disaster risk management ➤ Participation and engagement of target communities <u>Risks</u> <ul style="list-style-type: none"> ➤ Social conflict ➤ Political instability ➤ Inadequate institutional support and political engagement ➤ Low institutional capacity/execution capacity ➤ Reproduction and lack of coordination with other initiatives, resulting in inefficient use of resources and loss of opportunity to rebuild resilience to climate change

⁴⁵ Objective (Atlas Result) tracked quarterly ERBM and annually in APR/PIR

	Indicator	Basic situation	Project objectives	Source of verification	Risks and Assumptions
Outcome 1⁴⁶ <i>An operational community-based early warning system capable of reaching target communities for climate change risk prevention and the climate change adaptation guide are being implemented</i> Equivalent to activity in ATLAS)	No. and the type of targeted responders in the target hills with access to information and alert from advanced analysis and weather forecasting (gender-ventilated) <i>Indicator (AMAT 2.1.1.)</i>	No. and type: at least 500 households received alert messages from civil protection officers and the Burundi branch. Civil protection officers use megaphones to encourage evacuation in the event of heavy rains and flooding. la Croix Rouge The Burundi branch has developed - at least in the provinces identified as the main targets of this project, rural Bujumbura and Kirundo - an impressive structure with a high hair presence at the hill (about 150 volunteers on each hill) and coherent response mechanisms to help the most vulnerable families with food and other basic items. la Croix Rouge	At least 2,000 households in the 36 target hills often have access to information on climate change risks and alerts from advanced data analysis and hydro-metrological prediction	Surveys Reports; Tracking reports from disaster risk reduction platforms IGEBU Annual Reports APRs/PIR	<u>Assumptions</u> ➤ There is an operational disaster risk platform at all levels; ➤ Participation and engagement of target communities <u>Risks</u> ➤ Lack of human resources and data required Infugs and lack of coordination with other activities, which would lead to misuse of resources and a loss of opportunities for the emergence of resilience to climate change
	Type and No. information system set up to support CB EWS in target hills (AMAT 2.1.2)	Type and No.: 2 FAO and WFP have developed a national monitoring system: the "Early Warning and Food Safety Monitoring System" (SAPSSA). But the FAO system is more focused on agricultural and livestock production, while PAM FSMS focuses on food security and access to food.	At least 10 community-based early warning systems established to deliver messages on hydrometeorological and climate risk alerts to the population		
Outcome 2 <i>Community services, relevant ministry support services and</i>	No. and types of staff trained on adaptation and climate risk management	No et types: 0 By tools available for extension services and platforms to support	At least 50 extension staff and 100 DRR platform members trained on climate change issues including	Training, monitoring and	<u>Hypotheses</u> ➤ Engagement of national institutions, local

⁴⁶ All outcomes monitored annually in the APR/PIR. It is highly recommended not to have more than 4 outcomes.

	Indicator	Basic situation	Project objectives	Source of verification	Risks and Assumptions
<i>provincial disaster risk platforms are trained to use risk management tools for long-term planning for climate change variability and projections (equivalent to activity in ATLAS)</i>	instruments and themes (broken down by gender) (AMAT 2.2.1.1)	communities in managing climate risks la DRR Low capacity of IGEBU staff to produce real-time information on weather, climate and agro-climatic forecasts	climate risk management, and the operation of CB EWS At least 15 IGEBU staff trained in Geographic Information System and Software Tools, remote sensing and image interpretation, weather analysis, climate risk information management.	evaluation reports; APRs/PIR	government, civil society, and research institutions; ➤ Collaboration intersectorielle effective <u>Risks</u> ➤ Lack of sustainable funding ➤ No availability of the necessary human resources and data
	Number of SPATs and PLDCs including specific actions and budget for adaptation to climate change (AMAT indicator 1.1.1.1)	A. 0 Most policy makers and local communities have limited capacity to integrate climate change into all relevant sectoral activities and development strategies in general.	At least 2 SPATs and 3 PCDCs are being updated for climate risks and climate change issues (including the budget), and to support the implementation of adaptation measures.		
	% of community groups sensitized to negative impacts, risk reduction, risk management, and appropriate adaptation responses (broken by gender) (AMAT 2.3.1)	Less :15: Civil protection officers using megaphones in the event of a severe weather event, asking households in high-risk areas (such as those along ravines) to evacuate. There is a limited understanding of the risks and opportunities associated with climate change and the potential opportunities of climate change-related activities	More than 75% of the target population is aware of the expected impacts of climate change and appropriate adaptation measures, including at least 50% of women.		
Outcome 3 <i>Investing in relevant early warning systems and adaptive technologies to protect local infrastructure and livelihoods from climate impacts (equivalent to</i>	The type of relevant climate change adaptation technology implemented in the area chosen by participatory stakeholders (AMAT 3.1.1.2)	The lowlands of the Imbo and Mumirwa regions are threatened by the effects of increased rainfall, which result in increased linear erosion along rivers that cause destruction and/or damage to many public and private	At most 300 hectares of vegetated ditches for erosion control in Bugabira, Busoni and Kirundo-rural to protect and preserve community land from higher risks of upland rain erosion	Investigative reports; Service reports from providers APRs/PIR	<u>Hypothèses</u> ➤ Participation and engagement of target communities ➤ Effective cross-sector collaboration

	Indicator	Basic situation	Project objectives	Source of verification	Risks and Assumptions
activity in ATLAS)		<p>infrastructure located in different parts of Bujumbura.</p> <p>Most of the current investments. (e.g. roads, schools, urban drainage systems) address the lack of basic infrastructure in key cities such as Bujumbura, Gitega and Ngozi. Low and dispersed investments are underway at target sites to mitigate the impacts of erosion.</p>	<p>Digging of erosive pits for 500 km on farms in the communities of Bugabira commune (Kiyonza and Kigoma areas);</p> <p>At most 800 km of vegetated level curve to control erosion in Imbo and Mumirwa and 300ha of reforestation undertaken to stabilize the upstream watersheds in Bujumbura;</p> <p>At least 20 km will be demarcated as a buffer zone along Lake Tanganyika in Nyanza Lake commune</p> <p>At least 50 km of anti-erosive device is set up in the Rwaba Basin in the Nyanza lake commune and the slope stabilization work carried out to correct the Ntahangwa bed</p> <p>At least 100 households, including a minimum of 25% of women-headed households, have access to adequate subsistence measures aimed at climate resilience (e.g. IGA, water collection, vegetable gardening, improved homes) to enhance food security for vulnerable households</p>		<p><u>Risks</u></p> <ul style="list-style-type: none"> ➤ Sustainability of investment due to the low capacity of communities to maintain infrastructure ➤ Potential environmental and social risks primarily related to activities ➤ The impacts of climate change much higher than expected ➤ Institutional support and insufficient political commitment ➤ Hill target communities do not see the value of new practices or social conflicts hindering the resumption of practices

APPENDIX F – GEF CORE INDICATORS AT TE FOR CDRM [PIMS ID 4922]

Project identification						
Project title:	Community based climate change related disaster risk management in Burundi					
Country(ies):	Burundi	GEF project ID:				
GEF Agency(ies):	UNDP	Agency project ID: 4922				
Executing Partner(s):		Council/ CEO Approval date:				
Project status at submission:		Tool submission date:				
Project baselines, targets and outcomes						
Indicator	Unit of measurement	Baseline at CEO Endorsement	Target at CEO Endorsement	Actual at mid-term	Actual at completion	Comments (e.g. specify unit of measurement)
Objective 1: Reduce the vulnerability of people, livelihoods, physical assets and natural systems to the adverse effects of climate change						
Indicator 1: Number of direct beneficiaries	number of people	0	5,000	2,259	7,614	Includes technical staffs from extension services and municipalities, members of DRR platforms and targeted households (calculated at the average household size of 4.8)
	% female	0	50	N/A	N/A	Gender disagragated data not presented
	vulnerability assessment (Yes/No)	No	No	No	No	(if a vulnerability assessment has been carried out for the targeted population, please describe)
Outcome 1.1: Vulnerability of physical assets and natural systems reduced						
Indicator 2: Type and extent of assets strengthened and/or better managed to withstand the effects of climate change	ha of land	0.00	600.00	730.00	1,643.00	
	km of coast	/	/	/	/	
	km of roads	/	/	/	/	
	km of anti-erosion ditches	0.00	N/A	586.00	1,400.00	
	m of river protected	0.00	830.00	150.00	664.00	(add rows as needed)
Outcome 1.2: Livelihoods and sources of income of vulnerable populations diversified and strengthened						

Indicator 3: Population benefiting from the adoption of diversified, climate-resilient livelihood options	number of people					(describe livelihood options, add rows as needed)
	% female					
	% of targeted population					
<i>Outcome 1.3: Climate-resilient technologies and practices adopted and scaled up</i>						
Indicator 4: Extent of adoption of climate-resilient technologies/ practices	number of people	120	480	0	576	erosion impact mitigation
	% female	N/A	25	0	20	agriculture and livestock practices to strengthen the food security of vulnerable households
	% of targeted					production of briquettes from biodegradable waste
	number of ha					
	% of targeted					
Objective 2: Strengthen institutional and technical capacities for effective climate change adaptation						
<i>Outcome 2.1: Increased awareness of climate change impacts, vulnerability and adaptation</i>						
Indicator 5: Public awareness activities carried out and population reached	Yes/No	No	Yes	Yes	Yes	
	number of people	0	3750	2000	2000	75% of target population (5000)
	% female	N/A	50	N/A	50	
<i>Outcome 2.2: Access to improved climate information and early-warning systems enhanced at regional, national, sub-national and local level</i>						
Indicator 6: Risk and vulnerability assessments, and other relevant scientific and technical assessments carried out and updated	number of relevant assessments/ knowledge products					
Indicator 7: Number of people/ geographical area with access to improved climate information services	number of people					
	% female					
	% of targeted area (e.g. % of country's total area)					
Indicator 8: Number of people/ geographical area with access to	number of people	2,400	9,600	0	0	
	% female	N/A	N/A	N/A	N/A	

improved, climate-related early-warning information	% of targeted area (e.g. % of country's total area)					
<i>Outcome 2.3: Institutional and technical capacities and human skills strengthened to identify, prioritize, implement, monitor and evaluate adaptation strategies and measures</i>						
Indicator 9: Number of people trained to identify, prioritize, implement, monitor and evaluate adaptation strategies and measures	number of people	0	165	64	64	
	% female	N/A	N/A	N/A	N/A	
Indicator 10: Capacities of regional, national and sub-national institutions to identify, prioritize, implement, monitor and evaluate adaptation strategies and measures	number of institutions					
	score					(if the scoring methodology is different from the recommended [see Sheet 2], please describe)
Objective 3: Integrate climate change adaptation into relevant policies, plans and associated processes						
<i>Outcome 3.1: Institutional arrangements to lead, coordinate and support the integration of climate change adaptation into relevant policies, plans and associated processes established and strengthened</i>						
Indicator 11: Institutional arrangements to lead, coordinate and support the integration of climate change adaptation into relevant policies, plans and associated processes	number of countries					
	score					(if the scoring methodology is different from the recommended [see Sheet 2], please describe)
<i>Outcome 3.2: Policies, plans and associated processes developed and strengthened to identify, prioritize and integrate adaptation strategies and measures</i>						
Indicator 12: Regional, national and sector-wide policies, plans and processes developed and strengthened to identify, prioritize and integrate adaptation strategies and measures	number of policies/ plans/ processes	0	0	1	1	Burundi National Development Plan
	score	N/A	N/A	N/A	N/A	(if the scoring methodology is different from the recommended [see Sheet 2], please describe)
Indicator 13: Sub-national plans and processes developed	number of plans/ processes	0	5	3	3	

and strengthened to identify, prioritize and integrate adaptation strategies and measures	score	N/A	N/A	N/A	N/A	(if the scoring methodology is different from the recommended [see Sheet 2], please describe)
<i>Outcome 3.3: Systems and frameworks for the continuous monitoring, reporting and review of adaptation established and strengthened</i>						
Indicator 14: Countries with systems and frameworks for the continuous monitoring, reporting and review of adaptation	number of countries					
	score					(if the scoring methodology is different from the recommended [see Sheet 2], please describe)
Reporting on GEF gender indicators						
Q1: Has a gender analysis been conducted during project preparation?	YES	NA	NA			
Q2: Does the project results framework include gender-responsive indicators, and sex-disaggregated data?	YES					
Q3: Of the policies, plans frameworks and processes supported (see indicators 12 and 13 above), how many incorporate gender dimensions (number)?						
Q4: At mid-term/ completion, does the mid-term review/ terminal evaluation assess progress and results in terms of gender equality and women's empowerment?	NA	YES	YES			

APPENDIX G – RESPONSES TO COMMENTS RECEIVED ON DRAFT TE REPORT

To the comments received on the 16 July 2021 for the Terminal Evaluation of the Community Disaster Risk Management Due to Climate Change in Burundi (CDRM Burundi)

The following comments were provided in track changes to the draft Terminal Evaluation report; they are referenced by institution (“Author” column) and track change comment number (“#” column):

Author	#	Para #/ Comment location	Comment/Feedback on draft TE report	TE response and actions taken
Marie Ange Kigeme	1	Synopsis	Probably this date shall change ?? you mean inception report?	The date of the Terminal Evaluation report has changed to 28 September 2021.
Marie Ange Kigeme	2	Exec. Summary, 1 st Para	Insert the new date taking into consideration the extension date ?? 30 September 2021	Done.
A.N./ Marie Ange Kigeme	3	Exec. Summary, Table A,	AN: the project has been extended up to dec 2020. There is a need to consider projects results for the period of oct 2019 to dec 2020. Many report are available MAK: I agree to the above comments the report needs to take into consideration year 2020. There is a final report available and which was shared then the results achievement should be revised	A mistake was made by putting in the September 2019 date. The date has been changed to December 2021.
Marie Ange Kigeme	4	Exec. Summary, Table A, Actual achievement of the Project Objective	ACMAD did training and the National consultant can get further information in any case	Agreed. Edits provided.
Marie Ange Kigeme	5	Exec. Summary, Table A, Actual Outcome 1	Please consider 31 december as final period of the project SAP Expert can confirm this information we have different information.	Agreed. Edits provided.
Marie Ange Kigeme	6	Summary of Conclusions, Recommendations and Lessons, 1 st Para	Training activities took place end 2020 mostly online and in the field the report is available please change the assertion. This is being taken care of by National Red cross of Burundi in partnership with UNDP	Agreed. Edits provided.
A.N.	7	Summary of Conclusions, Recommendations and Lessons, 2 nd Para	The hydro-meteorological stations were installed at the same time I do not see how the one works and the others do not. Data reception is done for the entire network.	The Evaluators do not see the relevance of this comment to the Para. No edits were made.

Author	#	Para #/ Comment location	Comment/Feedback on draft TE report	TE response and actions taken
A.N.	8	Summary of Conclusions, Recommendations and Lessons, 3 rd Para	The project achieved its objective, well expected, there was financial reallocation by the government because of the priority given to the Ntahangwa. This was well expressed to the national assessor with minutes from Copil. It is necessary that there is the follow-up of the project and PMU worked the UNDP for the development of a related BIP. Thus, the actions proposed for the follow-up are those proposed in the PIF.	Agreed. The recommendations closely follow the activities of the PIF plus activities as noted by the National Evaluator. See Paras 128 to 131.
A.N./ Marie Ange Kigeme	9	Evaluation Ratings, Sustainability	<p>A.N: this component is not understandable. What criteria are taken into account ??? I propose to review the results for the entire implementation period and take into account the budgetary reallocation made at the request of the government.</p> <p>MAK: Please revise the ranking bcz the main objective is environment here and if is 2 it may be note correct because there is a lot testimony from communities on environmental protection and rehabilitation national consultant has to share evidence</p>	Please see Footnote 3 for Sustainability Ratings. Since the overall rating is equivalent to the lowest sustainability ranking score of the 4 dimensions, the sustainability score remains valid. This is mainly due to financing for EWS training services and maintenance, watershed protection, landslide prevention, and adaptive technologies are not confirmed at this time with donors or Government. No changes were made to the Sustainability rankings.
Marie Ange Kigeme	10	Para 1	Please harmonize the evaluation period	Done.
A.N.	11	Para 4, 2 nd bullet	It's not understandable	Text was eliminated.
Marie Ange Kigeme	12	Para 9, 2 nd bullet	There was also UNDP consultation	Agreed. Edits made.
Marie Ange Kigeme	13	Para 11, 1 st and 2 nd bullets	Here we need to know the main cause of this. UNDP was not informed on such issue	Visits could not have been made to all sites. That is why this statement is placed here. No edits have been made.
A.N.	14	Para 14	The extension of the project was to complete the activities especially the 3 rd phase of the Ntahangwa, management of buffer zones, promotion of IGAs. Unfortunately, the results have not been reported in this report	The results have been included in this report.
A.N./ Marie Ange Kigeme	15	Para 34, 5 th bullet	A.N: It's not understandable. This statement deserves additional expression	Polisi: Can you review this? This deserves further discussion.....

Author	#	Para #/ Comment location	Comment/Feedback on draft TE report	TE response and actions taken
			MAK: Further discussion with the consultant during the presentation of the TE	
Marie Ange Kigeme	16	Para 35	This rating need to be justified as well we do don't' agree that much	Polisi: Can you review this? This deserves further discussion.....
A.N.	17	Para 39	There is a need to discuss clearly on those points	Polisi: Can you review this? This deserves further discussion.....
A.N.	18	Para 48	In project document, there is a co-finance letter where all the details in trem of co-finance aspects were well explained	There is only one letter from the Ministry of Finance and Economic Development for US\$500,000 but not from the Ministry of Finance for \$14.5 million.
A.N.	19	Para 50	There is no co-financing letter from IGEBU, is from Burundi government. Is the case of the project	Polisi: Can you review this? That is correct. What do we do with this project description?
A.N.	20	Para 60, 5 th bullet	In fact there is one early warning system. This indicator has been wrongly defined during the project document elaboration	Edits have been made to correct the number of stations installed for the EWS.
A.N.	21	Para 60, 9 th bullet	Green version is correct. The national consultant can check those informations with the stakeholders	Edits made according to the green text.
Marie Ange Kigeme	22	Para 61	No this did no change because it is in the ministry of security	No edits were made.
A.N.	23	Para 64	The Management Unit was composed of a National coordinator, an RAF, a Monitoring and evaluation expert, an Administrative Assistant, an SAP expert, an environmentalist, 4 drivers, 2 watchmen and a planon. The consultants took back what is in the prodoc. They did not consider the collection of information in real time so for the implementation of the project, the government and the executing agency have improved a lot.	Polisi: Can you review this? What is an RAF and an SAP expert? Edits made according to the new information
Marie Ange Kigeme	24	Para 68, main para and 5 th bullet	This needs to be elaborated further the reasons behind changes . Note that others activities for Rivers Ntahangwa activities were done in Bujumbura provinces communes, Isare and Mugongomanga	Polisi: Can you review this? This still does not explain the isolated nature of the works being implemented, and the risk of flood flows damaging existing infrastructure near the works being

Author	#	Para #/ Comment location	Comment/Feedback on draft TE report	TE response and actions taken
				implemented. No edits have been made.
A.N.	25	Para 69, 3 rd bullet	The information provided and the related report have not been taken into account	Edits made according to the information provided.
Marie Ange Kigeme	26	Para 72	This is obviously the areas of interventions see the provinces mentioned Prodoc (Kirundo, Makamba & bujumbura)	Edits made according to the information provided.
Marie Ange Kigeme	27	Para 73	????? chantal to verify	Apologies for wrong GEF amount entered. Correct amount has been inserted into the Para.
A.N.	28	Para 73, 3 rd and 5 th bullets	There was a budget reallocation recommended by the government and additional fundraising by the UNDP Idem	Polisi: Can you review this? We need proof of the additional fundraising by UNDP and the GoB for this. The CDRM Project had a mechanism to determine and adjust budgets. This is not entirely clear to the Evaluation Team in terms of its functionality. Please explain.
A.N.	28	Para 74	It is very clear in the letter of co-financing, cfr page 106 of the prodoc	It is not clear where the co-financing came from with just the US\$0.5 million co-financing letter. Where did the funds come from with the over-expenditure of Outcome 3? Was it co-financed by the GoB??
Marie Ange Kigeme	29	Para 78	This assertion need to be discussed I doubt if the case I funds	Polisi: Can you review this? I got this information either from the Project Coordinator or the PIRs
Marie Ange Kigeme	30	Para 85	SAP exeprt please confirm????	In reading the reports again, edits have been made to clarify the achievements of this Outcome.
Marie Ange Kigeme/ A.N.	31	Table 8	MAK: The consultants should read all documents including the report from ACMAD regaring training provided to IGEPU STAFF at the end of project and is different areas	Polisi: Can you review this? Edits were made to correct the misinformation provided.

Author	#	Para #/ Comment location	Comment/Feedback on draft TE report	TE response and actions taken
			<p>A.N: I draw the attention of the evaluators closed on Dec 31, 2020 and the PIR 2020 (July-December) was not done because it was supposed to be done in the middle of June 2021 when the project closed. The evaluators in addition to the PIRs and should consider the final report of the project to integrate the achievements recorded during this period. So this assessment is not correct, it would be good to review it with the PMU</p> <p>MAK: Here Is not clear to me</p>	<p>Polisi: Can you review this? The 2020 PIR says only 7 community-based EWSs were actually setup with the Jan 2021 PSC meeting minutes not mentioning this target. No edits have been made to this indicator.</p>
Marie Ange Kigeme	32	Para 88	<p>Training were done later online and later in january with a organization based in Niger (ACMAD)</p> <p>This is no the case any more probably interview should be done with IGEBU Director General / Meteo Director in IGEBU. The national consultant need to complete this and revert to International consultant</p>	<p>Polisi: Can you review this? Edits have been made to correct the information.</p>
Marie Ange Kigeme	33	Para 89	Ideem see above comments	<p>Polisi: Can you review this? Edits have been made to correct the information.</p>
Marie Ange Kigeme	34	Para 90	<p>Why this ???? UNDP was not informed on the issue. I guess it is in the interest of IGEBU to facilit(ate access to equipmen</p> <p>UNDP contracted National Red cross to complete this and it is undergoing</p>	<p>Polisi: Can you review this? Edits have been made to correct the information.</p>
Marie Ange Kigeme	35	Para 92	??,???? futher discussions needed and clarifications	Rating has been upgraded to moderately satisfactory
A.N.	36	Para 94	Explained already - "What are the reasons for not reaching the target of 50 extension staff and 100 DRR platform members as trained on climate change issues in the operation of the EWS?"	<p>Polisi: Can you review this? No, this has not been explained. A response to this is required.</p>
A.N.	37	Table 10, 1 st indicator	To be revise with PMU bcp some information have been not taken into account	Edits have been made to correct the information

Author	#	Para #/ Comment location	Comment/Feedback on draft TE report	TE response and actions taken
A.N.	38	Table 10, 3 rd indicator	Consider the final report which took into account to the outcome of 2020. So the overall rate should be revised	Polisi: Can you review this? No, the 2019 PIR is the latest information on this indicator. Unless there is an update, no edits will be made to this indicator.
A.N.	39	Para 95	It has been avoided bcp not relevant. In all reports there is no SPAT	Edits made as per information provided.
A.N.	40	Para 97	Revision of the results rate	Rating has been upgraded to satisfactory
A.N.	41	Para 99	Review the figures considering the reports, especially the final project implementation report in response to the comment “When did the contract begin and when did it end? Were there any problems monitoring progress and paying the contractor”	Polisi: Can you review this? Edits have been made to correct the information.
A.N.	42	Table 11, 2 nd indicator	To review	Polisi: Can you review this in relation a final listing of interventions for this table? Edits have been made to correct the information.
A.N.	43	Para 100	Review the reconciliations especially the final project report	Polisi: Can you review this in relation a final listing of interventions for this table?
Marie Ange Kigeme	44	Para 112	This need to be discussed The environmental benefits are there specially around Kirundo wherethe govenor assumed that the production for ficheries has incerased when the RR visited the province in june and mentioning the project	See Comment 9
A.N.	45	Table 14	To be reviewed taking into account the results of the entire implementation period	See Comment 9

APPENDIX H – SIGNED TE REPORT CLEARANCE FORM (TO BE SIGNED BY CO AND RTA)

Annexed as a separate file

DRAFT

APPENDIX I - EVALUATION CONSULTANT AGREEMENT FORM

Evaluator 1:

1. Must present information that is complete and fair in its assessment of strengths and weaknesses so that decisions or actions taken are well founded.
2. Must disclose the full set of evaluation findings along with information on their limitations and have this accessible to all affected by the evaluation with expressed legal rights to receive results.
3. Should protect the anonymity and confidentiality of individual informants. They should provide maximum notice, minimize demands on time, and respect people's right not to engage. Evaluators must respect people's right to provide information in confidence, and must ensure that sensitive information cannot be traced to its source. Evaluators are not expected to evaluate individuals, and must balance an evaluation of management functions with this general principle.
4. Sometimes uncover evidence of wrongdoing while conducting evaluations. Such cases must be reported discreetly to the appropriate investigative body. Evaluators should consult with other relevant oversight entities when there is any doubt about if and how issues should be reported.
5. Should be sensitive to beliefs, manners and customs and act with integrity and honesty in their relations with all stakeholders. In line with the UN Universal Declaration of Human Rights, evaluators must be sensitive to and address issues of discrimination and gender equality. They should avoid offending the dignity and self-respect of those persons with whom they come in contact in the course of the evaluation. Knowing that evaluation might negatively affect the interests of some stakeholders, evaluators should conduct the evaluation and communicate its purpose and results in a way that clearly respects the stakeholders' dignity and self-worth.
6. Are responsible for their performance and their product(s). They are responsible for the clear, accurate and fair written and/or oral presentation of study limitations, findings and recommendations.
7. Should reflect sound accounting procedures and be prudent in using the resources of the evaluation.

Evaluation Consultant Agreement Form⁴⁷

Agreement to abide by the Code of Conduct for Evaluation in the UN System

Name of Consultant: Roland Wong

Name of Consultancy Organization (where relevant): _____

I confirm that I have received and understood and will abide by the United Nations Code of Conduct for Evaluation.

Signed at Surrey, BC, Canada on 28 September 2021



Evaluator 2:

1. Must present information that is complete and fair in its assessment of strengths and weaknesses so that decisions or actions taken are well founded.
2. Must disclose the full set of evaluation findings along with information on their limitations and have this accessible to all affected by the evaluation with expressed legal rights to receive results.
3. Should protect the anonymity and confidentiality of individual informants. They should provide maximum notice, minimize demands on time, and respect people's right not to engage. Evaluators must respect people's right to provide information in confidence, and must ensure that sensitive information cannot be traced to its source. Evaluators are not expected to evaluate individuals, and must balance an evaluation of management functions with this general principle.
4. Sometimes uncover evidence of wrongdoing while conducting evaluations. Such cases must be reported discreetly to the appropriate investigative body. Evaluators should consult with other relevant oversight entities when there is any doubt about if and how issues should be reported.
5. Should be sensitive to beliefs, manners and customs and act with integrity and honesty in their relations with all stakeholders. In line with the UN Universal Declaration of Human Rights, evaluators must be sensitive to and address issues of discrimination and gender equality. They should avoid offending the dignity and self-respect of those persons with whom they come in contact in the course of the evaluation. Knowing that evaluation might negatively affect the interests of some stakeholders, evaluators should conduct the evaluation and communicate its purpose and results in a way that clearly respects the stakeholders' dignity and self-worth.
6. Are responsible for their performance and their product(s). They are responsible for the clear, accurate and fair written and/or oral presentation of study imitations, findings and recommendations.
7. Should reflect sound accounting procedures and be prudent in using the resources of the evaluation.

Evaluation Consultant Agreement Form⁴⁸**Agreement to abide by the Code of Conduct for Evaluation in the UN System**

Name of Consultant: Polisi Alphonse **Polisi: Please sign this:** _____

Name of Consultancy Organization (where relevant): _____

I confirm that I have received and understood and will abide by the United Nations Code of Conduct for Evaluation.

Signed at Bujumbura, Burundi on 28 September 2021