

REPUBLIC OF RWANDA



MINISTRY OF NATURAL RESOURCES

**FIVE YEAR STRATEGIC PLAN FOR THE ENVIRONMENT AND
NATURAL RESOURCES SECTOR - 2014 – 2018**

September 2013

Acronyms

AfDB	: African Development Bank
ALPFG	: Africa Land Policy Framework and Guidelines
BCC	: Budget Circular Call
CBOs	: Community Baed Organisations
CPAF	: Common Performance Assessment Framework
CSOs	: Civil Society Organisations
DDPs	: District Development Plans
DFID	: Department for International Development
EAC	: East African Community
EDPRS	: Economic Development and Poverty Reduction Strategy
EESD	: Environmental Education for Sustainable Development
EIA	: Environmental Impact Assessment
EICV	: Integrated Household Living Conditions Survey
ENR	: Environment and Natural Resources
FONERWA	: National Climate and Environment Fund
GDP	: Gross Domestic Product
GIS	: Geographic Information System
IDP	: Internally Displaced Persons
IWRM	: Integrated Water Resource Management
LAIS	: Land Administration Information System
LTRSS	: Land Tenure Regularisation Support System
M&E	: Monitoring and Evaluation
MINAGRI	: Ministry of Agriculture and Animal Resources
MINALOC	: Ministry of Local Government
MINECOFIN	: Ministry of Finance and Economic Planning
MINEDUC	: Ministry of Education
MININFRA	: Ministry of Infrastructure
MINIRENA	: Ministry of Natural Resources
MoH	: Ministry of Health
NAPA	: National Adaptation Programme of Action
NBI	: Nile Basin Initiative
NFC	: New Forests Company
NGOs	: Non-governmental Organisations
NLUDMP	: National Land Use and Development Master Plan
PAIGELAC	: Inland Lakes Intergrated Development and Management Support Project
PEER	: Public Environmental Expenditure Review
PNLP	: National Malaria Control Programme
PSTA	: Agricultural Sector Investment Plan
RDB	: Rwanda Development Board
REMA	: Rwanda Environment Management Authority
RNRA	: Rwanda Natural Resources Authority
RSSP	: Rural Sector Support Project
SEI	: Stockholm Environment Institute
SEA	: Strategic Environmental Assessment
SIDA	: Swedish International Development Agency
SMEs	: Small and Medium Enterprises
SOER	: State of Environmental Report
TIG	: Community Service for Prisoners

Table of content

Acronyms.....	2
Table of content.....	3
Executive Summary	5
Environment and Natural Resources sector Priorities and Innovations.....	5
5. Environment and Natural Resources Sector Monitoring and Evaluation	8
1. Introduction.....	9
1.1 Context	9
1.3 The Methodology	10
2. Overview of the Environment and Natural Resources Sector.....	11
2.1. Policy Context	11
2.1.1 National Policies and strategies	11
2.1.2 Environment and Natural Resources Sector Policies.....	14
2.1.3 Key Cross-sector and Regional Policy Implications.....	16
2.1.4 Other ENR Sector Strategic Documents.....	19
2.2 Sector Status, Achievements and Challenges.....	21
2.2.1 ENR Sector Status and Achievements.....	21
2.2.2 Challenges in Environment and Natural Resources	28
2.3 Institutional Overview of the Sector.....	29
3. Environment and natural resources strategic framework.....	31
3.1. Mission and Objectives of the ENR Sector.....	31
3.2 Results chain.....	32
3.3 Contribution of Environment and Natural Resources sector to EDPRS II	34
3.3.1 Environment and Natural Resources sector Priorities and Innovations....	34
3.3.2 ENR Strategic areas for District Development Plans (DDPs)	36
3.3.3 Contribution to EDPRS 2 Thematic area	37
3.4 Cross cutting issues mainstreaming	44
3.4.1 Capacity building	44
3.4.2. Gender and family promotion.....	45
3.4.3. Environment, Climate change and disaster management:.....	46
3.4.4 HIV/AIDS and non-communicable diseases	47
3.4.5 Social inclusion and disability	47
3.4.5 Regional integration.....	48
4. Implementation of the ENR Sector Strategic Plan	49
4.1 Background	49
4.2 Roles and responsibilities of the TWGs members	50
4.2.1The Central Government.....	50
4.2.2 The Local Government	53
4.2.3 The Private sector	54

4.2.5. Financial institutions and Development partners	56
4.2.7. The Media	58
5. Environment and Natural Resources Sector Monitoring and Evaluation	58
5.1 ENR M&E development guiding principles and approach.....	58
5.2 ENR M&E: Focusing results on Sustainability	58
5.3 Objective of ENR Monitoring and Evaluation framework	59
5.4 The step wise approach to successful ENR M&E	59
5.5 Reporting for EDPRS 2	60
6. Budget, Financing and Financial Management	70
6.1 Cost structure and costing of Planned Activities.....	70
6.2 Strategic Plan Financing Mechanisms	72
6.3 Resource Allocation and Financial Management Arrangements.....	72
ANNEXES.....	73

Executive Summary

Contextual background

This strategy which will cover a five year period (2013 – 2018) is developed to implement the second phase of the Economic Development and Poverty Reduction Strategy with the aim of achieving the revised targets of vision 2020. In line with the Vision 2020 objective of transforming Rwanda into a middle income country by 2020, the overall objective of EDPRSII is to increase the quality of life of all Rwandans through rapid and sustainable economic growth (11.5% per annum) and accelerated poverty reduction (to below 30%). To meet these objectives, EDPRSII is developed around four strategic thematic areas (Economic Transformation, Rural Development, Productivity and Youth Employment, and Accountable Governance), which will drive rapid and sustainable economic growth, as well as fast reduction of poverty country wide. EDPRSII will be implemented through a set of Sector and District Strategies, which will be fully aligned to the priorities and themes of EDPRSII. The Environment and Natural Resources (ENR) Sector and District strategies will contribute to the achievement of the four thematic areas and will mainstream key cross-cutting issues which the EDPRS II identified as Environment and Climate change, Gender and Family promotion, HIV/AIDS, Capacity building, Regional integration, Social inclusion and disability and Disaster management.

Environment and natural resources strategic framework

The Objective of this strategy is to ensure that environment and natural resources are utilized and managed productively in support of equitable and sustained national development and poverty reduction. This will be realized in 5 specific objectives : (1) To increase and sustainably manage ecosystems and forest resources to optimize their economic as well as ecological functions; (2) To put in place and operationalise an efficient system of land administration and land management that secure land ownership, promote investment in land for socio-economic development and poverty reduction; (3) To ensure that development in Rwanda is undertaken in a manner that inflicts minimal damage to the environment, and building resilience to threats posed by climate change for the sustained support to economic, social and cultural development of Rwanda. (4) To secure and provide water of adequate quantity and quality for all social and economic needs of the present and future generations with the full participation of all stakeholders in decisions affecting its management; (5) To improve the Geology and Mines sub-sector to contribute optimally and sustainably to the national income and to the social economic welfare of the community.

Environment and Natural Resources sector Priorities and Innovations

ENR Sector Priorities and new Innovations will focus mainly on supporting key thematic areas identified in EDPRS 2 related to economic transformation, rural development, productivity and youth employment, and effective governance.

The contribution of forestry resources to economic growth and poverty reduction will be attained by the increase of forest cover across the nation as well as the increase and sustainable management of ecosystems and forestry resources. The Rwanda's EDPRS II 2013-2018 retains forestry as a main concern in recognition of its prime contribution to the GDP. This will be achieved through increased job creation in forestry from 0.3% to 0.5% by 2018, and reduction in the use of biomass energy through the use of improved stoves and improved kilns to produce 75% of charcoal by year 2018. EDPRS II 2013-2018 supports the previous target of increasing forest cover to 23.5% by 2012 and reset a new indicator to reach 30% by 2018. In addition, EDPRS II 2013-2018 recommends for sustainable management of forest biodiversity and critical ecosystems through protection and maintenance of 10.25% of the land area, and reduction of wood energy consumption from 86.3 % to 50% by 2020 as reflected in the 2020 Vision targets.

Security of land tenure, through systematic land registration and sustainable, rational land use in Rwanda through decentralized land use planning and mapping, will be ensured and the national land registry will be maintained and sustained by strengthening land administration institutions.

Economic efficiency will be created across sectors by managing water resources according to an IWRM approach, with a focus on enhanced planning through coordinated development of water storage infrastructures such as dams, dykes, ponds and irrigation channels. Rain water harvesting will be enhanced through watershed development and restoration of wetlands to meet water security demands for irrigation, hydropower, industry and water supply and reduce disasters risks (by widening rivers, for instance). There will be need to reduce poverty vulnerability through an integrated catchment management approach with the introduction of multiple use of water by communities, and up scaling land husbandry technology. Productivity and livelihoods will be improved, through technology development and transfer, to increase value added on water in various economic sectors and food security.

Furthermore, there will be allocation of water resources of Rwanda to the various socio-economic needs on the basis of principles that incorporate efficiency of use, equity of access, and sustainability.

Environment and Climate Change will contribute to the achievement of EDPRS II through the following innovations; ecosystem rehabilitation based on job creation and income generation for rural poverty reduction and social protection ; integrating innovative approaches and knowledge on technology transfer on irrigation, renewable energy and agro-forestry in TVET ; developing and implementing an incentive structure to award performance in environmental management ; and operationalize FONERWA fund.

Knowledge of national mineral and petroleum potential will be raised by developing a mineral exploration strategy and acceleration of petroleum exploration activities by both the public and the private sectors as well as developing a comprehensive mining cadastre and a modern licensing system. Sub-sector skills will be developed by establishing local degrees and

diploma courses in mining related subjects and through the participation in the process of raising minerals and quarry products productivity substantially and sustainably by training at least 600 people (40 professionals, 160 middle level technicians, 400 trained miners). In order to raise productivity sustainably, splitting of large government concessions into viable medium is expected to raise the number of medium level good investors. Sensitization and guidance to banks towards financing small scale miners as well as disseminating price data through all trade point offices, will also contribute to increasing productivity in the mining sub-sector.

Implementation of the ENR Sector Strategic Plan

The ENR sector enveloping a wide-ranging of sub-sectors including the Environment, Lands, Forestry, Mines, and Water resources, is linked in an intricate manner with other sectors such as health, agriculture, energy, tourism, housing, macroeconomic management, gender and social development. In this context, one of the main challenges constraining effective implementation of the sector strategy is of coordination – both in programming, activity implementation and funding. To ensure coherence and synergy in the programming, resource mobilization and monitoring and evaluation performance, a Sector-Wide Approach (SWAP) framework has been developed. It is expected that the SWAP secretariat of the ENR sector will assist in improving the cross-sectoral collaboration, and by bringing together all key stakeholders.

In the elaboration of ENR sector strategic plan, stakeholders in the sector at all levels were involved. This participative inclusive approach has and will be maintained during the implementation, monitoring and evaluation phases, hence recommending the need to further strengthen the SWG and TWGs approach. SWG and TWGs will continue to bring together Central and Local government institutions, development partners, the private sector and civil society engaged in the ENR sector or with an interest in the ENR sector development.

Members of the ENR SWG include the following: the Lead Ministry, the Lead Donor, Prime Minister's Office, the Ministry of Finance and Economic Planning (MINECOFIN), a Representative from each Ministry, a Representative from each Province and Kigali City, Development Partners, Civil Society Organisations and Private sector institutions.

There are five ENR sub-sector Thematic Working Groups (TWGs) falling under the five ENR sub-sectors i.e. Environment and Climate Change, Land, Forestry, IWRM and Mining.

Implementation of sector priorities will be undertaken by the sub-sectors organized under two national agencies. Environment and Climate Change priorities will be implemented by Rwanda Environment Management Authority (REMA) whereas Land, Forestry, Water resources and Mining will be executed under the mandate of the Rwanda Natural Resources Authority (RNRA).

The ENR sector will implement this strategy in collaboration with: Ministry of Local Government (MINALOC), Ministry of Agriculture, Animal Resources (MINAGRI) and affiliated agencies, Ministry of Infrastructure (MININFRA) and its Agencies, Ministry of Health (MoH), Ministry of Family and Gender Promotion (MIGEPROF), Ministry of Education (MINEDUC), Ministry of Commerce (MINICOM) and affiliated agencies, Ministry of Foreign Affairs and Cooperation (MINAFFET), Ministry of Finance, Planning and Economic Development (MINECOFIN), Rwanda Development Board (RDB), Rwanda Utilities Regulatory Agency (RURA) and Rwanda Bureau of Standards (RBS), Private Sector and Non Governmental Organizations (NGOs).

5. Environment and Natural Resources Sector Monitoring and Evaluation

The ENR monitoring and evaluation framework has been structured in a way that facilitates monitoring of the contribution of districts, sectors and Thematic areas to EDPRS 2. Such a structure provides for outcomes at the thematic areas level. At the sector level, intermediate sector outcomes were developed in alignment to the thematic outcomes. Sector outcomes will be the basis for actions at the sectors and districts levels in the course of implementation. The systematic development of a framework that aligns EDPRS 2 goals, Thematic areas, sector outcomes, outputs and their indicators and targets have enabled generation of a functional ENR M&E that facilitates targeted monitoring for effective implementation of national priorities through an RBM feedback mechanism.

Indicators were generated and agreed up on, after a highly participatory process of ENR-sector stakeholders. The objective of this consultation was to ensure that the resulting indicators are relevant, understandable, reliable and data is available or can be cost-effectively collected and processed. Once the indicators to be applied at various levels were agreed upon, the next step was to develop a metadata for the indicators. Following a consensus of key criteria and indicators that will form the core of the framework, metadata development to guide data generation and collection as well as analysis, the ENR sector will identify available baseline data and information as well as data gaps that must be filled prior to operationalizing the M&E. This may require specific consultancies to support generation of the baseline data that is critical to ENR sector strategic plans, DDPs and the EDPRS II implementation. Note that some indicators in the M&E framework do not have baseline data and annual targets, therefore, studies will be conducted in the first year of EDPRSII, to set the baseline.

EDPRS 2 reporting will be done at several levels. The ENR sector monitoring will provide the data and information that will be reported at the sector (as aggregated information as in the case of natural capital) whereas the sub-sector data and information will be gleaned from district data base in addition to other sub-sector data capture mechanisms. The key reporting modalities include the Joint Sector Reviews at the sector level and the Imihigo reporting at the district and other sub-national levels and these will form the basis of monitoring for EDPRS 2 implementation. Moreover, mid-term and end-term EDPRS 2 evaluations will be the mechanism for informing effectiveness of the ENR contribution to national priorities.

Financing and Financial Management

In the table 2 below, the planned activities for the next 5 years of EDPRS 2 will be implemented at an estimated cost RWF **(164,341,177,000)**. The total SSP funds available (based on GOR budget ceilings and external financing commitments) is equivalent to **Rwf 67, 733, 648, 000** and total projected cost (based on planned activities fully costed which will need additional financing) comes to a total cost of Rwf **(164,341,177,000)** . This implies that, for the ENR SSP to be fully implemented we will need to mobilize a total amount of Rwf **96,607,529,000** (Budget deficit) for the sector to meet its set targets.

Resource Mobilization for the implementation of the strategic plan have been and will be targeted from five (5) principle sources: Internal public investment resources, On-going project funds , Donor sources mobilized into basket fund , Non public sector resources, Cross-sector collaboration. Beyond this, the National Environment and Climate Fund (FONERWA), whose establishment is provided for by law, is expected to assist in generating sustainable funding for Environment and Natural Resource Sector.

1. Introduction

1.1 Context

Rwanda is in the process of preparing its second Economic Development and Poverty Reduction Strategy (EDPRSII) to guide Rwanda's medium-term development aspirations during the period 2013-2018. EDPRSII will provide priorities for public spending, together with key performance targets, projected financing needs as well as monitoring and evaluation framework that will help the Government as well as development partners to track progress of the economic development through implementation of Environment and Natural Resources priorities.

In line with the Vision 2020 objective of transforming Rwanda into a middle income country by 2020, the overall objective of EDPRSII is to increase the quality of life of all Rwandans through rapid and sustainable economic growth (11.5% per annum) and accelerated poverty reduction (to below 30%).

To meet these objectives, EDPRSII is developed around four strategic thematic areas (Economic Transformation, Rural Development, Productivity and Youth Employment, and Accountable Governance), which will drive rapid and sustainable economic growth, as well as fast reduction of poverty country wide.

EDPRSII will be implemented through a set of Sector and District Strategies, which will be fully aligned to the priorities and themes of EDPRSII. The Environment and Natural Resources (ENR) Sector and District strategies will contribute to the achievement of the four thematic areas and will mainstream key cross-cutting issues which the EDPRS II identified as

Environment and Climate change, Gender and Family promotion, HIV/AIDS, Capacity building, Regional integration and Social inclusion and disability and disaster management.

Elaboration of EDPRSII will be guided by principles of innovation, strong focus on emerging priorities, inclusiveness and engagement, District led development and sustainability which have been explained and used as a basis in the course of ENR strategic plan development consultations.

Environment and Natural Resources Sector Strategic Plan 2013/14 – 2017/18

The first strategy was implementing the Economic Development and Poverty Reduction Strategy phase I (EDPRS I) for the period of 2008-2012. The current strategy which will cover a five year period (2013 – 2018) is developed to implement the second phase of the Economic Development and Poverty Reduction Strategy with the aim of achieving the revised targets of vision 2020.

1.3 The Methodology

The ENR Sector Strategic Plan was developed using the participatory approach of all ENR sub-sector working groups. The ENR sector is composed of 5 sub-sectors; Forest and nature conservation, Lands and mapping, Environment and climate change, Water resources management, and Geology and Mines which constitute the environment and natural resources with complementarity in terms of their objectives. The working groups formed teams comprised of stakeholders from the national institutions, Development Partners who intervene in the sector, Non-governmental Organizations (NGOs) and the Private sector.

A Drafting Team for each Sub-Sector Working Group composed by representatives of different stakeholders was constituted. MINECOFIN which has a broad oversight of national planning and budgeting provided guidance to the overall strategic planning process for the ENR sector. The Coordination Team was composed of the Director of Planning and Monitoring & Evaluation in The Ministry of Environment and Natural Resources, the SWAp Secretariat and the EDPRS Facilitator, to ensure that it was in line with the Guidelines produced by the Ministry of Finance and Economic Planning. The drafts of the sub-sectors were submitted at the Ministry level where the experts from technical department were appointed to develop together with stakeholders the draft of the ENR Sector Strategic Plan.

The Draft ENR Sector Strategic Plan was reviewed by the Coordination Team whose inputs and feedback were incorporated to produce the Final draft ENR Sector Strategic Plan. The final draft was presented to the sector working group members for inputs and a validation meeting was organised to endorse the Sector Strategic.

2. Overview of the Environment and Natural Resources Sector

2.1. Policy Context

This section analyses the coherence of the Environment and Natural Resources Strategic Plan with national and other sector strategies. The linkage between ENR sector and the Vision 2020, the Seven Year Government Program and the regional policies are analyzed in this strategic plan.

2.1.1 National Policies and strategies

1. Vision 2020 : Adopted in 2000, Vision 2020 as the country development roadmap seeks to transform Rwanda from an agrarian country of per capita income of USD 220 in 2000, to a knowledge-based middle income country of per capita income of USD 1240 by year 2020. Founded on six thematic and three cross-cutting pillars, Vision 2020 recognizes sustainable environmental and climate change management as a cross-cutting pivotal area to the realization of national aspirations. It recognizes that the major problem in the field of environmental protection in Rwanda is the imbalance between the population and the natural resources. This leads to alarming degradation observed through massive deforestation, the depletion of biodiversity, erosion and landslides, pollution of waterways and the degradation of fragile ecosystems.

To protect the environment against massive deforestation and soil destruction, Vision 2020 sets the target for the forest cover to reach 30% of national land area by year 2020 and the protection rate against erosion to rise from 20% in 2000 to 90% by year 2020. To ease the pressure on wood biomass seeing that 86.3% of the Rwandan population uses wood as the source of energy, Vision 2020 targets to drop the use of wood energy in national energy balance, to 50% by 2020 through diversification of energy sources availed to the population.

In ensuring its optimal utilization in urban and rural development, Vision 2020 calls for institutional and legal reforms to ensure security of land ownership. Provision of land titles and associated legal status regularization will support the attainment of Vision 2020 pillars that are underpinned by sustainable land use management in the development of the social capital in modern economies. Productive and market oriented agriculture depend on improved land protection and productivity. Regularized land, in private sector, is crucial in easing capital investment flow and freedom of exchange responding to the markets and changing economic conditions. In infrastructure land is needed to build roads, bridges and other infrastructure, and security of tenure allows systematic management of land taxes and related revenues to contribute to financing of infrastructure development. Sustainable management of integrated water resources is relevant to achieving Vision 2020 gearing towards a productive and market oriented agriculture. Transforming into a private sector-driven economy, infrastructure, regional integration and international cooperation, as thematic pillars of Vision 2020 are important prerequisites to equitable and sustainable management of integrated water resources. To further expand the Rwandan economic base, Vision 2020 has identified mining as one of the key priority sectors that should be developed to trigger the economic growth.

2. Seven Year Government Program :

In the Seven Year Government Programme, sustainable management of environment and natural Resources are considered as corner stone of the Rwandan economy. The seven year program targets to accelerate forest cover to reach 30% by 2020 within three years of period instead of seven years as it was set before. This has to put more emphasis on post planting management (follow up) to ensure 80% survival rate of planted trees, promote investment and value addition in forest products, and to avail diverse and improved tree planting material to local communities.

The focus is also on increasing climate change resilience capacity of the country and promoting green growth priority areas using sustainable financing measures across sectors of the Rwandan economy. Research will be intensified in informing rehabilitation of critical ecosystems and watersheds as a pollution control and management measure, and environment and climate change will be mainstreamed in all sectors.

Particular implications for integrated water management in the seven year government programme are climate change management, rehabilitation of critical degraded ecosystems and watersheds, mainstreaming of environmental conservation/ protection into all development activities, consolidation of decentralized governance and participatory service delivery, and promotion of regional integration.

During the Seven Year Government Programme 2010-2017, the following will be addressed in the Lands and mapping sub-sector : Amendment of the Organic Land Law and secondary legislations to accommodate current demand and fit the business climate, increase of land use consolidation for agriculture land and establish strategies for erosion control at 100%, finalise demarcation and adjudication of all land through land tenure regularisation by June 2012 and put in place strategies for implementation of the National Land Use and Development Master plan and elaboration of District Land Use Plans. These two shall contribute to rational land use both in cities and rural areas.

The seven year Government program finally recognizes mining as a key priority whose impact is instrumental in particularly speeding up the economic growth of the country and economic development in general. It is projected that mining will triple in the production of mineral products by 2017/2018. Three key priorities were set under this program: (i) value addition to the mineral and quarry products, (ii) continuation of resources estimation of traditional minerals deposit and (iii) carrying out explorations aimed at discovering new deposits and new minerals like nickel, copper, etc.

3. Economic Development and Poverty Reduction Strategy (EDPRS): Rwanda's comprehensive national medium-term strategy, for poverty reduction and economic transformation from PRSP and EDPRS I (2008-2012) focuses on emerging priorities to ensure the achievement of the ambitious targets set out in revised Vision 2020.

EDPRS I 2008-2012 acknowledged forestry as a strategic area to alleviate the rate of natural resources degradation. Accordingly, EDPRS I 2008-2012 put forward the need to run an inventory and mapping of national forest resources in providing the basis for a ten year national forestry plan; develop a strategy for the private sector involvement in forest management, design and implement a reforestation strategy with diverse species by increasing the forest cover from 20.02% (2006/07) to 23.5% by year 2012, reducing the annual consumption by 30% from 2002, and rehabilitating the degraded ecosystems such as Gishwati and Mukura forests by 80%. EDPRS I 2008-2012 recognized furthermore the need to put in place a joint strategy with MINAGRI to promote agroforestry for non-wood uses, including medicinal uses, honey production, wild foods and handicraft production by intensifying agroforestry up to 85% of farmlands.

Developing an adequate legal, regulatory and policy framework for managing the environment was the key priorities of environment to contribute to EDPRS I. Other key environmental interventions in the EDPRS I included the rehabilitation of degraded wetlands and other protected areas to ensure the preservation of biological diversity. During EDPRS I, an incentive framework was to be put in place to implement the National Programme for Adaptation on Climate Change (NAPA) and develop a Clean Development Mechanism. Guidelines were to be developed and disseminated on the conduct of Strategic Environment Assessments (SEAs) and Environmental Impact Assessments (EIAs).

Integrated Water Resources Management was significant to realise priorities under EDPRS I 2008-2012 and activities were planned in different areas to meet EDPRS targets. Firstly, a set of tasks had been identified which would be fed into the preparation of a master plan for national water resources management. These included surveying and assessing all the country's surface and ground water resources and establishing a national system for monitoring water quantity and quality. Measures to increase access to water for economic purposes included reviewing existing legislation to improve the regulatory framework for water use and promoting access to water for agriculture.

EDPRS I priorities in land management included establishing land institutions, land registration mechanisms and land use planning, through a land use and management master plan. Procedures were to be developed and documented to manage existing land folders and the land database that would facilitate the nationwide implementation of land tenure regularization. EDPRS I recognized womens' rights to land and other property and strengthened, regardless of their civil status that is whether they are single, married, divorced or widowed.

In Mining, measures were taken to promote Private Sector participation in exploration, mining and processing, and promote value addition of quarry products to reduce the importing of construction materials. All potential areas of significant mineral deposits were to be mapped by 2012 during EDPRSI. Cooperatives of small miners were to be assisted to acquire knowledge and skills and access appropriate technology will ensure that mining strategy incorporates a pro-poor component.

2.1.2 Environment and Natural Resources Sector Policies

This section provides key issues and areas of intervention that ENR sector policies will address in implementing key government programs related to environment and natural resource sector.

1. The National Forestry Policy : The overall mission of this policy is to make forestry one of the bedrocks of economy and national ecological balance for sustainable benefits to all segments of the society. The forestry policy is broadly about improving livelihoods of Rwandans through job employment creation, increased forest revenues, value addition, and further balanced ecological benefits and a sustained yield. Specifically , it aims at ensuring that the present forest cover is first over all maintained, well managed and increased to 30% of the country total area by 2020.

2. The National Land Policy: Prior to this Land policy formed in 2004, Rwanda had never had proper land legislation. The land sector was simply governed by a few ambiguous land regulations most of which dated back to the colonial period. The National Land Policy is to enable the population to enjoy a safer and more stable form of land tenure, and bring about sustainable utilization of land through efficient land use planning, land management and administration.

The overall objective of the National land policy is to establish a land system that is secure for all Rwandans, land reforms that are necessary for good management and proper use of National land resources for a harmonious and sustainable development that ensures protection of the Environment. Very specifically, the land policy seeks to: procure security of land tenure, promote proper allocation of land and proper use of land resources, discourage land fragmentation, orient land management towards a more profitable and sustainable production, promote techniques that protect land resources from all forms of land degradation, establish institutional frameworks and regulatory instruments, promote research and public education concerning land tenure, management, and transactions, ensure the sustainable use of wetlands.

3. The National Environment Policy : In line with the revised Vision 2020 in 2012, the National Environment Policy (MINITERE, 2003) is premised on the principles of sustainable growth, participation, decentralization, intergenerational equity and fairness, emphasis on prevention, polluter pays, and recognition of regional and international environmental interconnectedness. The Policy focuses on key specific objectives namely:

- Improve health and quality of life for every citizen and promote sustainable socio-economic development through rational management and utilization of resources and environment;
- Integrate environmental aspects into all the development policies, in planning and in all activities carried out at the national, provincial and local level, with the full participation of the population;
- Conserve, preserve and restore ecosystems and maintain ecological and systems functioning, which are life supports, particularly the conservation of national biological diversity;
- Utilize resources at optimum and attain a sustainable level of consumption of resources;
- Create awareness among the public to understand and appreciate the relationship between environment and development;
- Ensure the participation of individuals and the community in the activities for the improvement of environment with special attention to women and the youth; and
- Ensure that the basic needs of today's population are met without jeopardizing the ability of future generations to meet their own needs.

4. The Integrated Water Resources Policy : The overall goal pursued in this water policy is to manage and develop the water resources of Rwanda in an integrated and sustainable manner, so as to secure and provide water of adequate quantity and quality for all social and economic needs of the present and future generations, and ensure full participation of all stakeholders in decisions affecting water resources management. The water policy seeks to provide; a comprehensive and suitable policy framework that will strengthen the Government's ability to conserve and protect Rwanda's water resources, a legal and institutional framework for water resources conservation and management throughout the country and at trans-boundary level, and further provides a framework for equitable allocation of water resources and the sharing of benefits derived from that resource. The IWRM policies promote partnerships, incentives and benefit sharing to enhance water resources conservation and management and encourages positive attitudes towards water resources conservation and management.

5. The Mining Policy: In 2010, the new mining policy replacing the one of 2004 covers wider aspects of regulation, institutional and investment framework for the mining industry, value addition and capacity building strategies as well as providing a clear plan of action to support the sub sector's growth. The mining policy covers not only the mineral extraction,

processing and export, but also the quarrying, production of construction materials and extraction and processing of semi-precious stones.

The Rwandan mining industry is currently in a state of transition. It has recently transformed from a publicly-run to a private-run industry, and simultaneously is moving from a regional trading industry to a local extraction and exporting industry. The focus of this policy seeks to cement and hasten this transition. The primary objective of this sustainable mining policy is to optimise local extraction and processing of minerals in Rwanda.

Furthermore, the sustainable mining policy sets out a framework of five strategic pillars; (i) strengthen the enabling legal, regulatory and institutional environment, (ii) develop targeted investment, fiscal and macro-economic policies, (iii) improve the mining sector knowledge, skills and use of best use of best practices, (iv) increase productivity through the establishment of new mines; and (v) diversify into new products and increase value addition (Mining policy, 2010).

2.1.3 Key Cross-sector and Regional Policy Implications

Environment and natural resources (ENR) in Rwanda form a backbone of all social and economic sectors vis-à-vis agriculture, trade, industry, health, etc. A review of key sectoral policies and legislation related to environment and natural resources is summarized in the following texts.

1. National Agricultural Policy 2004: The National Agricultural Policy 2005 focuses on transforming the agricultural sector from a predominantly smallholder subsistence based to commercial-oriented sector that emphasizes high value non traditional crops and technology-intensive land use. This transformation is being pursued through crop intensification and diversification, land consolidation, and optimal utilization of all arable land through irrigation and fertilizer application. The value addition objective will be realized through agro-processing and improving the agro-marketing systems.

2. National Health Policy 2005: According to the National Health Policy (MoH 2005), malaria and AIDS are the two major health problems in Rwanda with significant socioeconomic impacts. Malaria epidemiology and the high incidences of diarrhoea and other water-related diseases, and the health policy, are generally of interest to ENR management, because of the strong and complex links. The MoH has elaborated an Environmental Health Policy which is an important recognition of the environment-health links, creating an opportunity for close cooperation between the ENR and health sectors. The technical input and support of MINIRENA and REMA will be paramount in the formulation and implementation of the environmental health policy.

4. Urbanisation and Human Settlements Policy : In the wake of increased land scarcity, and driven by the need to optimize productive land use, Rwanda's urbanization and human

settlement policy 2002 envisaged 40% of the population to be in urban areas by 2020, and all the population to live in organized clustered settlements. The reorganization of settlements into clustered villages encourages rational use of land and natural resources and will facilitate cost-effective provision of services such as infrastructure, education, security and agricultural extension, and waste management. On the other hand, however, increased urbanization raises challenges of utility supplies (water, energy, and housing) as well as waste disposal, in as much as it will provide opportunities for alleviating pressure on rural land and biodiversity resources.

5. Industrial policy and Investment code: The overall aim of Rwanda's industrialization policy is to increase value addition to primary production in order to boost exports and create more jobs for the growing population. The main strategy is to develop the private sector (by attracting industrialists, and strengthening SMEs) and improving the operational environment for the business sector. The SSP recognises that in order for Rwanda's natural resources and environment to be sustainably managed, there is a need to adopt economic and business approaches that provide incentives for sustainability, raise revenue, increase employment as well as increase financial resources for the sector. It is noteworthy that environmental compliance advisory (especially relating to Environmental Impact Assessment), has been included among the services provided by the RDB, which is an opportunity to promote sustainable ENR management.

7. The National Biodiversity Policy: The national biodiversity policy has been developed in Rwanda. The policy seeks to address the following issues: improved management of protected areas, conservation of biodiversity outside protected areas, access to genetic resources and benefits sharing, agro-biodiversity, bio-prospecting and biodiversity business, and biodiversity knowledge management including research and indigenous knowledge.

8. Africa Land Policy Framework and Guidelines (ALPFG): The Africa Land Declaration of Sirte July 2009 was signed by Africa head of states. The ALPFG provides the guiding principles for land policy development and implementation in Africa. It offers the following:

- A basis for commitment by African member states to the formulation and operationalisation of sound land policies as a basis for sustainable human development that includes social stability through a joint land dispute management strategy, maintaining economic growth and alleviating poverty and protecting natural resources.
- A consensus for shared principles as the basis for securing access to land for all users, enhancing agricultural productivity and sustaining livelihoods. Furthermore, it underscores the need for popular participation in land policy formulation and implementation so as to facilitate improved governance of land resources.
- A basis for more coherent partnerships between states, citizens and development partners in land policy formulation and implementation on the continent.

The guidelines emphasize regional convergence on the sustainable management and utilization of land and associated resources shared by two or more member states in various

parts of Africa. Domestic enforcement of international and regional commitments will require that the management of resources otherwise controlled by one member state takes into account the needs of nationals of other member states. Land policy development and implementation is one critical area in which domestic legislation and institutions must provide avenues to facilitate the convergence of such interests and needs.

9. Environment and Climate Change International Conventions and -Regional Frameworks : This strategic plan also aims to strengthen linkages with existing International conventions and regional frameworks and Natural Resources Management and regional integration related activities implemented by Regional Economic Communities (RECs) and Intergovernmental Organizations (IGOS), such as the East African Community (EAC), the Economic Community of the Great Lakes Countries (CEPGL), and the International Conference on the Great Lakes Region (ICGLR). This will lead to further dissemination of experiences and good practices among countries in the sub-region.

The EAC policy on climate change is one of the key frameworks that aims at guiding Partner States and other stakeholders on the preparation and implementation of collective measures to address Climate Change in the region while assuring sustainable social and economic development.

The policy is based on three pillars namely adaptation, mitigation and climate change research. The pillars will be supported by the following critical capacity building areas; technology development and transfer, finance, education, training and public awareness, information and knowledge management systems.

The National Green Growth and Climate Resilience Strategy preparation was guided by the EAC policy on Climate Change.

Lake Victoria Environment Management Programme, Nile Basin Initiative (NBI), Kagera Transboundary Agro-Ecosystems management are some of the initiatives in which Rwanda is taking part and meant to sustainably manage mainly the transboundary ecosystems, river basins and resources.

10. International Cooperation and Regional Integration: Rwanda is actively involved in trans-boundary cooperation frameworks with significant implications for water resources management mainly with LVBC, NBI, and CPGEL regions, among others. These are shaped by geographical and ecosystem endowments.

11. International Dialogue and Declaration on Sustainable Water Resources Management: As global water crisis and related disasters intensify, dialogue around how to control, mitigate and/ or adapt to disasters, have increased to mobilise resources, provide strategic leadership and influence national policies for sustainable WRM. The most instructive for Rwanda’s WRM strategy, include:

- The *International Conference on Water and the Environment* in Dublin in 1992 in which the fundamental Principles for IWRM were shared, such as “water is an economic good”, “fresh water is a finite and vulnerable resource” and “water conservation and reuse” among others;
- *Agenda 21 Programme of Action for Sustainable Development* adopted at the 1992 UN Conference on Environment and Development in Rio de Janeiro. Agenda 21, Chapter 18 was dedicated to protection of the quality and supply of freshwater resources with emphasis on integrated approaches to the development, management and use of water resources;
- *Expert Reviews on the developments and operationalisation of IWRM*, including the 1998 Harare Expert Group meeting on Strategic Approaches to Freshwater Management, concluded that IWRM was essential for achieving efficient and equitable allocation of water resources and thus for promoting sustainable development and poverty alleviation;
- *The Millennium Declaration in 2000* embodied the concept of IWRM, and emphasized the need to reverse unsustainable exploitation of water resources by developing IWRM strategies at regional, national and local levels which promote equitable access and equitable supply; and
- *The 2002 Rio+10 Sustainable Development Summit in Johannesburg* made tangible steps in IWRM implementation by setting targets for development of IWRM and water efficiency plans by 2005, and develop a 20-year implementation period with regular milestones culminating in achievement of sub-sectoral targets of all freshwater programmes by 2025.

2.1.4 Other ENR Sector Strategic Documents

1. The National Land Use Development Master Plan (NLUDMP) : The NLUDMP is a document that provides a general framework and guidance on land use planning in Rwanda. It sets out clear guidelines to be followed in the development of detailed district land use plans and thematic plans. The LUDMP has focused on the inventory of existing data and situations, specific in-depth studies, baseline studies, need assessment and risk analysis which all culminated in the development of different land use planning scenarios that could be used depending on their pros and cons.

The land use planning guidelines provided for by the plan are very critical and must be fully implemented for rational use of land, a key factor for the country’s sustainable development. For example, the plan sets out clearly areas that are prone to flooding or erosion. To this end, the identified areas prone to flooding should not be used for school construction. The plan

also maps areas that are suitable for agriculture development; this gives an opportunity to the agriculture sector to know where to focus their agriculture projects, etc. Land use guidelines cover the most thematic areas that could lead different sectors that use land to fostering and rationalising land use in their various development activities.

LUDMP's implementation challenges and proposed solutions:

Land as a cross cutting issue, the implementation of the LUDMP is very critical. Land use plan implementation should go hand in hand with monitoring and evaluation. At national level, planning guidelines and framework have been developed however; the implementation of the plan at district and thematic level for example would need well trained and skilled personnel to do so. Nevertheless, the current district capacity is still low and the capacity of the district council and district land commission is very limited to monitor the district land use plan's implementation. In addition, almost all government institutions that use land have no land use planners who would help to address this issue. In this regard, it is extremely important to suggest that clear mechanisms and actions be taken to ensure proper implementation of the plan at national level. This could be done by:

- ✓ Capacitating national as well as local organisations and build their staff's capacity in land use planning;
- ✓ Establishing and mandating a clear and high level organisation to coordinate and oversee the implementation of the NLUDMP;
- ✓ Disseminating the NLUDP to all; and
- ✓ Increasing and enhancing land use planning and land management programmes in higher institutions of learning.

2. National Green Growth and Climate Resilience Strategy: Rwanda is currently highly vulnerable to climate change as it is strongly reliant on rain-fed agriculture both for rural livelihoods and exports of tea and coffee. It also depends on hydropower for half of its electricity generation, a driver of economic growth. Rwanda has experienced a temperature increase of 1.4°C since 1970, higher than the global average, and can expect an increase in temperature of up to 2.5°C by the 2050s from 1970. Rainfall is highly variable but average annual rainfall may increase up to 20% by the 2050s from 1970. Projections for East Africa over Rwanda and Burundi show an increasing trend in rainfall intensity for both rainy seasons. This is likely to cause floods and storms resulting in landslides, crop losses including cash crops and damage to infrastructure. Extreme weather already negatively impacts the economy and climate change could result in annual economic costs of around 1% of GDP by 2030¹ Appropriate policy actions must be taken in order to tackle the negative impacts of climate change through all socio-economic sectors. The Green Growth and Climate Resilience strategy, an inclusive strategy for all sectors of the economy was approved by Cabinet in December 2011 and an embedded fund, FONERWA Law was approved by Parliament in

¹ Stockholm Environment Institute (SEI), 2009

2012 and is being operationalized to ensure sustainable financing for successful implementation of the strategy.

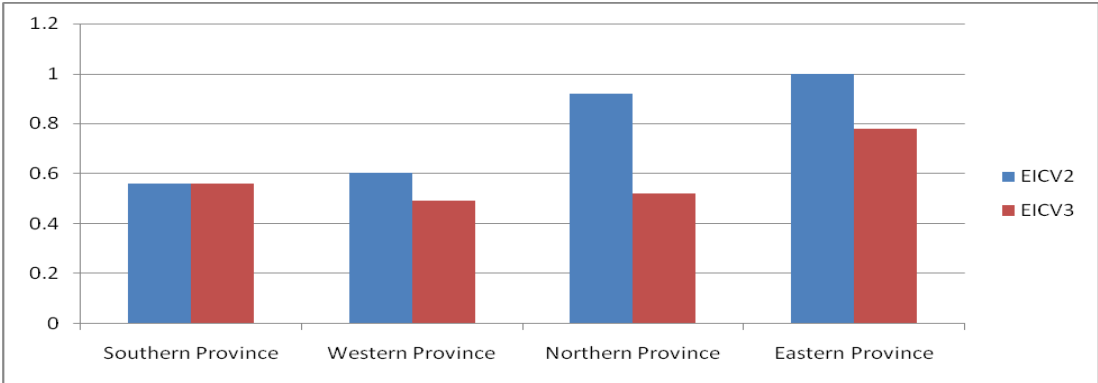
2.2 Sector Status, Achievements and Challenges

During the EDPRS 1 implementation time frame, the ENR sector has made some important achievements against the EDPRS set targets.

2.2.1 ENR Sector Status and Achievements

In forestry, much contribution was fed into the economic growth through different tree products although it was not well captured in the official statistics. It provides 90% of energy consumed in the country, and is contributing to job employment creation through reforestation, harvesting, processing activities and commercialisation of forest products. In rural area, forestry is ranked among the most income generating sectors, as it creates employment. According to the intended results in the light of EDPRS 1 period, forestry has achieved 22.1% of forest cover against the 23.4% set by EDPRS target owing to the: restoring the Gishwati forest on 835 ha, and afforesting 1850 ha in the Eastern Province through the afforestation program; revising the forest policy (2010), which won the golden prize attracting investors in the forest sector through the concession agreement of Nyungwe forest plantation signed between the GoR and NFC, creating the Forest program implementation task force at national and district levels, and completing trainings in bamboo processing and efficient charcoal.

In land, according to EICV 3, 93.2% of the total households in Rwanda cultivate at least one parcel with the average cultivated parcel size of 0.59ha. 46.2% of total parcels in Rwanda have less than 0.3ha and 83.5% of total parcels have less than 0.9ha. The total number of parcels in Rwanda is estimated to 10 million and the average number of parcels per household is estimated to be 4.34 while 84.6% of households farm the land. The graph below compares the average land per parcel during EICV 2(2005) and EICV 3 (2010):

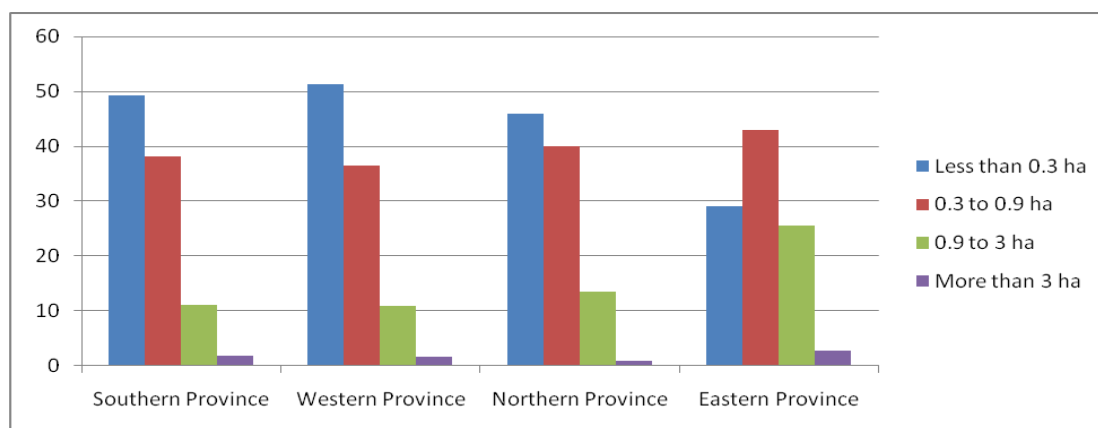


Households also rent and borrow land according to their needs and annual cropping requirements. Buying and selling is a widespread and acceptable practice. Local land markets

are highly active. 83.8% of households stated that they feel they have the right to sell any part of their land or use it as a guarantee.

The predominance of the population in agriculture combined with the demographic pressure has progressively brought about overexploitation of land and deep modifications in the use of land which escalates land degradation especially fragile zones.

The graph below shows the percentage of parcels categories by their size by province. It can be quickly observed that in almost 50% of parcels in Rwanda are less than 0.3ha; again 85% of total parcels in Rwanda have less than 0.9ha.



During EIVC 3, 54% of the surveyed household were exposed to Land Tenure Regularisation in way or another; either through public meeting, demarcation and adjudication, objections and corrections or lease issuance. It was observed that 33.8% of households used land as collateral to access loan with 9.8% accessing loan from a formal source (bank or microfinance institutions).

It was found that 39.4% of households have women owning land as de-facto owner (single owner and not in co-ownership) or primary owners.

The National Land Use and Development Master Plan preparation started in August 2007 and lasted 3 years. Following are the achievements:

- ✓ The National high resolution (25cm) rectified aerial photos (Ortho-photos) covering 94% of the territory while the remaining 6% was covered by satellite imagery. These photos are being used during the systematic land registration and during planning of infrastructures, urban areas, in agriculture etc.
- ✓ The National Land Use and Development Master Plan were approved by Cabinet in January 2011 and a law governing land use and development planning was adopted by Parliament in March 2012.
- ✓ A National base map was produced.

- ✓ The Implementation strategy through preparation of District Land Use Plan to be part of the District Development Plans in an integrated way was developed and is currently under implementation.

The National Land Policy requires securing tenure rights to all land claimants, and it is mandatory to register land in Rwanda according to the Organic Land Law. To achieve this Strategic Road Map for Land Tenure Reform was prepared and adopted in March 2008. The road map was a result of intensive consultations and systematic land registration trials in 4 cells of the Country with 14,908 parcels of land registered. The trials helped to design process and procedures for the first registration.

The national roll – out of the systematic land registration through land tenure regularization started in June 2009. In July 2010 a support team, recruited by DFID and Partners, joined the implementation process. As of end of May 2012:

- ✓ 2141 Cells covered in terms of Adjudication and Demarcation (99%);
- ✓ 10.2 millions parcels (99% of the total revised estimates) have been demarcated – out of them 83% have full information on claimants;
- ✓ Less than 1% (10,600) disputes were registered;
- ✓ 7 million parcels have been digitised;
- ✓ 7.9 million parcels were entered into the Land Tenure Regularisation Database (LTRSS);
- ✓ 1087 Cells have undergone Objection and Corrections;
- ✓ 3.6 million leasehold titles were approved;
- ✓ 3.5 million leasehold titles were printed; and
- ✓ 1.4 million leasehold Titles were collected by land owners

In Environment and climate change, the public Environment Expenditure Review (PEER) conducted across sectors demonstrated that environmental sustainability and climate change vulnerability are seriously underfunded which exposes Rwanda's economy to shocks and risks. This was further highlighted in the SEI, 2009 study of the impacts of climate change to Rwanda's GDP. A series of successful responses were put in place by the environment and climate change sub-sector. These have included operationalization of FONERWA and engagement of MINECOFIN which resulted in inclusion of environment and climate change in the Budget Call Circular (BCC). Based on the BCC, check-lists and indicators to integrate environment in sectoral and district plans were prepared and are accessible. Guidelines for Strategic Environmental Assessment were developed and training provided to a range of stakeholders.

Sectors and Districts technical staff and NGOs have been trained in environmental integration and reporting in addition to other training packages in environmental management such as data collection, management and reporting at local levels. An innovative capacity building and mainstreaming approach led to an on-going internship programme to support all Districts and ministries/sectors (MINALOC MINAGRI, MININFRA, MINECOFIN, MINICOM,

MINIRENA) in integrating national environment and climate change priorities and commitments into sector planning, budgeting and implementation.

The strategy to implement the Environmental Education for Sustainable Development (EESD) has been developed and guidelines on how EESD can be infused in school curriculum were disseminated in the education sector. A set of trainings on EESD have been delivered to decentralized institutions (District environment and education officers), media and civil society organizations ; and awareness material and training modules have been developed and disseminated. Now, 59 schools have already benefited from new guidelines on greening schools involving environmental clubs set up respectively in 80% and 70% of secondary and primary schools² .

As part of environmental mainstreaming into Vision 2020 Umurenge Programme (VUP), “green village” was demonstrated to serve as a model of clustered rural settlement (umudugudu) where productivity and improved livelihoods can be enhanced through integrated environmental management and poverty reduction approaches and packages.

The Government in partnership with development partners has rehabilitated a considerable area of degraded ecosystems. In accordance with the Common Performance Assessment Framework (CPAF), a target was put in place to increase the proportion of protected areas for biodiversity preservation from 8% in 2008 to 10% in 2012. This target has been met; protected areas cover just over 10% of the total national territory. Since 2008, 2098.4 ha of lakeshores and river banks areas have been protected and 1106 ha of watersheds were rehabilitated. The interventions vary depending on the nature of ecosystems and were targeted to pollution control and management. Outside MINIRENA/REMA budget resources, some programmes have made considerable efforts to rehabilitate ecosystems. These include the MINAGRI/Rural Sector Support Programme (RSSP) which is involved in marshland reclamation and hillside terracing and irrigation; the AfDB funded Inland Lake Fisheries Development Project (PAIGELAC) which is protecting lake shores and restocking inland lake fisheries; the Common Development Fund (CDF) which has been involved in radical terracing in hilly districts; and the Community Service Programme (known by its French acronym -TIG) which has constructed more than 5,000 Ha of terraces to address soil erosion challenges.

Improved environmental communication: Environmental information is one of the most effective strategies for environmental stewardship. Rwanda has already produced two National State of the Environment Reports (SOER) as mandated by the Organic Law on Environment respectively in 2009 and 2011. The second National State of Environment Report produced in 2011 was in form of the Atlas of Rwanda’s changing Environment, with focus on implication for climate change resilience.

² Environmental Education and Mainstreaming Unit/REMA

The establishment of the Rwanda Environmental Information Network (REIN) is a key achievement. It is made of government institutions and NGOs. This network is key in the producing of the National State of the Environment Reports. Rwanda also prepares and submits national communication reports to the secretariats of international conventions (e.g. on climate change, desertification and biodiversity) on regular basis. However, national stakeholder engagement and ownership of these international environmental reports (e.g. on climate change, desertification and biodiversity) needs to be improved.

Development and application of environmental management tools and instruments: REMA has developed and operationalised tools and instruments for environmental management that include: laws and ministerial orders to operationalize the Organic law; practical tools and specific EIA guidelines check-lists and indicators to help mainstream environment and climate change issues at sectoral and district.levels.

An effective environmental inspection and compliance regime has been put in place, in collaboration with other national agencies like the National Police. To-date, EIA applications have been integrated in investment licensing procedures, financing institutions and local government project development clearances. Environmental regulation and compliance has been integrated into the “One-stop-centre”, as part of the investor facilitation initiatives.

Effective engagement with respect to International environmental commitments: Rwanda has ratified all major environmental treaties and agreements and regularly submits reports to the Secretariats of respective conventions, and participates in international meetings on the implementation of these conventions.

Financing for environment has increased tremendously even though it remains substantially low: In the first year of the PRSP (2003), the budget allocation to the environment sector amounted to 0.2% of the total national public expenditure budget, but had increased almost 10 times to 1.8% in 2008³.

In IWRM, during the EDPRS 1 period, and especially since the institutional reforms in 2011, the GoR has made considerable progress to strengthen the institutional and governance structure related to water resources. However, it is worth noting that when the EDPRS was developed, the water resources management and water and sanitation were less than one program, under the umbrella of the Ministry of Natural Resources. The split of the sector into two resulted in most of the staff of the sub-sector moving into the water and sanitation under the infrastructure sector. It is in 2011, after the development of the strategic plan for the environment and natural resources and restructuring of the natural resources agencies that integrated water resources management regained its visibility worth noting. The water sub-sector contributed to these key following achievements:

³ Public Environmental Expenditure Review (2009)

- ✓ While MINIRENA is the Ministry in charge of governing water resources, RNRA is the functional agency of the Ministry that is responsible for implementing the IWRM programme through its Department of Water Resources, founded in November 2011. A national policy and strategic plan for the upcoming five years were adopted by the Cabinet in early 2012. A water law related to management of water resources was promulgated in 2009.
- ✓ Since 2009 the essential framework of the hydrometric network has been rehabilitated, with 44 stations made operational. Regular information is being produced on the status of water levels through the publication of the hydrological bulletin.
- ✓ A National Water Resources Master Plan for Rwanda has been initiated and is expected to be completed by the end of 2013. The National Master Plan will provide a complete picture of available water resources and demands in present and future years and shall be a blueprint for a process of sustainable water, land, and related resources development and management.
- ✓ The GoR has advanced effective coordination through the activation of Thematic Working Group and Sector Working Group on Natural Resources. Stakeholders – including participants from key ministries, NGOs, and academic institutions – use these groups to ensure that issues of water resources are streamlined in their various policies, strategies, and action plans.

In addition, various projects have been implemented:

- ✓ Various watersheds projects are being implemented, including the Gabion Check Dams project in Lava Region. Others projects include the management of upstream Sebeya, and soil conservation for some key catchments such as Cyunyu, Kadahokwa and Yanze. A total number of 800 ha have been well managed with terracing, soils bunds, and afforestation.
- ✓ Water Hyacinth removal efforts produced tangible results in Eastern Lakes and upstream rivers and lakes. The removal was done manually with the involvement of local communities grouped in cooperatives.
- ✓ Rain water harvesting has been promoted through pilot projects in Bugesera, and this experience has provided a clear picture of what needs to be done to scale up rain water harvesting throughout the country. A complete strategy has now been finalized and is ready to be disseminated for larger implementation.
- ✓ Efforts were made in setting up appropriate institutions for the Nile Basin and the Congo Basin.

In mining sub-sector, it is during the period of EDPRS 1 framework that mining industry is currently in a state of transition across two axes: moving from a publicly-run to a private-run industry; and moving from a regional trading industry to a local extraction and exporting industry. Since then, recent progress includes the updating of the regulatory framework to keep pace with the rapid privatisation of mining sector since 2006, through the publication of the new Mining Law and new mining policy adopted in 2009 and 2010 respectively. It was worth noting that, the mining sector is evolving fast and the mining law is undergoing another review in order to align to the dynamics of the mining sector that is private sector driven. From 2008 up to 2011 the mining sub-sector registered the following key achievements:

- ✓ The total revenue from minerals' was 164.6 USD by December 2011 (Total revenue from minerals' was 91.7 USD million in 2008);
- ✓ Currently, there are 34 large-scale and 456 small-scale mining licences. The new Mining law and related ministerial decrees were published;
- ✓ The Geology and Mines Department expanded in staffing levels by about 50%. This improved capacities towards the updating of existing data, creation of new data, and improved regulatory activities and support services given to investors;
- ✓ Acquisition of new geophysical data led to the identification of new mineral potential areas; some of these have attracted new investment in prospecting and exploration and some are being targeted for more detailed exploration by the government;
- ✓ The subsector has expanded, and currently there are Mining Licenses, Exploration Licenses, Prospecting Licenses and Licenses of large quarries; the number of applications for exploration by credible companies is steadily increasing;
- ✓ All mineral exports from Rwanda are traceable through the tagging system currently accepted by the downstream buyers of the minerals. The preparation process to issue regional mineral export certificates is advanced. The first certificates are planned to be issued by the beginning of January 2014;
- ✓ Four seismic stations have been constructed in Kigali, Musanze, Karongi and Rusizi. The fifth station at IRST, Huye will be able to develop seismic hazard maps for the country when the equipment becomes operational;
- ✓ In the area of value addition; the promotion of investment potential in dimension stones has led to the construction of the first granite cutting and polishing factory in Rwanda and to several other expressions of interests in adding value to quarry products;
- ✓ The operators in the sub sector are steadily improving in organisations. There are currently three organisations which are facilitating this process; the National Federation of Mining Cooperatives (FECOMIRWA) the Rwanda Mining Investment Forum and the Rwanda Mining Association;
- ✓ Good practices in the industry are being promoted with vigour. Sustainable production in safe and secure conditions is being implemented by operators in the sub-sector. Cooperation with other appropriate national institutions like the police and the local governments is promoting safe and legal mining;
- ✓ In petroleum exploration the progress to date include two dimensional (2D) reconnaissance seismic study on Lake Kivu and the completion of a petroleum sharing agreement (PSA) draft by national stakeholders; and the

✓ Determination of the quantity and quality of peat in many peat bogs has been conducted.

2.2.2 Challenges in Environment and Natural Resources

The main barriers to achieving the ENR sector objectives include; capacity building, a weak Monitoring and Evaluation system, coordination of civil society and private sector as well as mainstreaming climate and environment issues into national plans.

Land as a cross-cutting issue – For the majority of Rwandans, land is considered as a “panacea”. They mainly rely on land productivity which is rather shrinking due to high population pressure. The construction culture that is irrational given the size of land available still prevails and remains dominant, and thus increases pressure on agricultural land. High expectation and demand for Land registration and ownership is another serious challenge that affects land administration. The advantages of registering land are now known, and therefore, there is high demand for the land registration project to speed up and reach all corners of the country.

There is limited land for large scale reforestation. There is a high competition between forest and other activities such as agriculture stemming from high population pressure and land with a 30 % slope or more is used for agricultural crop production instead of being used for forestry as per the land use master plan. The misplacement of agriculture on unsuitable land better fit for forestry deprives land afforestation/reforestation where it could play many roles, such as producing wood materials and protecting degraded land degradation. There is also weakness of forest research since it is managed by the Agricultural Research Institute. It does not receive due attention as deserved because most emphasis is put on food crops and livestock rather than trees. According to EICV3, 99.2% of households utilise biomass energy for cooking and as a consequence demand for forest products outweighs supply. In addition to this, wood remains the widely material used in construction of houses where 40.7% of houses have their walls built of tree poles and mud.

Limited ownership of environmental sustainability and climate change issues particularly in productive sectors reduces national ability to adopt and implement the green growth strategy. Climate change impacts (floods, landslides and droughts) pose economic losses compounded by: soil fertility loss and scarcity of water resources adversely impact agricultural productivity, human displacements, potential for rising epidemics, loss of lives, damage to property and infrastructures (roads, bridges, power lines, and public buildings and houses) and lack of adequate early warning systems. Inadequate solid and liquid waste management particularly in urban areas contributes to the spread of water borne diseases and other hygiene related illnesses, hence increasing cost for ensuring public health. Insufficient and unreliable financing for environment and climate change is another obstacle to the ENR sector.

Rwanda’s rapid economic and sustainable growth is undermined by limited productivity of ecosystems and persistent vulnerability as a result of: Pressure on natural resources such as land, water resources and forestry, Ecosystem degradation such as steep landscapes that

exacerbate soil and fertility losses, land and water management including floods all of which hamper productivity and agricultural production in particular, Overdependence on biomass sources - Limitations in harnessing Rwanda's potential renewable alternative energy resources and Lack of Green Accounting experts at the country level.

The main source of water pollution in rural areas is the application of chemical agricultural inputs, water borne diseases whereby the proportion of households using chemical fertilizers and pesticides increased from 11% and 24% in 2006 to 29% and 31% in 2011 respectively. Managing this pollution while simultaneously encouraging agricultural transformation and intensification for economic growth and sustainable livelihoods is a major challenge. The main source of water pollution in urban areas is lack of adequate sanitation, inadequate and inappropriate waste management practices. As an example, in Kigali city 60% of the population depends on shallow pit latrines. Rapid urbanization, as well as geographic and temporal disparities in water availability, makes it difficult to supply water to certain areas. Increased competition for water resources is compounded by a lack of coordination among sectors, and is evident in the planning and utilisation of water resources. Cases of sectoral conflicts in water use have been reported at various levels, increasing the urgency for the implementation of a strong water governance framework.

In mining, despite the current signs of revitalization, the sub-sector works far below capacity, contributes to the degradation of the environment and still produces largely, at artisan level and export oriented. Limited systematic mapping has only recently begun after long quiescence (about 30 years). The current knowledge about the mineral resources potential largely depends on historical records. No major mining venture is currently operating based on known reserves. There is a need to update the national potential in order to plan for the resource in the national development agenda. The legal framework is in the process of being strengthened and in many ways currently being updated.

2.3 Institutional Overview of the Sector

The Environment and Natural Resources Sector has a broad mandate which it executes through five major sub-sectors namely; Forestry, Lands, Environment, Water Resource Management, and Mining. The cross-cutting nature of the sector, particularly through the environment and climate change thematic areas sets the sector in a strategic position to influence sustainable development. Reference is made to the Prime Minister's Order determining mission, functions, organizational structure and summary of job positions of the Ministry of Natural Resources **No 106/03 of 28/09/2011** stating that the Ministry of Natural Resources (MINIRENA) shall have the mission to ensure the protection and conservation of the environment and ensure optimal and rational utilization of natural resources for sustainable national development. Specifically the Ministry will perform the following tasks:

- Developing and disseminating the sector policies, strategies and programs related to Environment and Natural Resources;

- Regulating the sector and related sub-sectors through the development of laws and regulations to ensure rational utilization of natural resources and ensure protection of the environment and conservation of natural ecosystems;
- Developing institutional and human resources capacities in the sector of environment and natural resources and sub-sectors; and
- Monitoring and evaluating the implementation of sector and sub-sectors policies, strategies and programs.

Implementation of sector priorities is undertaken by the sub-sectors organized under two national agencies. Environment and Climate Change priorities are implemented by Rwanda Environment Management Authority (REMA) whereas Land, Forestry, Water resources and Mining are executed under the mandate of the Rwanda Natural Resources Authority (RNRA).

The Rwanda Natural Resources Authority (RNRA) is a newly established institution after the merger of former National Land Centre (NLC), former National Forestry Authority (NAFA), former Rwanda Office of Geology and Mining (OGMR), and former department of Integrated Water Resources Management that was hosted within the Ministry of Natural Resources (MINIRENA). This institution was established by the law N°53/2010 of 25/01/2011 and has four departments:

- The Department of Forestry and Nature Conservation
- The Department of Lands and Mapping and Office of the Registrar of Land Titles
- The Department of Integrated Water Resources Management.
- The Department of Geology and Mining

The Rwanda Environment Management Authority (REMA), as an overall authority for coordinating and regulating the protection, conservation and management of the environment in Rwanda. REMA is also designated as the National Competent Authority for all international environmental treaties and agreements on environment.

The ENR sector implements its policies and strategies in collaboration with : Ministry of Local Government (MINALOC), Ministry of Agriculture, Animal Resources (MINAGRI) and affiliated agencies, Ministry of Infrastructure (MININFRA) and its Agencies, Ministry of Health (MoH), Ministry of Family and Gender Promotion (MIGEPROF), Ministry of Education (MINEDUC), Ministry of Commerce (MINICOM) and affiliated agencies, Ministry of Foreign Affairs and Cooperation (MINAFFET), Ministry of Finance, Planning and Economic Development (MINECOFIN), Rwanda Development Board (RDB), Rwanda Utilities Regulatory Agency (RURA) and Rwanda Bureau of Standards (RBS), Private Sector and Non Governmental Organizations (NGOs).

3. Environment and natural resources strategic framework

3.1. Mission and Objectives of the ENR Sector

Mission: To ensure the protection and conservation of the environment and ensure optimal and rational utilization of natural resources for sustainable national development.

Overall Objective: To ensure that environment and natural resources are utilized and managed productively in support of equitable and sustained national development and poverty reduction.

Specific objectives

- To increase and sustainably manage ecosystems and forest resources to optimize their economic as well as ecological functions;
- To put in place and operationalise an efficient system of land administration and land management that secure land ownership, promote investment in land for socio-economic development and poverty reduction;
- To ensure that development in Rwanda is undertaken in a manner that inflicts minimal damage to the environment, and building resilience to threats posed by climate change for the sustained support to economic, social and cultural development of Rwanda.
- To secure and provide water of adequate quantity and quality for all social and economic needs of the present and future generations with the full participation of all stakeholders in decisions affecting its management;
- To improve the Geology and Mines sub-sector to contribute optimally and sustainably to the national income and to the social economic welfare of the community.

Strategies

The above specific objectives will be implemented through different strategies. These include :

increasing forest cover, promoting value addition and management of terrestrial ecosystems. Sustainable and rational land use in Rwanda, through comprehensive land use plans and adequate mapping, will be secured and the national land registry will be maintained by strengthening land administration institutions. Environmental education and mainstreaming, pollution management and control and vulnerability to climate change will all be ensured. Furthermore; integrated management of water resources will be attained, by effective monitoring and allocation of water resources of Rwanda to the various socio-economic needs and rehabilitation of watersheds. Knowledge of national mineral potential and sustainable mineral and quarry resources' productivity, will be increased. Value addition will be promoted by processing technologies in mineral and quarry resources. As identified in the sector challenges, human capacity gaps will be addressed through sector skills development.

3.2 Results chain

The overall impact of the ENR sector is to contribute to national wealth creation and poverty reduction. This is in line with the EDPRS targets, MDGs and Vision 2020 aspirations, which will be attained through five outcomes namely;

- *“Ecosystem and forestry resources increased and sustainably managed to optimize their economic as well as ecological function”*,
- *“Optimised land utilization and improved land administration systems”*,
- *“Improved Environment management and vulnerability to climate change impact reduced”*,
- *“Water resources managed in a sustainable, equitable and intergrated manner”*
- *And “Efficient and sustainable mineral exploration and exploitation promoted.”*

Different activities will contribute to several outputs. In order for forestry to become the bedrock of economy and national ecological balance, there must be a substantial increase of forest resources. To come up with well managed critical ecosystems and biodiversity, it will be necessary to collect information on their current status. This will be done through mapping and inventory of the forestry resources. Studies will be implemented through development of long term management plan that will be formulated jointly, by public institutions and specialised NGO’s, which will play a key role in data collection. The forest and nature conservation will continue to increase its contribution to the national economy through promotion of forest value addition.

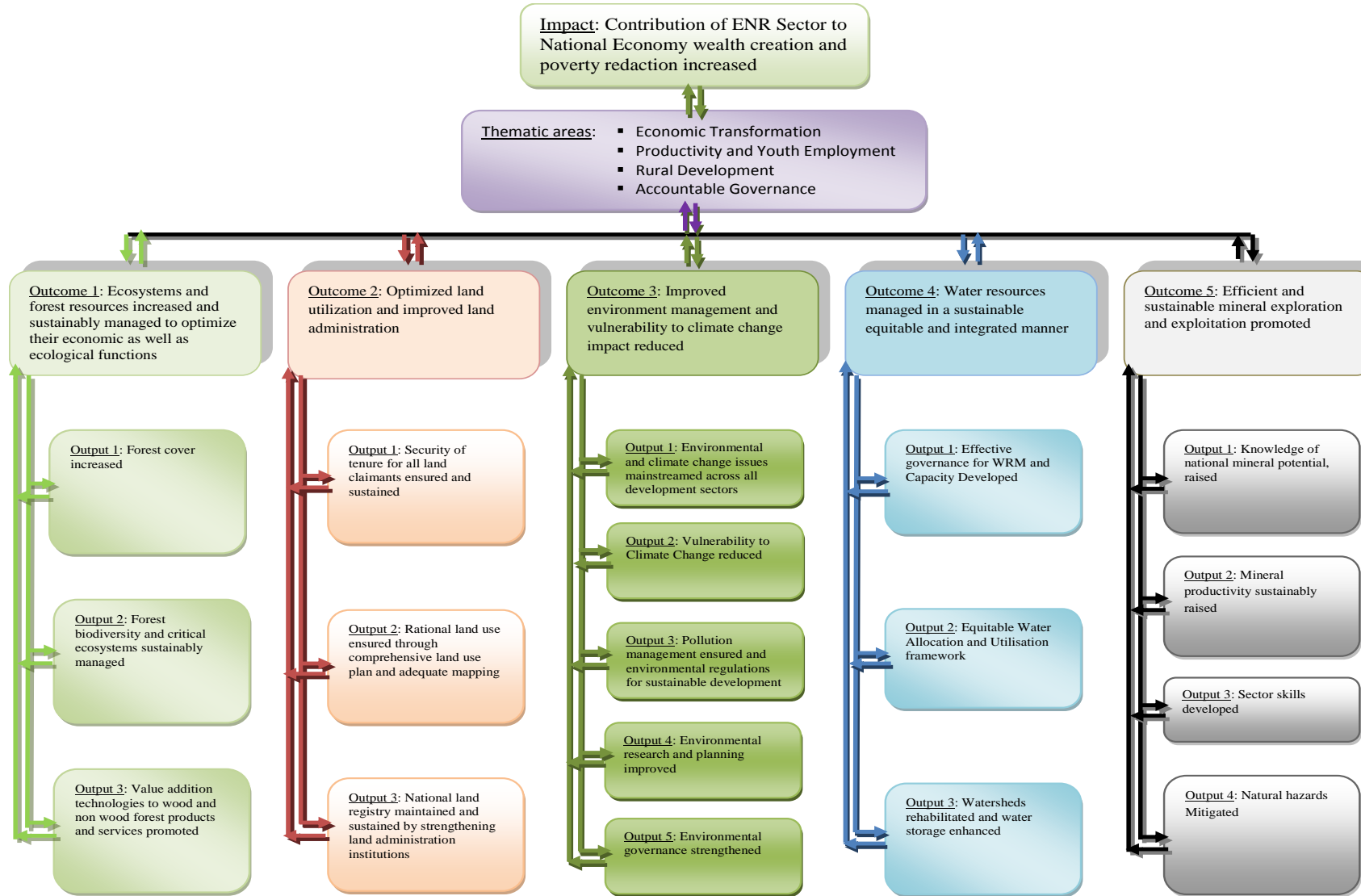
A number of activities will be carried out to ensure that Environment and climate change interventions are regulated for achieving green economy. This includes the regulatory activities in line with Environmental and climate change issues by mainstreaming the environment and Climate change across all development sectors for improving sector performance and productivity. Regulations will be made through inspections to assure that the vulnerability to climate change is reduced and taking, pollution control into consideration.

The management of water resources of Rwanda, in an integrated and sustainable manner, will have a positive impact on the sustainable development of Rwanda’s economy. Equitable allocation and utilization of water resources to various socio-economic key sectors and rehabilitation of watersheds will be the key outputs of WRM. A reliable early warning system to inform on extreme weather conditions will be put in place. This will provide adequate and timely data to policy makers, so that negative impacts on the country’s economy caused by floods and droughts, are prevented or minimized.

Sustainable and rational land use in Rwanda, through comprehensive land use plans and adequate mapping, will be secured. The national land registry will be maintained by strengthening land administration institutions.

Knowledge of national mineral potential will be raised to avail information on higher mineral potential zones, diversification and raising mineral and quarry products production substantially, value addition will be promoted and a national map of natural geo-hazards areas will be published which will help to mitigate natural hazards.

Result chain



3.3 Contribution of Environment and Natural Resources sector to EDPRS II

3.3.1 Environment and Natural Resources sector Priorities and Innovations

ENR Sector Priorities and new Innovations will focus mainly on supporting key thematic areas identified in EDPRS 2 related to economic transformation, rural development, productivity and youth employment, and effective governance.

The contribution of forestry resources to economic growth and poverty reduction will be attained by the increase of forest cover across the nation as well as the increase and sustainable management of ecosystems and forestry resources. The Rwanda's EDPRS II 2013-2018 retains forestry as a main concern in recognition of its prime contribution to the GDP. This will be achieved through increased job creation in forestry from 0.3% to 0.5% by 2017, and reduction in the use of biomass energy through the use of improved stoves and improved kilns to produce 75% of charcoal by year 2017. EDPRS II 2013-2018 supports the previous target of increasing forest cover to 23.5% by 2012 and reset a new indicator to reach 30% by 2018. In addition, EDPRS II 2013-2018 recommends for sustainable management of forest biodiversity and critical ecosystems through protection and maintenance of 10.25% of the land area, and reduction of wood energy consumption from 86.3 % to 50% by 2020 as reflected in the 2020 Vision targets.

Security of land tenure, through systematic land registration and sustainable, rational land use in Rwanda through decentralized land use planning and mapping, will be ensured and the national land registry will be maintained and sustained by strengthening land administration institutions.

Economic efficiency will be created across sectors by managing water resources according to an IWRM approach, with a focus on enhanced planning through coordinated development of water storage infrastructures such as dams, dykes, ponds and irrigation channels. Rain water harvesting will be enhanced through watershed development and restoration of wetlands to meet water security demands for irrigation, hydropower, industry and water supply and reduce disasters risks (by widening rivers, for instance). There will be need to reduce poverty vulnerability through an integrated catchment management approach with the introduction of multiple use of water by communities, and up scaling land husbandry technology. Productivity and livelihoods will be improved, through technology development and transfer, to increase value added on water in various economic sectors and food security.

Furthermore, there will be allocation of water resources of Rwanda to the various socio-economic needs on the basis of principles that incorporate efficiency of use, equity of access, and sustainability.

Environment and Climate Change will contribute to the achievement of EDPRS II through the following innovations; ecosystem rehabilitation based on job creation and income generation for rural poverty reduction and social protection ; integrating innovative approaches and knowledge on technology transfer on irrigation, renewable energy and agro-forestry in

TVET ; developing and implementating an incentive structure to award performance in environmental management ; and operationalize FONERWA fund.

FONERWA FUND – Innovative environment and climate financing mechanism.

The FONERWA Environment and Climate Change Fund is a pioneering initiative of the Rwandan Government. The Fund represents a sustainable financing vehicle through which environment and climate change finance is channelled, programmed, disbursed and monitored. As a national Basket Fund and a demand based facility, FONERWA is an instrument to facilitate direct access to international environment and climate finance, as well as to streamline and rationalise external aid and domestic finance. It is a key strategic thrust of GoR in its effort to promote Rwanda as ‘The Greenest Country in the World’.

FONERWA, through its financing windows, will contribute to three thematic areas of EDPRS as reflected below thereby contributing to 9.4% GDP growth targeted by EDPRS II. It is to be noted that some key investment entry points cut across all thematic areas and they are not exhaustive.

- a. **Stimulating green investments for economic transformation:** The fund will invest in the areas of a. promotion and protection of bio-diversity for eco-tourism b. renewable energy and energy efficient technology both at the household and industrial levels to increase access and outputs respectively c. sustainable mines and quarries for value addition and export d. irrigation technology to increase, diversity and sustain production e. applied and adoptive research aiming at green innovation and market diversification f. cross sectoral integrated planning focusing oneco-friendly urbanisation and rural settlements clustering around economic activities contributing directly to the EDPRS Economic Transformation thematic area.
- b. **Strengthening and sustaining rural development opportunities:** The fund will provide access to finance targeting any initiatives that promotes a. sustainable land management in the rural areas (as well as urban) for on and off farm increase in productivity b. integrated water resource management to increase access of water in rural areas c. sustainable forest management to increase value addition of forest products d. ecosystem rehabilitation to diversity rural income sources e. disaster risk reduction to sustain the benefits of rural growth.
- c. **Accelerating private sector productivity and youth employment creation:** The fund incentivises SMEs, both start ups and mature, to establish enterprises that promotes green schemes (i.e. solar, waste and pollution management) by providing access to at least 20% of its resources. The fund will fast track and priorities private/public projects that demonstrate high value for money by creating sustained employment and transfer of skills opportunities for youth. In addition, FONERWA will facilitate access to finance by the private sector from other multilateral climate funds.

Knowledge of national mineral and petroleum potential will be raised by developing a mineral exploration strategy and acceleration of petroleum exploration activities by both the public and the private sectors as well as developing a comprehensive mining cadastre and a modern licensing system. Sub-sector skills will be developed by establishing local degrees and diploma courses in mining related subjects and through the participation in the process of raising minerals and quarry products productivity substantially and sustainably by training at least 600 people (40 professionals, 160 middle level technicians, 400 trained miners). In order to raise productivity sustainably, splitting of large government concessions into viable medium is expected to raise the number of medium level good investors. Sensitization and guidance to banks towards financing small scale miners as well as disseminating price data through all trade point offices, will also contribute to increasing productivity in the mining sub-sector.

3.3.2 ENR Strategic areas for District Development Plans (DDPs)

In the framework of appropriately harmonizing and aligning Sector Strategic Plans (SSPs) with District Development Plans (DDPs), strategic areas have been identified for the decentralized entities to be considered in the development and implementation of DDPs.

The focus will be to make sure that security of land tenure, through systematic land registration is ensured by issuance of all land leasehold titles. Sustainable and rational land use in Rwanda will be ensured through land use planning and mapping specifically to develop District Land Use Plans and training of district officials in GIS and Land Use Planning. The national land registry will be maintained and sustained by strengthening land administration institutions by connecting all districts to LAIS (Land Administration Information System), and targeting to increase the percentage of cost recovery through land administration services from 30% to 70%, plus construction of new district land bureaus at decentralized levels.

Districts will play a major role of rehabilitating watershed and enhancing water storage facilities by controlling soil erosion in catchments through land husbandry, afforestation; Protecting river banks and lakeshores (10 m from the river and 50 m from the lake; Controlling of water weeds in water bodies; Providing information on people or institutions/organizations abstracting water and will promote rainwater harvesting at household and institution levels

More so, districts will work closely with the ENR sector to raise knowledge of national mineral potential through the Sensitizing of young Rwandese to study mining related subjects, training of small scale miners in resources evaluation; raise mineral and quarry product productivity substantially and sustainably by facilitating the investors in the process of permit application, helping in building technical and management capacities of mining cooperatives and small scale mining companies, organizing sensitization and training sessions on entrepreneurship in mining for women and youth, will participate in mine sites inspections and play a part in the enforcement of Health & Safety and Security standards; participate and facilitate in training of stakeholders (mining professionals, miners, local leaders and others) on good practice standards and to enforce the environment standards in all mining sites

In consideration of the targets of forestry to increase forest cover, districts will measure their success against new forest planted, targeting a minimum of 83 trees per household in rural area and 5 trees in urban areas with a survival rate of 90%; Districts contribution of forestry resources to economic growth and poverty reduction will be implemented through District forest management plan updated and implemented, hectares (Ha) utilised according to the District forest management plan and new jobs created in forest at each district

Furthermore, districts will focus on the rehabilitation of their ecosystem in order to maintain biological biodiversity and ecological functions through the protection and rehabilitation of degraded lakeshores and river banks, protection of remnant natural forests, support to green

jobs (ecotourism, nurseries development, handicrafts and green manure production from weeds/invasive species, production of briquettes from domestic solid wastes).

Districts will also ensure that pollution management is controlled and enforce environmental regulation for sustainable development, through the development and implementation plans for relocation of illegal activities operating in wetlands. Environment law (enforcing the plastic bags ban, management of unsustainable mining) will be enforced and clean technologies, such as biogas, improved cooking stoves, will be promoted. Appropriate landfill for wastes management in all districts will be promoted and vulnerability to climate change will be reduced precisely by implementing district specific climate change adaptation measures to increase resilience to climate effects (irrigation, terracing, rain water harvesting, afforestation, Agroforestry, sustainable land use,...)

All districts have committed to make sure that environment and climate change issues are mainstreamed across all development sectors at lowest decentralized levels. Environment and climate change will be mainstreamed into; District Development Plans (DDPs) and annual performance contracts (Imihigo), implementing the school greening initiatives, implementing environment friendly and climate proof rural settlements (imidugudu) through Integrated Development Programmes (IDPs) and spearheading support to the environment committees for their effective involvement and contribution to sound environmental management at local levels.

3.3.3 Contribution to EDPRS 2 Thematic area

Building on achievements and lessons learned during EDPRS1, EDPRS 2 will be developed around thematic areas reflecting Rwanda’s emerging development priorities. The thematic areas identified as emerging priorities are: (1) Economic Transformation, (2) Rural Development (3) Productivity and Youth Employment and (4) Accountable Governance.

Economic transformation for rapid growth	Rural Development	Productivity and youth employment creation	Accountable Governance
<ol style="list-style-type: none"> 1. increase the domestic interconnectivity of the Rwandan economy through investments in hard and soft infrastructure 2. Increasing the external connectivity of Rwanda's economy and boosting exports 3. Increasing investment in priority sectors and attracting large firms 	<ol style="list-style-type: none"> 1. Human settlements 2. Agriculture modernization 3. Environment and natural resource management 	<ol style="list-style-type: none"> 1. Education and skills development 2. Ensuring a healthy workforce 3. Job creation 	<ol style="list-style-type: none"> 1. Judiciary reforms and rule of law 2. Citizen centered approach – including public accountability 3. Development communication

<p>Transform the economic geography of Rwanda by managing urbanization and promoting secondary cities</p> <p>5.Rwanda pursues a 'green economy' approach to economic transformation</p>			
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The revised strategic plan will contribute directly or indirectly to the four thematic areas namely; economic transformation, rural development, productivity and youth employment and accountable governance.

Economic transformation for rapid growth

The forest and nature conservation strategy aims at increasing the role of forestry to the national economy and this will be achieved through attracting private investment in forest and nature conservation. It is expected that efficient technologies will increase production of forest raw materials through strengthened research and availability of improved tree seeds and germplasm. The implementation of district forest management plans will be emphasized to achieve sustained yield especially in public forest plantations which will require special capacity building for availing sufficient professionals in the forest sector.

The private sector will be encouraged to invest in modern technologies of wood processing for high value addition to forest products for reducing the volume of imported manufactured wood products.

Rwanda's economy is heavily dependent on its environmental resources. Agriculture, industry, commerce and rural energy requirements place significant demands on natural resources, while the livelihoods of rural communities are shaped by their access and use of them. Accelerating growth in economic sectors will put additional pressure on renewable and non-renewable natural resources.

The agriculture sector is a key stimulus for economic growth, which plays a key role in delivering food security objectives and supporting rural livelihoods, yet it is highly vulnerable to environmental degradation and climate change as it is strongly reliant on rainfall. Indeed, environmental degradation and climate change effects are the main causes of soil losses and as a consequence, Rwanda loses the capacity to feed 40,000 people per year. Unsustainable use of wetlands for agriculture leads to hydrological imbalances (dry-out and inundation) and affects the effective functioning of ecosystems which are important for maintaining agricultural productivity. Poor management of agricultural inputs (e.g. pesticides, herbicides

and fertilizers) causes soil degradation and water pollution, decreasing agricultural productivity and reducing resilience to future environmental shocks.

Rwanda also depends on hydropower for half of its electricity generation, a key driver of economic growth. Poor management of water resources (i.e. wetlands) combined with impacts of climate change has required the government to use diesel generators for national electricity supply at a cost of over US\$ 65,000 per day (in direct fuel inputs only). Sound management of ecosystems (i.e wetlands and forests) to maintain their ecological functions mainly related to water provision is crucial for hydropower generation.

Infrastructure is a key sector for economic growth but also human well being. Recently Rwanda has lost millions of dollars due to damages to infrastructure caused by climate change/extreme events effects. Implementing adaptation and mitigation measures to reduce those impacts will save costs and ensure sustainability of the sector.

Within the framework of revised Vision 2020, Rwanda targets to have a private sector-led economy and is actively improving its investment climate to attract foreign investment, however, it will be important to ensure investments are sustainable i.e. not undermining the ecosystems on which it directly or indirectly relies, in order to maintain, and strengthen, the sector's contribution to long term economic growth.

Climate change presents additional risks but also opportunities including resource efficiency and cleaner production (energy efficiency lighting, energy and water metering, wastewater and other waste products recycling) methods which can reduce business risks and directly translate them into cost savings, hence promoting the sector growth. Investment in nature-based tourism increases revenues and investment in green technologies, which not only contribute to create job opportunities, but also support green growth.

Rwanda has the potential to brand itself as one of the greenest countries in the world. In order to achieve this, the green growth strategy needs to be implemented by all concerned sectors to promote eco-friendly development while the ENR sector will focus on the demonstration of how green initiatives can be used to contribute to economic growth. In this context, building the case for green urbanisation in Rwanda, establishing an institutional structure – a Centre of Excellence- to promote and develop green urban areas and technologies and reformulating policies to support green urban development.

The scale up of demonstration on pro-poor integrated environmental management will be supported in rural areas, through the VUP and IDP programmes as an innovative approach to green and climate resilient villages (Imidugudu). In urban areas, a pilot 'green' city will be developed. Furthermore, other initiatives will be carried out such as; developing an Environment and Climate Change Innovation Centre, building a regulatory environment that incentivises green technologies and innovation and developing pilot promising 'green' technologies.

Development of Green Cities will contribute not only to increase climate resilience among rwandan people but also to reduce emissions by promoting green growth. To have a low carbon urban settlements, the following specific actions need to be done :

- Urban areas need to be efficient users of land through high density buildings.
- Buildings should be designed to reduce the demand for energy and water and to support waste recycling.
- Use of renewable energy sources like solar, Biogas,...
- Waste reduction and fully utilization of urban waste as a high-value resource stream ;
- Efficient use of water by providing rain water harvesting systems, centralised sewerage system and Ecological waste water treatment plant.
- Establishment of efficient and accessible public transport and designing roads attractive to pedestrians and cyclists.
- Development of trees parks and public green spaces which can be used for recreational purposes

All economic infrastructures are posed on land; therefore, efficient and effective management of land use will help the country to achieve sustainable development. New innovations in line with land management will help the country's economy to move faster.

Regarding Economic transformation for rapid growth, the country will develop District Land Use Plans to operationalize the National Land Use Master Plan and establish a National Geodetic Reference Network. This will be a basis when designing the lay out of village plans and reviewing the urban planning system in the formulation of clear urban planning and management guidelines.

The issuance of land titles (i.e the use of land title for security in the bank) will remain the key priority since the land registration process has already been completed. As a result of land titling programme, mortgages approved in 2012 tripled by far the number of mortgage registered in 2011. This has heavily contributed to booming the construction industry, etc.

Provision of land to investment priorities will be fast-tracked, so long as these investments adhere to agree upon development criteria. Furthermore, a clear mechanism to guide the process of land allocation for investment projects will be developed in a collaborative manner between investors, RDB, relevant ministries, districts and land owners.

By protecting the economy and society from water disasters and climate impacts like droughts and floods, DRR helps preserve incentives for investment and protection of investments made during EDPRS I. Water storage (via dams, dykes, and irrigation canals) is crucial for hydro and geothermal power; industrial production; mining; agro-industry; and domestic water supply. It is also necessary to support communities in mitigating the effects of climate change and manage natural disasters. This five-year program will enhance natural storage through wetlands rehabilitation, sub-surface water storage, and rainwater harvesting. These activities include a number of ancillary benefits, such as increased water use efficiency and in the case of wetlands, increased carbon storage.

Rainwater harvesting

In despite of the Government effort to develop rainwater harvesting and its utilization in recent years, the domain is still at infant stage and its large potential remains underexploited. Under EDPRS II, a particular focus will be put on rolling out rainwater harvesting technologies using participatory and cost-sharing mechanisms such as creation of special credit facilities, partial subsidies and revolving funds.

Four main types of interventions under ENR Sector are planned basing on categories of beneficiaries and uses as follow: (i) 17,000 single family RWH facilities (2-10 m³ capacity) and (ii) 50 collective family facilities (30-100 m³ capacity) will be constructed; (iii) 100 Public Institutions (schools, health centers, etc.) will be provided with RWH facilities (40-200 m³ capacity); and (v) 500 farm ponds installed for farmers both individually and collectively.

Considering the climate of Rwanda (bi-model rainfall), the amount of water to be harvested can triple the total storage capacity for constructed structures. Therefore, the achievement of the above mentioned targets for a total storage capacity of 446,000 m³ can save the Country to expend on water supply an estimative amount of 519,000,000 Rwf every year, not mentioning environmental benefits.

Mining will contribute to the national economy through increased export earnings from mineral commodities. In the next five years the export earnings are expected to grow from USD 158 million in 2011 to USD 400 million by 2017/2018. The increased mineral export earnings will help to improve the national trade balance while strengthening the Rwandan currency.

A set of strategic actions will be used to raise the investment from USD 150 million to USD 500 million (cumulative) by the end of EDPRSII and these include; (i) making strategic use of existing data, (ii) developing geological and mining research strategy by both public and private sectors, and (iii) participating in the assessment and development of earth energy resources (petroleum and peat). The implementation of these strategies will help to raise the knowledge of national mineral and energy which in turn will trigger the investment.

In 2011 the total nominal GDP amounted to 3,828RWF billion and Mining and Quarrying contribution to the total real GDP was 48 RWF billion accounting for 1.25%. In the next five years the contribution of mining and quarrying to the total nominal GDP is projected to increase to 5.27% by 2017/2018. This ambitious projection is planned to be achieved through the following strategies; (i) increasing value addition to mineral and quarry commodities, (ii) splitting the large government concessions into medium concessions to increase the number of capable investors, (iii) increasing the knowledge of national mineral potentials, (iv) initiating new fiscal regime which will be friendly to investment, (v) increasing the technical and financial capacity of the small scale miners, (vi) enforcement of mining standards and best practices , (vii) pilot a 'model' mine (viii) human capacity development to trigger accelerated performance.

Rwanda imports all its petroleum products requirements from which constitute about 20% of total national imports. This is a significant driver of the price of other goods and services produced locally impacting our regional and global competitiveness, levels of inflation and consequently ability to meet our GDP and poverty reduction targets. Exploration and discovery of our own petroleum resources would address this challenge thus increasing energy security and economic transformation. In the next five years, the Government will

accelerate oil exploration activities. It is expected that the oil company (Vanoil) will conduct more detailed geological studies with a view to drill a well in the next five years.

Rural Development

Forestry and nature conservation will greatly contribute to rural development through job creation. The implementation of district forest management plans will consist mainly of changing the structure of public forests to ensure a sustained yield and this will be done through progressive rehabilitation/reconversion of unproductive public forests which will result over time in uneven aged forest plantations. Furthermore, 20 trees per household (rural areas) and 5 trees per household (urban areas) including fruit trees will be targeted

Water activities focusing on rural development provide water resources for irrigation, high value agriculture, livestock and fisheries, and for small scale industrial production. These projects also promote multiple use services of water, in addition to technology development, transfer, and dissemination to enhance efficient water use for high value agriculture

The EICV3 revealed that poverty levels are highest among the population reliant mainly or heavily on farm wage labour followed by those working in agriculture; poverty is much lower in other categories. The EICV3 showed that the total number of people working in the mining sub-sector is estimated at 20,000 people and are in the category of the off farm workers. As the mining projects are mainly rural based, the development of mining will have a positive impact on the living standards of the people in rural areas.

The contribution of land management to rural development will be, through proper land use planning which is the basis of integrated development. All rural development initiatives take place on land, which requires a spatial organisation of settlement, agriculture and rational use of natural resources.

The target of increasing jobs in the mining sub-sector from 20,000 in 2011/2012 to 60,000 by 2017/2018 has been set in this strategic plan. Most of those jobs will be created in rural areas since, as mentioned above, most of mining projects are based in rural areas. The 40,000 new jobs will play an instrumental role in reducing poverty in rural areas where mines exist.

Productivity and youth employment creation

Restoration of watershed, hillside and wetlands ensures and builds natural capital, while providing water for economic activity and household security and imparting life-long skills to young people and women. In addition, the GoR will initiate Payments for Ecosystem Services to communities – and in particular to organized gender and youth groups. These payments represent an innovative source of new revenue to local economies. Together with

technology development and dissemination, they provide new resources to spur youth-targeted job creation through resources management in rural communities.

By 2017/2018, it is planned that 60,000 Rwandans will be employed in the Mining sub-sector. This will build their capacity to meet expenses such as education for children, food, shelters, clothes, transport and so forth. The linkages are expected to be created whereby the money generated paid in form of salaries will be invested in other sustainable sectors such as infrastructure, agriculture, construction, trade and so on.

In order to increase jobs in mining, from 20,000 in 2011/2012 to 60,000 by 2017/2018, the total investment in the sub-sector needs to grow from USD 150 million in 2013/2014 to USD 500 million by 2017/2018. This investment in mining will exert multiple effects to the growth of other sectors of the economy which in turn will bring about economic transformation for rapid growth. The increased investment will not only have an impact on employment but also on the tax revenues (corporate tax, royalty tax, withholding tax, VAT, license fees) since the tax base is positively correlated with the invested capital. The total tax revenues collected from mining is expected to increase to USD 25 million by 2017/2018. Some of this money will be used to provide some public goods such as roads, schools, hospitals, security, water, etc, improving the social welfare of the community.

The majority of the 60,000 labour forces in mining in 2017/2018 will be dominated by the youth because many aspects of mining require a lot of energy. In the next five years mining will increase mineral production from 8038 to 10,000 tons per year by 2017/2018. As mentioned before, by the end of EDPRSII the total investment in mining will have increased from USD 150 million, in 2011/2012 to 500 million in 2017/2018. This investment will result in increased mineral production and proportionally in youth employment.

Accountable Governance

The lands and mapping activities will contribute to the accountable governance through ensuring security of land tenure through land administration. The establishment of Land Administration and Information System which is a digital maintenance tool is more efficient, transparent, quick and cost effective. The system is able to capture all land transactions therefore allowing districts to fast track and collect all transfer related fees and land lease fees. The time and money people were spending running after their land documents will be tremendously reduced therefore invest the said money and time in other development activities.

These water activities are targeted at regional integration and facilitating decentralization, with a focus on the grassroots, as well as sectors, districts, provinces, and hydrological units. In addition, the activities will enhance community capacity to develop, utilise and manage water resources to reduce vulnerability at the household level. They will also facilitate institutional coordination between central government bodies at central and local levels.

Mining cannot achieve its objectives, set out in the strategic plan (2013/2014-2017/2018), if the principle of accountable governance is ignored. There will have to be strong inspection of mine sites and mineral trading points to ensure that the miners and traders are operating their business without violating the rules and regulations governing mining. Those inspections will also be conducted to ensure that mining companies are meeting their commitments signed during the mining contracts. The success of the sub-sector also depends on the transparency of the licensing and regulatory authorities. Improprity on the side of those authorities will create very poor performance.

Throughout the EDPRS II implementation period the performance of the ENR sector in achieving its mission and EDPRS II targets, outlined through different indicators, will be monitored through the semi annual joint sector reviews, monthly sector working groups and periodic departmental activity reports.

3.4 Cross cutting issues mainstreaming

The Environment and Natural Resources (ENR) management strategy will mainstream mainly seven cross cutting issues namely; capacity building, gender and family promotion, climate change and disaster management, HIV/AIDS, social inclusion and disability, regional integration and disaster management.

3.4.1 Capacity building

This sector strategic plan recognizes the limited capacity and skill gaps across the sector and has planned formal and informal education for sustainable development to be integrated into schools and higher learning institutions curricula at national, regional and international levels.

Long term trainings at masters level in forestry, will be conducted in the following programmers: forest management, forest pathology, forest entomology, wood technology, forest taxonomy, forest ecology, forest economics and forest inventory and mensuration. It is also planned for courses at PHD, Bachelor's and Diploma level to be offered in this next phase of EDPRS II

Informal education will be offered through short courses, job training and workshops. This will be done in seed handling, tree nursery management, forest harvesting, wood processing, charcoal making, and timber drying and forest extension.

Limited capacity, both human and technical, was identified in environmental management. Priorities including adequate and sustained capacity for effective environmental governance and decentralized service delivery have been set with a view to contribute to sustainable development. Key concern areas of need for greater capacity building include: environmental management, pollution control and reduction of vulnerability to climate change.

A recent capacity needs assessment identified a very limited number of water experts and technicians in the country. Under this strategy capacity building will target the training of 1,390 water experts and technicians during the EDPRS II period.

After identifying the skills gap in mining, as one of the hindrances that would deter the sector growth, developing skills was identified as one of the specific objectives to be pursued in this sector strategic plan. Human capacity will be strengthened in long term and short term trainings (geologists, mining engineers, metallurgist, and artisans). KIST has started a training program for only technicians in partnership with the Government of Australia and it has been targeted that 100 mining technicians will be trained every year during this phase of EDPRS II.

The institutional and legal framework for land and mapping is newly established with limited capacity (human and physical) both at National and decentralized level. It is in this regard that this strategy will organise short as well as long term training courses in different areas including land surveying, land management and specialist planning, urban and regional planning, cartography, land evaluation, land administration and photogrammetric during the EDPRS II period.

3.4.2. Gender and family promotion

Under this strategy, women will be assisted and empowered by involving them in decision-making, planning, facilitating their access to finance and building their capacity to manage forestry, environmental, water resources, mining and land -related businesses sustainably. Women will benefit from trainings at the rate of 30% of all beneficiaries and will be employed at the same rate as men.

Similarly Environmental degradation and climate change affect women and men differently. Moreover, the more women and children are poor, the more they are affected by environmental challenges and climate change impacts such as land degradation, deforestation, forest degradation, droughts, and floods to mention a few. Specifically, this strategic plan will support women through; capacity building on environment and climate change mainstreaming into Women Council plans at central and decentralized. Environmental management trainings for womens' cooperatives by promoting womens environmental initiatives and projects will be provided

Women are the greatest beneficiaries of good water management (such as increased accessibility of potable water); hence poor water management impacts them the greatest. This five-year program will seek to ensure that 50% of the people involved in watershed management are women, and that women comprise at least 30% of the membership of local watershed management committees.

According to Gako leadership retreat of 3rd -7th March 2012 resolutions, the Government of Rwanda is targeting to create around 200,000 jobs every year. In the mining sub-sector, it is

projected that 40,000 jobs will be created by 2017/2018 and that the program will benefit both youth and women. At least 30% of the work force that will be employed in the mining sub-sector will come from women's organisations. Youth and women organisations will be encouraged to form cooperatives so as to capture the investment opportunities available in the sector. Child labour in the mining sub-sector will be completely abolished by increasing inspections in mine sites and disseminating the law against child labour.

In respect to the Organic Land Law of 2005, there has been no discrimination based on sex during the implementation of the land tenure reform programme. Both women and men are represented in different land administration and land management institutions. In practice, women currently represent 39.5% of officials in the land commission. The process of land registration is participatory and community led. During the registration of claimants, both men and women are requested to be present. This is of particular importance for couples who are legally married to ensure they are registered against the property as joint owners. Women are registered in the same way as men, with equal rights. Children (biological sons and daughters) are registered as individuals with a beneficial interest in their parents' land. This is particularly significant, since land registration effectively clarifies inheritance issues which have previously been a major source of dispute in Rwanda where family members, on the death of the landowner(s), wrongly asserted rights over land to the detriment of the genuine beneficial owner(s). During the course of this plan, the focus will be on sustaining existing efforts, strengthening women's ability to assert their land rights and promoting gender related researches. An impact assessment of Land Tenure regularization program on gender will be undertaken.

3.4.3. Environment, Climate change and disaster management:

A study on "*Economics of Climate Change in Rwanda*" that was carried out by Stockholm Environment Institute in 2009, mentions that periodic floods and droughts occurring in Rwanda cause some major social and economic impacts, reducing economic growth.

Under this strategy, Environment, climate change and disaster management will be mainstreamed by increasing forest cover to 30% of the total area of the country. Degraded forest ecosystems will be rehabilitated and forestry resources will be managed sustainably. Activities such as reduction of flooding potential, through erosion control and assessment of potential damage impacts, will be undertaken. A national capacity plan will be developed for drought management by planting drought resistant trees in drought prone regions. This is expected to reduce the impacts of forest related disasters to 15% at the end of EDPRS II.

Compliance with environment conservation standards by the mining companies will be promoted in the process of building a clean environment in mined areas. Mining related activities will ensure sustainable exploitation of mineral and quarry resources. By 2017/2018, 100% of all mine sites will have efficient water & wastes management system and safe, secure working conditions. A couple of activities will be implemented with the essence of

protecting the environment, developing occupational health, safety and security standards, as well as standards for safe and effective mining. Stakeholders in the mining sector (mining professionals, miners, local leaders and others) will be trained on good practice standards and a comprehensive inspection regime and MIS will be established which will generate regular updates and statistics on mining trends.

This strategy will establish a very strong partnership between the environment and land sub-sector by harmonizing land and environmental systems. The following initiatives will be undertaken: implementation plans aimed at strengthening collaboration and informing developments in each sub-sector; development of data sharing mechanisms in order to inform and participate in the implementation of each sub-sectors' policies and strategies; creation of joint M& E strategies and support to environmental related studies and promoting the integration of environment strategies through our decentralized land related organs.

3.4.4 HIV/AIDS and non-communicable diseases

Raising awareness on HIV/AIDS voluntary counseling and testing (VCT) establishment of an HIV workplace programme and condom distribution will all be mainstreamed within MINIRENA staff as well the staff of its agencies namely REMA and RNRA. This package will be provided to environment committee members and water catchment management committees. Furthermore, all land bureaus will have posters and video programmes related to the fight against HIV/AIDS.

Sensitizations on HIV/AIDS and non-communicable diseases will be organised at mining sites and within mining communities in the next five years, in cooperation with relevant sector stakeholders. People working in the mining sub-sector will be encouraged to voluntarily get circumcised and undertake HIV/AIDS voluntary counseling and testing (VCT). Mining companies will further be sensitized to establish an HIV workplace and emphasize on condom distribution.

3.4.5 Social inclusion and disability

Social inclusion is about ensuring that all groups can realise their rights, such as the right to health and education, and that all have equal opportunities to markets, jobs and participation in decision making.

With this strategy all vulnerable groups such as the extreme poor people with disability, people living with HIV/AIDS, historically marginalised groups, genocide survivors, orphans and other vulnerable children and youth, female headed households and the elderly will be given a special consideration in the processes of training and recruitment in the Natural Resources sector. A number of disabled youth who complete their secondary school studies will be trained in the fields that are commensurate with their physical capacities.

3.4.5 Regional integration

The management of natural resources has to be of trans-boundary in nature. Similarly the consequences of natural resources management affect connected countries. We are therefore obliged to look beyond national borders and manage our resources jointly with our neighbours.

Mainstreaming regional integration in forestry and nature conservation will be done by improving collaborative management of forests within the Congo Basin, adoption and ratification of the treaty of COMIFAC to ensure effective transboundary management of our common forest resources and harmonization of legislation and implementation of the carbon project MRV (measurement of resources and Verification) in collaboration with FAO to facilitate safe and well regulated movement of goods and services within the region

Regional integration will influence the national environmental governance framework and the choices Rwanda makes for economic transformation. The geographical location of Rwanda (as an upstream country of the Lake Victoria and Nile Basins) brought it to the fore of transboundary ecosystems management, even before the country joined the East African Community (EAC) and COMESA. Increasing economic pressures at a time of escalating ecological crises within the region, force countries to look beyond national borders to cooperate and manage these resources jointly. The movement of goods and services within the region will require member countries to harmonize their legislation.

Mainstreaming regional integration in environment and climate change will be realized side by side by improving collaborative management of transboundary natural resources of the Lake Victoria Basin for the shared benefits of the EAC Partner States. Environmental stress will be reduced in targeted pollution hotspots and selected degraded sub-catchments to improve the livelihoods of communities, who depend on the natural resources of Lake Victoria Basin.

As all Rwanda's water resources are of a transboundary nature, their management cannot be done in isolation. Regional integration is one of the best channels for managing our shared water bodies. Regional integration is going to be mainstreamed by having 80% of our water related regulations harmonized with those of the region.

One of the mining policies aims at making Rwanda the mining hub in the region by 2017/2018. This requires close cooperation with the countries in the region which are the potential sources of the raw materials for expanded processing facilities. This will require cross-border agreements on the movement of these commodities. Therefore, it will be necessary to organize and actively participate in the international and regional mining conferences and workshops. In the process of harmonizing EAC mining laws, common mineral certification systems in EAC and ICGLR will be established.

Fostering regional integration at all levels is one of the key strategies aimed at contributing to sustainable land administration and land management. This will be done through collaboration with RECs/IGOs and advisory services to countries. This regional integration will focus primarily on the implementation of the Africa Land Policy Framework & Guidelines. Collaboration with the Regional Centre will be strengthened, for mapping of resources for development through capacity building. Exploration of other regional and continental land frameworks will continue which will be of benefit to the ENR sector.

4. Implementation of the ENR Sector Strategic Plan

4.1 Background

The ENR sector enveloping a wide-ranging of sub-sectors including the Environment, Lands, Forestry, Mines, and Water resources, is linked in an intricate manner with other areas such as health, agriculture, energy, tourism, housing, macroeconomic management, gender and social development. In this context, one of the main challenges constraining effective implementation of the sector strategy is of coordination – both in programming, activity implementation and funding. To ensure coherence and synergy in the programming, resource mobilization and monitoring and evaluation performance, a Sector-Wide Approach (SWAP) framework has been developed. It is expected that the SWAP secretariat of the ENR sector will assist in improving the cross-sectoral collaboration, and by bringing together all key stakeholders.

In the elaboration of ENR sector strategic plan, stakeholders in the sector at all levels were involved. This participative inclusive approach has and will be maintained during the implementation, monitoring and evaluation phases, hence recommending the need to further strengthen the SWG and TWGs approach. SWG and TWGs will continue to bring together Central and Local government institutions, development partners, the private sector and civil society engaged in the ENR sector or with an interest in the ENR sector development.

Members of the ENR SWG include the following: the Lead Ministry, the Lead Donor, Prime Minister's Office, the Ministry of Finance and Economic Planning (MINECOFIN), a Representative from each Ministry, a Representative from each Province and Kigali City, Development Partners, Civil Society Organizations and Private sector institutions.

There are five ENR sub-sector Thematic Working Groups (TWGs) falling under the five ENR sub-sectors i.e. Environment and Climate Change, Land, Forestry, IWRM and Mining.

4.2 Roles and responsibilities of the TWGs members

4.2.1 The Central Government

Ministry of Natural Resources

MINIRENA as the lead ministry in charge of protection of the environment and sustainable management of natural resources, will provide the overall policy oversight, guidance in the preparation and implementation of the sector budget, and lead in the sub-sector resource mobilization.

MINIRENA will ensure appropriate legislation adoption in relation to sustainable Environment and Natural Resource management and coordinate inter-ministerial and inter-institutional issues of the ENR sector. Sensitization of inter-ministerial and inter-institutional activities will be carried out in a systematic approach given the fact that Environment and Natural Resources stay the bedrock of Rwanda's development. Furthermore, MINIRENA will coordinate international processes and ensure commitment and coordination with local governments through the District Services. Monitoring and evaluation of the sector planning, mobilizing financial resources and implementation of the Environment and Natural Resources Policies will be maintained.

MINIRENA will proactively engage and influence other ministries and government agencies to comply with environmental policies, focusing primarily on sectors bearing direct impact on the environment. Productive and economic development sectors will be mobilized and involved in taking the lead to ensure that the environmental resources on which they depend on (water, wood biomass, biodiversity, soil, minerals, etc) are sustainably managed and consistent with environmental sustainability principles.

Rwanda Environment Management Authority (REMA) and Rwanda Natural Resources Authority (RNRA) are the two implementing agencies of MINIRENA. REMA will supervise, follow-up and ensure that issues related to environment are regulated and mainstreamed in all national development plans. RNRA will lead in the promotion of natural resources and entrusted with the supervision, monitoring and implementation of interventions related to natural resources.

Ministry of Agriculture, Animal Resources (MINAGRI) and affiliated agencies

MINAGRI and its affiliated agencies, Rwanda Agricultural Board (RAB) and National Agricultural Export Development Board (NAEB), are particularly expected to integrate sustainable environment and natural resources management principles into agricultural innovation and extension services including improved seeds, soil conservation and use of fertilisers. The department of Agricultural Research in RAB is expected to address natural

resources issues sustainability through applied and adaptive research activities especially in areas of agro-forestry and new crop varieties. MINAGRI will continue to implement the Strategic Environmental Assessment (SEA) of Agriculture. The key issues which will be addressed by the SEA of Agriculture are; soil and water conservation, soil acidity and nutrient management, crop and variety selection, pest and disease management, rural feeder roads, climate variability and climate change, EIA system and local capacities.

Ministry of Infrastructure (MININFRA) and its Agencies

Road infrastructure development, energy infrastructure, urban planning and human settlements are under the policy direction of MININFRA and have significant implications on the natural resources and environment. Issues of alternative energy and efficient energy consumption, sustainable urbanisation and human settlements, environmental impact of infrastructure development are priorities in the sector that have important bearing on the ENR sector. The ministry will take the overall responsibility for integrating environment and natural resources issues in these priority areas. The Ministry of Infrastructure through the Energy Water and Sanitation Authority (EWSA) will need to contribute to the water management interventions other than investing a huge budget in water chemical treatment. MININFRA and the ENR sector will work in partnership to promote quarry products and develop earth energy resources to avail electricity for mineral value addition promotion. MININFRA should promote alternative sources of energy to reduce the number of households using wood energy from 86.3% to 50%.

Scattered human settlement and scarcity are some of the obstacles to rural development. This will be sorted out through optimized land use planning (District Land Use Plans) and moving rural population to human settlements. A strong mechanism will be put in place to strengthen the coordination between MINIRENA/Lands Department, MININFRA (in charge of habitat) and MINALOC.

Ministry of Commerce (MINICOM) and affiliated agencies

Sustainable industrial development, including adoption of cleaner production technologies, tourism development (which is largely nature-based) are key strategies where the trade, tourism and industry sectors link with the ENR sector. Some of these responsibilities have been reconstituted under RDB and this arrangement will hopefully ensure efficient service delivery to the benefit of investors. The cooperative development, which is a major strategy for rural development largely revolves around agro-produce and agri-business, and thus constitutes an important entry point to integrate sustainable Environment and Natural Resources management principles.

The Rwanda Development Board (RDB), through its division in charge of investment implementation, provides environmental impact assessment (EIA) advice and ensures compliance, as part of the investor facilitation. In addition, RDB is responsible for wildlife conservation and tourism, having absorbed the former Office in charge of Tourism and National Parks (ORTPN). While this may present new challenges, linking investment and business development could increase appreciation, among the business sector, of the need to conserve and sustainably manage the country's environment and natural heritage.

Ministry of Local Government (MINALOC)

MINALOC will particularly play a key role in ensuring integration of environmental sustainability issues into the District Development Plans (DDPs), other community development programmes and in annual performance contracts. This SSP will be implemented in a decentralised governance framework, whereby planning, implementation and monitoring of ENR projects and other activities, will be undertaken in collaboration with local governments, district and community-based organisations. During the elaboration of EDPRS II, ENR sector priorities and strategic areas were handed out to Districts in order to be mainstreamed in the DDPs. District officials responsible for ENR sector (water, environment, forestry, lands and mines) will be supported to coordinate implementation and day-to-day follow-up of the planned activities. The District Planning Units will be strengthened to coordinate decentralised planning and budgets for environment and natural resources management, as well as collect, analyse and disseminate information for evidence-based implementation and monitoring.

Ministry of Health (MoH)

Environmental health concerns, nutrition and management of medical wastes, are important Environment Natural Resources issues to be addressed from the health sector. The MoH has formulated an environmental health policy and currently implementing an integrated malaria control programme and early childhood illnesses programme – all of which address issues resulting essentially from poor environment conditions. The health sector will scale-up environmental health programmes and provide sufficient resources to reduce environment-related illnesses. MINISANTE will actively participate in the national hygiene and sanitation programmes and include environmental issues into the health management information system (HMIS).

Ministry of Education (MINEDUC)

This Ministry of Education will provide scholarships and promote research in the domain of Environment and Natural Resources management. MINEDUC in partnership with MINIRENA and its agencies will integrate basic education on environment and natural resources protection and conservation, through education policy reform and curriculum review. Particularly, since Mining has been taken as key priority for economic development, the Ministry of Education will work with the Ministry of Natural Resources to develop capacities to deal with Mining industry and seismic management by putting in place earth sciences faculties.

Ministry of Foreign Affairs and Cooperation (MINAFFET)

MINAFFET will support the monitoring and reporting on international conventions and protocols, as well as providing policy guidance to regional and international cooperation.

Ministry of Finance, Planning and Economic Development (MINECOFIN)

MINECOFIN is responsible for macroeconomic management, resource mobilisation and allocation for public investments, planning and coordinating economic activities across sector Ministries and more recently ensuring population issues are integrated into sector priority setting. In the respect of environment as a cross cutting issue, MINECOFIN plays a crucial role of ensuring other sectors integrate environment into sector planning and budgeting towards effective implementation of EDPRSII.

Rwanda Utilities Regulatory Agency (RURA) and Rwanda Bureau of Standards (RBS)

As a regulatory bodies, RURA and RBS will work together with REMA and other concerned institutions to develop, implement and monitor the compliance of regulations. Areas to be covered in Natural Resources will be sustainable mining, water quality, waste management for cutting off the environment deases. Again mining certification processes, pricesses, norms and standards of Natural Resources goods will be certified “Ecolabelling”. RURA, in charge of licenses provision and regulation of all operations in water, energy and other utilities from prospecting to distribution, will ensure that the operations of especially water and energy utilities comply with set national standards and water allocation quotas. IWRM issues will be integrated into the generation/production licensing, tariff setting and distribution regime for all utilities.

4.2.2 The Local Government

The local government will ensure that the guidelines and directives from central government are internalized and put into action. The local government will specifically help to implement the Forestry Law and Policy. It will facilitate the participation of local communities and liaise with

the private sector to facilitate investment. Furthermore, the local government will support the decentralized forestry extensions and facilitate the monitoring of NGO interventions in forestry.

The Land Commissions bears the principal responsibility for overseeing the implementation of the Organic Land Law. These commissions will be operating at National, Kigali City and District Levels. The National Land Commission is also responsible for overseeing the District land commissions and bureaus and promoting, by advocacy and consultation, public ownership of land policy. The OLL establishes District Land Bureaus (DLB) directed by a District Land Officer (DLO), administratively answerable to the District Authority and Technically answerable to Department of Lands and Mapping and Office of Registrar of Land Titles. The DLB's are the public notary for land matters i.e. the DLO certify applications for land, maintain the cadastral index maps and record all land to be registered by sporadic or systematic means on behalf of the Office of the Registrar. Each sector and cell has a land committee which has an important part to play as the first point of contact for land registration and land use planning.

At the local level, environmental committees have been formed, in accordance with the provisions of the Organic Law on Environment (No. 04/2005). These are in addition to the community-based structures set up and trained under different programmes e.g. watershed management and Lake shores and River banks protection.

The District Environment Officers at the district level will be the focal points for WRM in each district, and be part of the Sub-basin technical monitoring committees. They will work with and coordinate IWRM activities in liaison with other technical units (agriculture, infrastructure, and environment, Social Affairs). Provincial Administrations (PA) will be responsible for mobilizing and coordinating joint inter- and intra-basin planning and implementation of IWRM activities involving more than 2 districts.

4.2.3 The Private sector

In accordance with the GoR's policy of private sector-driven economic development and indeed as highlighted within the EDPRSII, the private sector has critical roles to play in the implementation of the Environment and Natural Resources SSP. Private sector agencies will be mobilised and sensitised, through the Private Sector Federation (PSF) to integrate sustainable Environment and Natural Resources management principles into their activities and strategies for development. Specific incentives to encourage best practices in environmental sustainability and value adding investments in the ENR sectors, will be developed and made available. An important category of private sector that will be engaged more actively are the cooperatives which are intervening in farming and trade at small scale. They will be trained and facilitated to undertake extension and inspection work among its members.

As the future engine of growth, the private sector has a primary interest in environmental stewardship, especially in Rwanda where most of the development is hinged on the health and productivity of ecosystems. Businesses are at the centre of resource extraction and their activities generate waste which they must participate in cleaning up. Entrepreneurs' ability and self-drive to identify business opportunities in and innovative solutions to many challenges, will have to be leveraged to address Rwanda's emerging environmental challenges, which are inherently global. An entry point for engaging the private sector has already been created through the Cleaner Production Programme, initiated by REMA, and the space for public-private sector dialogue in EDPRS implementation.

The private sector will be more involved in forestry activities than it has been so far. It will play a key role in adding value to wood products, increasing the forest area and ensuring the rational use of forest products and sustainable forest management. More specifically, the private sector will have a number of responsibilities such as; creation of wood-based industries, participation in the development of both public and private forests in a sustainable manner and acquisition of management and harvesting licenses for public forests. Creation and introduction of new technologies for use of forest products, establishment of industrial forest plantations and implementation of specific strategies for forest policy will also be ensured. Other responsibilities of the private sector may also include the stimulation of internal trade of forest products, provision of recommendations and informing the central and local government on the successful implementation of forestry activities.

In IWRM, the incentives for private sector involvement are already in-built. Strategies of: technology generation and supply, water abstraction, water treatment and water use, which reflect the private service provision in water supply and sanitation, are already in use. Businesses are at the centre of resource extraction and their activities generate waste. Their innovativeness, entrepreneurship skills and self-drive will be leveraged to control pollution and address water efficiency issues by encouraging, supporting and compelling them to adopt appropriate technologies. Private sector groups - water vendors, horticultural farmers, industrialists, will be mobilized, sensitized and incentivized to promote good IWRM practices.

Private companies involved in land surveying, urban planning, land valuation and conveyance are to be regulated by the land sub-sector. These companies, once well regulated, will contribute to the overall sustainability of the land registry and land use management. Currently, only land valuation is regulated through the Institute of Real Property Valuers; other professions are to be organised and regulated.

Mineral trading has been recovering mainly due to the privatisation of government owned mines, which increased productivity since 1997. Though the production shows a positive trend in past years, the mineral commodities exported from Rwanda are less competitive at the international

mineral markets. This problem has its roots in the fact that the minerals are exported as concentrates instead of ingots or other high value intermediate products. In the next five years of EDPRS2, the private sector will be extensively involved in the implementation of this strategic plan through: (i) exploration and mining activities, (ii) development of new mines, and (iii) value addition to the mineral commodities and quarry substances by setting up plants (ceramics, dimension stones, jewellery, glass manufacturing). The private sector will also be involved in alleviating the problem of skills gap in the sector while developing training programs for their employees. The public-private sector partnership will organize trainings for mining employees and participate actively in workshops organized by other stakeholders. The private sector will also be involved in organizing and participating in the investment promotional events such as exhibitions, celebrating the international mining day, workshops etc.

4.2.4. Non Governmental Organizations (NGOs)

Civil society organisations will be mobilised and supported to design thematic and/or area specific action plans and activities to implement the programmes and sub-programmes within their areas of operation. Where capacity gaps are identified, interventions will be undertaken for key identified CSOs to facilitate them to develop such needed skills, institutional support and logistical resources for the implementation of specific actions of this plan. More importantly, CBOs, informal associations and other grassroots based CSOs are expected to support the implementation of the community driven ENR activities. As part of the ENR sector coordination enhancement, detailed mapping of CSO operations will continue to be updated, needs assessed/identified, and strategies to support them implemented at all levels.

The successful story of this synergy will be led by the Ministry Planning department and SWAp secretariat. CSOs will play a lead role in public education and raising awareness, advocacy and in implementation of micro-projects in environment and natural resources. CSOs will participate in the trainings and workshop of ENR-sector stakeholders.

4.2.5. Financial institutions and Development partners

Financial institutions and development partners have a critical role to play in the ENR sector by enabling investors and entrepreneurs to access funding to start and expand their businesses. UNDP and SIDA (the Swedish International Development Cooperation Agency) have co-steered the process of developing a SWAp secretariat for the ENR sector, helping to mobilise other development partners who have made commitments.

In forestry, financial institutions will play the role of providing access to finance to forest investors, requiring reasonable guarantees on loans and providing flexibility for new entrants into the market. Other roles may include availing reasonable and low interest loans where returns on investment take time to generate and providing preference in credit to investors with a good approach since forestry business takes long to generate returns.

Donors and development partners will provide financing and technical assistance support to the IWRM implementation process. SIDA (the Swedish International Development Cooperation Agency), the World Bank and the African Development Bank (AfDB) have developed a clear strategy for IWRM. In Transboundary Water Cooperation frameworks, the NBI (one of whose programmes – NELSAP - is coordinated in Kigali) and the LVBC are important regional shared water cooperation frameworks with planned investments in Rwanda. The GoR will leverage its excellent relations with these bodies at the Summit level (East African Heads of State) and Council of Water Ministers to mobilize the needed resources and technical assistance.

The land tenure regularisation programme has been implemented in the land sub-sector in collaboration with Development Partners, especially DFID, SIDA, Netherlands, EC and IFAD. The funding is either through a basket fund, managed by DFID for other donors, or through sector budget support. Building on the success of this programme, these partners are committed to support the sector to put in place a sustainable land administration which will allow the maintenance of the first registration. These partners are also to support in capacity at all levels (National, Zonal and Districts). In particular, SIDA is supporting the establishment of a modern national geodetic reference network. The operating cost in lands, are aimed to be covered at a rate of 80% at all levels, which will require review of service fees and also the establishment of strong working relationship with financial institutions that are to benefit from the completed electronic land registry.

The start up cost in mining is high and the return in the early stage of the project is always negative, furthermore mining projects are claimed to be riskier. All those issues make the financial institutions more reluctant in granting loans to the mining projects. This lack of collaboration between banks and miners, especially small scale miners whose financial capacity is low, continue to limit their productive capacity. In recognition of the significant contribution of small scale miners to the total mineral production, which is estimated at 60% of total production in 2011, RNRA, MINECOFIN and BNR should encourage financial institutions to provide loans to the profitable mining projects.

4.2.6. Research and Educational institutions

Research and educational institutions will play vital roles in protecting the environment and managing natural resources in a sustainable manner. The National Institute of Statistics of Rwanda (NISR) will integrate Environment and Natural Resources issues into questions of national surveys, censuses and other data collection systems to provide technical support in the analysis and overview of the ENR sector. Research and technology institutions (including RAB, NUR, KIST, IRST, ISAE, KCCEM, ICRAF), will be mobilized and supported to identify and pursue research opportunities as well as innovative technologies to meet the challenges of Environment and Natural Resources priorities in their activities. Primary and Secondary schools

as well as Universities, have a key role in capacity building for the Environment and Natural Resources sector. They will be supported with a tailored curriculum to provide students with sufficient knowledge on Environment and Natural Resources including its benefits and necessity of conservation.

4.2.7. The Media

The media has played a crucial role in raising public awareness of environmental and natural resources issues, identifying and reporting environmental damage. The media in Rwanda can be an effective agent of change, since the mass media (particularly radio) remains the main source of information for the majority of Rwandans. The mass media (print, broadcast, etc.) will be effectively mobilized, and empowered with the knowledge, skills and information for effective, accurate and regular environmental and natural resources reporting. Areas of participation and contribution by local and / or international media (if necessary), in the implementation of the Environment and Natural Resources Sector Strategic Plan, include: raising awareness to the entire population, press coverage of campaigns and special events organised by the ENR sector, collecting and disseminating information related to Environment and Natural Resources.

5. Environment and Natural Resources Sector Monitoring and Evaluation

5.1 ENR M&E development guiding principles and approach

As a support tool for implementing EDPRS 2, the M&E logical framework was developed through a highly participatory approach starting from the consideration of EDPRS goals of economic growth and Poverty Reduction. The two key goals of the strategy are translated into four key thematic areas: Economic Transformation, Productivity and Youth Employment, Rural Development and Accountable Governance all of which help to focus the sector priorities towards achieving the EDPRS 2 goals. Thus, the EDPRS 2 will be implemented by priority based sector strategies through Thematic Areas. Sector Strategic Plans (SSPs) will be appropriately aligned and harmonized with District Development Plans (DDPs).

5.2 ENR M&E: Focusing results on Sustainability

It is worth noting that although the M&E framework for the ENR sector was developed with the support to EDPRS 2 implementation in mind, logframe includes indicators such as natural capital that are relevant to EDPRS 2 but more importantly have implications for long term sustainable development objectives. Furthermore, foundational issues such as Ecological Foot Print must be considered to track pressures imposed on the environment and natural resources which provide the base for sustainable use of environment and natural resources. ENR sector primarily executes its mandate by coordinating other sectors to ensure environment and natural resources are used rationally to facilitate optimum contribution of all sectors. This forms the basis for environment

and climate change/green growth nexus that is critical to Rwanda's current development paradigm.

5.3 Objective of ENR Monitoring and Evaluation framework

The ENR monitoring and evaluation framework has been structured in a way that facilitates monitoring of the contribution of districts, sectors and Thematic areas to EDPRS 2. Such a structure provides for outcomes at the thematic areas level. At the sector level, intermediate sector outcomes were developed in alignment to the thematic outcomes. Sector outcomes will be the basis for actions at the sectors and districts levels in the course of implementation. The systematic development of a framework that aligns EDPRS 2 goals, Thematic areas, sector outcomes, outputs and their indicators and targets have enabled generation of a functional ENR M&E that facilitates targeted monitoring for effective implementation of national priorities through an RBM feedback mechanism.

The Environment and Natural Resources monitoring and evaluation framework will continuously gather information on the progress of activities under this sector strategic plan. The gathered information will be analyzed and this will allow the ENR sector to measure the achievements/impact in relation with the stated objectives. It is essential to disseminate this information to various stakeholders intervening in the sector for the purposes of coordination. The information will also be used as a basis for reviewing the Sector Strategic Plan as well as future planning and to track progress towards the EDPRS 2 targets.

The key users of the ENR M&E framework include: Government (Supervising Authority: MINIRENA) and donors, Leaders of the RNRA (Board of Directors and the Director), Other partners intervening in the Environment and Natural Resources, Primary beneficiaries: the private sector and decentralized entities.

5.4 The step wise approach to successful ENR M&E

Indicators were generated and agreed up on, after a highly participatory process of ENR-sector stakeholders. The objective of this consultation was to ensure that the resulting indicators are relevant, understandable, reliable and data is available or can be cost-effectively collected and processed. Once the indicators to be applied at various levels were agreed upon, the next step was to develop a metadata for the indicators. The metadata will address the definition of the indicator, the methodology for data collection including the frequency of collecting data and reporting on the indicator as part of the operational support to M&E. It is planned that the approach will provide a framework that the ENR sector will actively use to guide implementation and reporting on sector priorities as the sector seeks to demonstrate its contribution to national sustainable goals.

Following a consensus of key criteria and indicators that will form the core of the framework, metadata development to guide data generation and collection as well as analysis, the ENR sector will identify available baseline data and information as well as data gaps that must be filled prior to operationalizing the M&E. This may require specific consultancies to support generation of the baseline data that is critical to ENR sector strategic plans, DDPs and the EDPRS II implementation.

Note that some indicators in the M&E framework do not have baseline data and annual targets, therefore, studies will be conducted in the first year of EDPRSII, to set the baseline.

5.5 Reporting for EDPRS 2

EDPRS 2 reporting will be done at several levels. The ENR sector monitoring will provide the data and information that will be reported at the sector (as aggregated information as in the case of natural capital) whereas the sub-sector data and information will be gleaned from district data base in addition to other sub-sector data capture mechanisms. It is expected that an annual report will be generated on progress against thematic outcomes. A semi-annual report will also be produced on the sector outcomes and their accompanying key priority/policy actions. While Sector reports will reflect (aggregated) activities from the district level, a district report will also be prepared to enable assessment of individual district achievements towards sector priorities and outcomes. The key reporting modalities include the Joint Sector Reviews at the sector level and the Imihigo reporting at the district and other sub-national levels and these will form the basis of monitoring for EDPRS 2 implementation. Moreover, mid-term and end-term EDPRS 2 evaluations will be the mechanism for informing effectiveness of the ENR contribution to national priorities.

MONITORING AND EVALUATION FRAMEWORK: IMPACT, OUTCOMES AND OUTPUT INDICATORS

Environment and Natural Resources Sector										
Impact	Impact Indicator	Baseline 2012/13	Target 2013/14	Target 2014/15	Target 2015/16	Target 2016/17	Target 2017/18	Sources	Responsible agency	
Contribution to national economy, wealth creation and poverty reduction increased	Contribution of natural capital to GDP (% of GDP attributed to natural capital)	TBD	TBD	TBD	TBD	TBD	TBD	TBD	MINIRENA, MINECOFIN, REMA, RNRA, DPs	
	Total Economic Value of goods and services generated from ENR related activities (US\$ pa)	TBD	TBD	TBD	TBD	TBD	TBD	TBD	MINIRENA, MINECOFIN, REMA, RNRA, DPs	
	% of working people (16+ years) deriving at least 1/3 rd of their income from ENR-related activities	TBD	TBD	TBD	TBD	TBD	TBD	TBD		
	Change in Environmental Performance Index (EPI)	TBD	TBD	TBD	TBD	TBD	TBD	TBD	MINIRENA, MINECOFIN, REMA, RNRA, DPs	
	% of public and private ENR-based investments that adopt green technologies	TBD	TBD	TBD	TBD	TBD	TBD	TBD		
	% of rural households living in green villages	TBD	TBD	TBD	TBD	TBD	TBD	TBD		
	Number of jobs created through green investments by public and private sector	TBD	TBD	TBD	TBD	TBD	TBD	TBD		
	Extent and quality of citizens' participation in ENR decision processes	TBD	TBD	TBD	TBD	TBD	TBD	TBD		
	ENR Thematic outcomes⁴	Thematic areas indicators	Baseline 2012/13	Target 2013/14	Target 2014/15	Target 2015/16	Target 2016/17	Target 2017/18	Sources	Responsible agency
	Economic transformation for rapid growth (Green Growth Strategy implemented)	Value of funds generated through green initiatives grants from climate change prevention funds.	TBD	TBD	TBD	TBD	TBD	TBD	TBD	MINIRENA, MINECOFIN, REMA, RNRA, DPs
Ranking of Rwanda in		TBD	TBD	TBD	TBD	TBD	TBD	TBD	MINIRENA, MINECOFIN,	

⁴⁴ Indicators at this level comprise of aggregate sub-sector indicators.

	international indices such as the Environmental Performance Index (EPI).									REMA, RNRA, DPs
Rural development (District Land Use Plan implemented)	Ha of land used by other sectors according to the Land Use Master Plan.	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	MINIRENA, MINECOFIN, REMA, RNRA, DPs
Productivity and youth employment creation (Youth employment increased)	Number of jobs created by large scale investment in ENR sector (Mining and Forestry).	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	MINIRENA, MINECOFIN, REMA, RNRA, DPs
Accountable governance (Land disputes reduced)	Number of land-related disputes in tribunal courts.	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	MINIRENA, MINECOFIN, MINIJUST, REMA, RNRA, DPs
Accountable governance (Water Master Plan Implemented)	Water quantity used by different economic sectors.	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	MINIRENA, REMA, RNRA, DPs
Forest and Natural Conservation										
Outcome	Outcome indicator	Baseline 2012/13	Target 2013/14	Target 2014/15	Target 2015/16	Target 2016/17	Target 2017/18	Source	Responsible agency	
Ecosystems and forest resources increased and sustainably managed to optimize their economic as well as ecological functions	% of surface covered by forest and tree resources	28,29%	29%	29.5%	30%	30.5%	31%	Mapping	RNRA	
	Percentage of land area protected to maintain biodiversity	10.13%	10.154%	10.184%	10.21%	10.23%	10.3%	Mapping	RNRA	
	Total economic value of goods & services derived from forestry activities (USD/yr.)	TBD	TBD	TBD	TBD	TBD	TBD	Statistics	RNRA	
	% contribution of forestry to economic growth (% sub-sector share of GDP)	TBD	TBD	TBD	TBD	TBD	TBD	Statistics	NISR, RNRA	
	Proportion of annual wood demand that is met locally (%)	TBD	TBD	TBD	TBD	TBD	TBD	Statistics		
	% of 18+ working people(men andwomen) deriving at least one-thirdof their income from forest-related activities	TBD	TBD	TBD	TBD	TBD	TBD	Statistics	NISR, RNRA	
Output	Output indicator	Baseline 2012/13	Target 2013/14	Target 2014/15	Target 2015/16	Target 2016/17	Target 2017/18	Sources	Responsible agency	
Forest cover increased	Ha of new forest planted(ha/yr)	645,281	13,000	8,100	8,100	8,100	8,100	Ground survey, annual report	RNRA, Districts	

	% Forest products used as a proportion of total standing volume	TBD	TBD	TBD	TBD	TBD	TBD	Survey, report	RNRA, NISR
	% change in forest area destroyed by fires or pests & diseases	TBD	TBD	TBD	TBD	TBD	TBD	Survey, Report	RNRA, Districts
Forest biodiversity and critical ecosystems sustainably managed	Biodiversity index in protected landscapes	TBD	TBD	TBD	TBD	TBD	TBD		
	Proportion of degraded terrestrial ecosystems restored to their functioning state	TBD	TBD	TBD	TBD	TBD	TBD	Ground survey	RNRA, NGO's
	Proportion of land area protected to conserve biodiversity	TBD	TBD	TBD	TBD	TBD	TBD		
Value addition technologies to wood and non wood forest products and services promoted	Forest carbon sequestration	TBD	TBD	TBD	TBD	TBD	TBD		
	% of districts implementing revised forest management plans	2	8	14	20	25	30	Report	RNRA, District, NGO's
	% of charcoal producers (men and women) using improved technologies	TBD	500	1000	1500	2000	25000	Social survey, report	RNRA, NISR
	% of private investments in commercial forestry activities	TBD	TBD	TBD	TBD	TBD	TBD		
	% of forest sub-sector workers (men and women) that have requisite knowledge and skills matching their main tasks	TBD	TBD	TBD	TBD	TBD	TBD		
Lands and Mapping									
Outcome	Outcome indicator	Baseline 2012/13	Target 2013/14	Target 2014/15	Target 2015/16	Target 2016/17	Target 2017/18	Source	Responsible agency
Optimised land utilisation and improved land administration	Proportion of land utilized according to designated master plan	TBD	TBD	TBD	TBD	TBD	TBD		
	Total number of land transactions registered and average time taken per year	TBD	TBD	TBD	TBD	TBD	TBD	LAIS	
	% of citizen satisfied with land services(desagregated by gender)						90%		
Output	Output indicator	Baseline 2012/13	Target 2013/14	Target 2014/15	Target 2015/16	Target 2016/17	Target 2017/18	Sources	Responsible agency

Security of land tenure for all land claimants ensured and sustained.	Number of parcels demarcated and adjudicated	10.2million parcels demarcated	10.4million					Field reports	RNRA, CSOs, Districts, MINALOC
	Number of parcels entered in LTRSS	8.3 million parcels entered into Database	10.4million					LTRSS	
	Number of leasehold titles issued	4million	8million					Issuance lists	RNRA, District, MINALOC
	% of land claimants with titles	None	Social impact assessment	Economic impact assessment	Environment impact assessment			Reports	RNRA, Development Partners and Districts
Rational land use ensured through comprehensive land use plans and adequate mapping	Percentage of districts implementing district land use plans	None	3 District land use plan				30 districts	Draft land use plans per district	RNRA, Districts
	Number of district ENR staff with knowledge and skills in land use planning & GIS (GIS) disaggregated by sex	None	60					Training report	RNRA, Development Partners and Districts
	Number of geodetic network stations established	Scattered old network	CORS with at least 10 stations	NSDI				Operational CORS stations and comprehensive National Spatial Data Infrastructure	RNRA and Development Partners
	Number of Lands & Mapping staff trained in surveying and mapping disaggregated by sex	Scattered instructions	Surveying manual and 30 people trained	30 People trained	30 People trained	30 People trained	30 People trained	Manual	RNRA, Districts and RCMRD
National land registry maintained and sustained by strengthening land administration institutions	Existence of Interface of Land Administrative Information System (LAIS) with other Land Transaction Systems	LAIS 1.0	LAIS 2.0 with GIS interface and connectivity to Mortgage, banks, building permitting system	LAIS connected to other major country registry	LAIS with online services			System report and availability	RNRA, RDB, KCC, Rwanda Bankers Association
	Effective number of District	3Districts	4 Districts				30 districts	Connectivity reports	RNRA, RDB

	connected to LAIS								
	Number of PIA on Land Administration	Land Administration Manual	TBD	TBD	TBD	TBD	TBD	PIA reports	RNRA, CSOs, Districts, MINALOC
	Percentage of cost recovered through land administration services	Draft sustainability study	30%	40%	50%	60%	70%	Budgets and financial statements	RNRA, District, MINALOC
	Number of District refurbished and equipped	18 Districts	30 Districts					Reports	RNRA, Development Partners and Districts
Capacity building in land and mapping sub sector enhanced	Percentage of people working in land sector with requisite skills		416	416	416	416	416	CB for land sector	
	Quality of monitoring reports	NA	TBD	TBD	TBD	TBD	TBD		RNRA, Development Partners, LandNet
Environment and Climate Change									
Outcome	Outcome indicator	Baseline 2012/13	Target 2013/14	Target 2014/15	Target 2015/16	Target 2016/17	Target 2017/18	Source of Verification	Responsible agency
Improved environment management and vulnerability to climate change reduced	Percentage change in national climate change vulnerability index.	TBD	TBD	TBD	TBD	TBD	TBD	TBD	REMA, SIDA
	% of Sectoral policies, strategies and budgets that reflect environmental sustainability principles	Generic SEA guidelines	Ministerial order for all Sector to do SEA	30%	60%	90%	90%	100%	REMA/LVEMP, DEMP II
	% of district with at least one integrated environmental management model village (demo green village project)	TBD	TBD	TBD	TBD	TBD	TBD	Annual reports	REMA
	C02 emission per capita	TBD	TBD	TBD	TBD	TBD	TBD		REMA, CONCERNED SECTORS
Output	Output indicator	Baseline 2012/13	Target 2013/14	Target 2014/15	Target 2015/16	Target 2016/17	Target 2017/18		Responsible agency
Environmental and climate change issues mainstreamed across all development sectors	% of sectors with at least one model green village	2 Sites	3 Sites	4Sites	5Sites	6Sites	6 Sites	Annual reports	REMA

	Co2 emissions by sector (MT per US\$)	TBD	TBD	TBD	TBD	TBD	TBD	Annual reports	REMA
	% of sector budgets allocated for climate change adaptation / resilience building	TBD	TBD	TBD	TBD	TBD		Annual reports	REMA
	% of Districts implementing District Environment Plans	2 Districts	10 Districts	15 Districts	20 Districts	25 Districts	30 Districts	Annual reports	REMA MINECOFIN
Vulnerability to Climate Change reduced	% of households at high risk of major climate change effects							Annual reports	REMA
	% of villages that have benefited from or implemented climate change adaptation projects							Annual reports	REMA
Pollution management and environmental regulation ensured for sustainable development	% change in indices of non point source pollution (based on sampled sites for air, water and soil pollution)	2098,4 ha	3067.4ha	4067.4 ha	4862.4 ha	5030.4ha	5135.4 ha	Annual report	REMA LVEMP DEMP II
	% of projects compliant with approved EIA conditions	10%	60%	80%	80%	80%	80%		
	Number of entities that comply with resource efficiency and cleaner production regulations	2	4	7	10	13	15	Annual reports	REMA MINICOM PSF RECP
Environmental research and planning improved	% of SMEs that are using best practices in environmental sustainability and guidelines on cleaner production	2 Reports	3 reports	4 reports		5 reports		Biennial reports	REMA
	% improvement in quality of subsector plans and monitoring reports								
	% of planned targets realized								
Environmental governance strengthened	Total disbursements through FONERWA (US\$ pa) as percentage of total public expenditure	(baseline) a. Private Sector b. GoR	a. \$0.0m b. \$1.3m c. \$8.7m a. \$2.0m	\$ 0.00m \$ 3.0m \$30m \$ 6.6m	\$0.00m \$7.2m \$56m ¹⁵	\$0.00m \$9.6m \$70.00m	\$0.00m \$12.00m 85.00m	\$0.00m \$15.0m \$100.00m	FONERWA Secretariat

		Other	b. \$0.0m c. \$0.0m	\$0.0m \$1.1m	\$12.64m \$0.0m \$1.2m	\$15.92m \$0.0m \$3.0	\$19.40m \$0.0m \$4.2	\$23.0m \$0.0m \$5.3	
	% submitted projects meeting FONERWA thresholds for funding	0	a.80 b.80 c.80	a. 90 b.90 c.90	a. 95 b.95 c.95	a. 95 b.95 c.95	a. 95 b.95 c.95	a.95 b.95 c.95	FONERWA Secretariat
	% of established position filled by skilled personnel	0	2	5	8	11	13	Annual reports	MINIRENA REMA MINIJUST MINEAC RBS
	% of National environmental legislation that complies with Regional and international commitments	21	23	25	27	29	31	Annual reports	MINIRENA, REMA

Integrated Water Resources Management

Outcome	Outcome indicator	Baseline 2012/13	Target 2013/14	Target 2014/15	Target 2015/16	Target 2016/17	Target 2017/18	Sources	Responsible agency
Water resources managed in a sustainable, equitable and integrated manner	Water demand /Availability balance	TBD	TBD	TBD	TBD	TBD	TBD	MINECOFIN, BNR,	RNRA/WRM
Output	Output indicator	Baseline 2012/13	Target 2013/14	Target 2014/15	Target 2015/16	Target 2016/17	Target 2017/18	Sources	Responsible agency
Effective governance for WRM and Capacity Developed	Reduction incidences of water related conflicts within catchments	0	0	10%	25%	40%	50%	Ministries, Agencies and Districts	RNRA, EWSA, MINAGRI, MINEDUC
	% of water related programmes and projects implemented in an integrated approach	0	0	10	15	20	25		
	Percentage of staff in WRM institutions with the required skills based on the established structure	TBD	TBD	TBD	TBD	TBD	TBD	RNRA, MIFOTRA	
	Number of transboundary and shared water resource management initiatives resulting in better quantity and quality of water	0	0	1	2	3	4		
	Percentage of sub-catchments with functioning WRM committees	0	0	10	20	30	50		MINIRENA/MIN ALOC/RNRA
Equitable Water Allocation	Percentage of water users with	0	0	20	60	100		RNRA	RNRA

and Utilisation framework	water abstraction permits								
	Percentage of catchments with approved management plans	0	0	40	70	100		RNRA	RNRA
	% of water related projects sampled by Min of Gender that implement practical measures to benefit women and men equitably	Not clear							
Watersheds rehabilitated and water storage enhanced	Reduction in unit cost of water treatment by water service providers	0	0	5%	10%	15%	20%	RNRA, EWSA	RNRA
	Area (HA) of degraded watershed rehabilitated	750	1,250	2,000	4,000	6,000	10,000	MINIRENA, MINAGRI	RNRA
	Number of major point source pollution sources determined and controlled	0	0	2	4	7	10	RNRA, REMA	RNRA
	Water storage per capita	TBD	TBD	TBD	TBD	TBD	TBD	MINAGRI, RNRA, EWSA	RNRA
Mining and quarries									
Outcome	Outcome indicator	Baseline 2012/13	Target 2013/14	Target 2014/15	Target 2015/16	Target 2016/17	Target 2017/18	Source	Responsible agency
Efficient and sustainable mineral exploration and exploitation promoted	Total Economic value of goods & services from earth resources (US\$ pa)	158	190	230	275	332	400	RDB& GMD	GMD
	% contribution of mining sub-sector to GDP	1.2	1.85	2.50	2.82	3.19	5.27	NBR annual report	GMD
	Number of people 16+ with main job in mining sector	20,000	30,000	40,000	50,000	55,000	60,000	GMD	RNRA/GMD
Output	Output indicator	Baseline 2012/13	Target 2013/14	Target 2014/15	Target 2015/16	Target 2016/17	Target 2017/18	Sources	Responsible agency
Knowledge of national mineral potential raised	% increase in production for key minerals	0	1	2	3	3	1	GMD	GMD
	% Change in number of inquiries from prospective investors	0	10%	35%	70%	90%	100%	GMD	GMD
	Proportion of the country's mineral potential area for which 1/50,000 scale geological, thematic and mineral deposits maps exist	0	1 map is produced	2 maps are produced	3 maps are produced	3 maps are produced	1 map is produced	GMD	GMD
	Progress of petroleum	TBD	TBD	TBD	TBD	TBD	TBD		

	exploration towards completion of an exploration well.								
	Total investments in the sector (\$ m/yr.)	150	200	250	300	350	400	GMD	GMD
Productivity raised and new mineral commodities developed	Total receipts from mineral exports (\$m)								
	Total production of mineral concentrate for selected minerals (Cassiterite, Coltan and Wolframite) (Tons/yr.)	8518	9800	10450	12500	15090	18100	NBR	NBR
	% of annual reduction of imported building materials	0	0.5	2	5	7	14	RDB	RDB
Sustainable exploitation of mineral and quarry substances Promoted	% of mineral exports ICGLR certified	0	30	50	70	85	100	RBS	GMD
	% change in Local Government revenue from mining & quarrying	TBD	TBD	TBD	TBD	TBD	TBD		
	% of mining sites that are certified	0	50	70	80	90	100	GMD	
	% of mining entities using cleaner production best practices	20	50	70	80	90	100	GMD	
	% change in incidences of point source pollution attributed to mining	25	50	70	80	90	100	GMD	
	% of mining sector workers that are female	20.7	30	35	38	43	47	GMD	
Natural hazards Mitigated	Extent to which hazard risk information is used	TBD	TBD	TBD	TBD	TBD	TBD		
	Up to date Hazard risk maps	-	-	-	20%	60%	100%	GMD	GMD
Sector skills developed	Proportion of skills gap in mining and petroleum sub-sector met	TBD	TBD	TBD	TBD	TBD	TBD	TBD	

6. Budget, Financing and Financial Management

6.1 Cost structure and costing of Planned Activities

In the table below, the planned activities for the next 5 years of EDPRS 2 will be implemented at an estimated cost RWF **164,341,177,000**.

The total SSP funds available (based on estimated GOR budget ceilings and external financing commitments) is equivalent to **Rwf 67, 733, 648, 000** and total projected cost (based on planned activities fully costed which will need additional financing) comes to a total cost of **Rwf 164,341,177,000**. This implies that, for the ENR SSP to be fully implemented we will need to mobilize a total amount of Rwf **96,607,529,000** (Budget deficit) for the sector to meet its set targets.

Table: Environment and Natural Resource Sector Strategic Plan Costings

EDPRS 2 TOTAL COST FOR FIVE YEARS						
RWF '000	2013/14	2014/15	2015/16	2016/17	2017/18	Total for EDPRS 2
Funds Available						
Government	6,607,469	8,172,648	7,895,727	8,540,618	9,312,822	40,529,286
Donor projects	11,962,078	6,928,359	4,089,922	2,999,366	584,637	26,564,362
Private sources	100,000	150,000	120,000	130,000	140,000	640,000
Other sources						0
Total	18,669,547	15,251,007	12,105,649	11,669,984	10,037,459	67,733,648
Existing Baseline Expenditure						0
Funds Available for EDPRS 2	18,669,547	15,251,007	12,105,649	11,669,984	10,037,459	67,733,648
Total Projected Cost						
National projects costs	24,253,041	27,146,148	28,691,176	31,370,066	34,384,026	145,844,459
Districts' project costs	4,667,748	3,855,345	3,457,543	3,128,741	3,387,341	18,496,719
Total	28,920,789	31,001,493	32,148,719	34,498,808	37,771,367	164,341,177
Overall Deficit/Surplus	-10,251,242	-15,750,486	-20,043,070	-22,828,823	-27,733,908	-96,607,529
% Surplus/deficit	-55%	-103%	-166%	-196%	-276%	-143%

6.2 Strategic Plan Financing Mechanisms

Resource Mobilization for the implementation of the strategic plan has been and will be targeted from five (5) principle sources:

1) Internal public investment resources: this will entail national budget allocation to the Environment and Natural Resource sector, through MINIRENA, RNRA and REMA;

2) On-going project funds – resources from on-going projects will be aligned to relevant outputs and outcomes in the strategic plan and allocated – as part of the programming and financing reform towards programme-based budgeting.

3) Donor sources mobilized into basket fund: Funding is expected to be mobilized through the Sector Wide Approach. This will be strengthened by partnerships from Environment and Natural Resource sector Working Group

4) Non public sector resources: Additional funds are expected – directly and indirectly – from non state intervening agencies – specifically the international NGOs, faith-based organizations; local NGOs and private sector investments.

5) Cross-sector collaboration: Some of the outputs are expected to be implemented by or in collaboration with other sectors. For instance, additional funds are expected to come from MINAGRI, MININFRA, as well as district authorities.

Beyond this, the National Environment and Climate Fund (FONERWA), whose establishment is provided for by law, is expected to assist in generating sustainable funding for Environment and Natural Resource Sector

6.3 Resource Allocation and Financial Management Arrangements

The main instruments for priority setting, actual financial allocation and accountability will include:

- **Medium term expenditure framework (MTEF)** – a three year rolling plan adopted by the GoR since 2003. The lead ministry (MINIRENA) and its agencies RNRA and REMA will, provide technical support and guidance
- **Joint sector reviews (JSRs)** will be conducted on a six monthly basis and will review sector performance based on both the sector log-frame and the annual action plans and budgets;
- **Annual action planning** – will be the basis for priority re-setting and budget allocations with strategic guidance of the MTEF. The annual action plans will be guided by the preceding JSRs.
- **Public expenditure reviews (PERs)** – are mechanisms for tracking the flow and utilization of resources within the sector, and analyzing sector performance based on both the funding and results. They will, hopefully, provide sufficient baselines for setting realistic targets – both for financial mobilization and results.

ANNEXES

Annex 1: List of ongoing and planned project in ENR Sector covering the period 2013/14 – 2017/18

Project	Donor	Type	Currency	Tot Fin. (F Cur. In 000, FRW in 000000)	Exch. rate	start	end	Equivalent in Frw
Lake victoria environment management project phase ii (LVEMP II)	W.B	Gran	USD	15,000	600	2012	2017	9,000
Reducing vulnerability to climate change by establishing Early Warning and disaster preparedness System and support for Integrated Watershed Management in Flood Prone Area	UNDP,G	Gran	USD	3,486.00	600	2010	2014	2,092
The SIDA-supported natural resources and environment management in Rwanda (NREP)	SIDA	Gran	USD	5,661.60	600	2011	2014	3,397
Forestry sector development project in Rwanda	GOR	CP	RWF	320	1	2012	2015	320
Forestry sector development project in Rwanda	SIDA	Gran	EUR	4,999	813	2012	2015	4,064
Decentralization and environment management project (DEMP II)	UNDP	Gran	USD	5,620.20	600	2008	2012	3,372
Support program to the reforestation in Rwanda (PAREF I)	Netherlands	Gran	EUR	10,000	813	2009	2012	8,130
Support program to the reforestation in RWANDA (PAREF II)	BELG.	Gran	EUR	6,000	813	2011	2015	4,878
Water resources management master plan	GOR	IF	RWF	2,400	1	2011	2014	2,400
Securing community livelihoods through promotion and utilisation of bamboo resources in Rwanda	FAO	Gran	EUR	499	813	2012	2015	406
Projet de gestion durable des boisements et restauration des forets naturelles au Rwanda	GOR	CP	RWF	333	1	2012	2015	271
Projet de gestion durable des boisements et restauration des forets naturelles au Rwanda	FFBC	Gran	EUR	4,587	813	2012	2015	3,777
Systematic Land Regislation (SLR)	DFID	Gran	RWF	26,792	1	2010	2015	26,792
Systematic Land Regislation (SLR)	GOR	CP	RWF	10,653	1	2010	2015	10,653
Strengthening land administration -connecting LAIS to districts	GOR	IF	RWF	808	1	2010	2015	808
Land use planning and management project	GOR	IF	RWF	1,566	1	2011	2015	1,566
China Bamboo project	GOR	IF	RWF	2,000	1	2010	2014	2,000
Improved Information on water quantity	GOR	IF	RWF	2,223	1	2011	2013	2,223
Water quality monitoring project	GOR	IF	RWF	193	1	2011	2013	193
Rainwater harvesting promotion project	GOR	IF	RWF	1,164	1	2007	2015	1,164
Water hyacinth control project	GOR	IF	RWF	864	1	2011	2015	864
Degraded watersheds rehabilitation project	GOR	IF	RWF	1,134	1	2011	2015	1,134
LDCF	UNEP	-	RWF	642.6	1	-	2016	642.6
PEI	UNEP	-	RWF	802.06	1	-	2014	802.06

ANNEX 2: OUTPUTS, ACTIONS/ ACTIVITIES TO ACHIEVE ENR SECTOR OBJECTIVES

Outputs	Key actions	Detailed activities	Timeframe					Implementing agency
			2013/14	2014/15	2015/16	2016/17	2017/18	
Forest cover increased	To avail improved tree planting materials	Carry out CGF analysis with RAB to come up with a plan for the sustainable production of high quality forestry and agro forestry seeds suitable to Rwanda		X				DFNC/RAB
		Avail high quality forestry and agro forestry seeds suitable to Rwanda		X				DFNC/RAB
		Train and support farmers to engage in agro forestry and forestry seeds business		X				DFNC
		Support Districts to produce seedlings and other planting materials	X	X	X	X	X	DFNC/Districts
		Organize farmers study tour inside and outside the country	X	X	X	X	X	DFNC
	Intensify tree planting on both public and private land	Conduct national mapping of available land for forestry	X	X				DFNC
		Develop specific reforestation and afforestation programs	X	X	X	X	X	DFNC/Districts
		Carry out research/study on adequate species for diversification		X	X			DFNC
		Mobilize public institutions and farmers to plant forestry and agroforestry trees on available land	X	X	X	X	X	DFNC/Districts
		Forest productivity measured on a regular basis (sample inventories)	X	X	X	X	X	DFNC
		District Forest plans developed and/or refined	X	X	X	X	X	DFNC
		Organize trainings for stakeholders in the implementation of DFMP	X	X	X	X	X	DFNC
		FMPs implemented on all administrative levels	X	X	X	X	X	DFNC
		Scale up improved carbonization techniques nationwide	X	X	X	X	X	DFNC
		Develop rules and regulations for SFM	X	X	X	X	X	DFNC
		X	X	X	X	X		

		Prepare and plant trees on every national tree week and maintain them	X	X	X	X	X	
	Promote silviculture treatment	Develop and disseminate guidelines on silviculture techniques	X	X				
		Put in place and operationalize a silviculture guidelines implementation plan and monitoring system	X	X	X	X	X	
		Support Districts to follow up the recently planted trees during a three- year period	X	X	X	X	X	
		Train farmers on management of trees on farms	X	X	X			
		Provide incentives to promote best practices in trees management	X	X	X	X	X	
Forest biodiversity and critical ecosystems sustainably managed	Rehabilitate degraded ecosystems	Carry out inventories and Identification of degraded ecosystems	X	X				DFNC
		Develop the plan for ecosystems rehabilitation	X	X				DFNC
		Produce seedlings	X	X	X	X	X	
		Plant trees	X	X	X	X	X	
		Carry out monitoring, evaluation and reporting	X	X	X	X	X	
	Expand the network of protected areas	Identify ecosystems to be protected	X					
		Undertake stakeholders consultation to create consensus on the establishment	X					
		Gazette new protected areas		X	X	X		
		Formulate the management plans				X	X	
		Set up the management team				X	X	
	Generate scientific knowledge on ecosystems and biodiversity management	Compile existing information and identify gaps and research priorities	X					
		Identify key partners in research and put in place collaboration mechanisms	X					
		Conduct research		X	X	X	X	

		Establish an operational database		X	X	X	X	
		Disseminate research findings			X	X	X	
		Follow up of the implementation of international conventions related to ecosystems	X	X	X	X	X	
Value addition technologies to wood and non wood forest products and services promoted	Promote value addition technologies to wood and non wood forest products and services	Develop a national wood processing strategy to guide private investment		X				DFNC
		Develop one treatment pilot plant for poles		X	X	X	X	DFNC
		Collaborate with privates to produce and supply modern charcoal kilns and train users on their use		X	X	X	X	DFNC
		Promote wood processing plant for high value addition	X	X	X	X	X	DFNC
		Promote co management of public forests with private	X	X	X	X	X	DFNC
		Do research on the development of wood gasification technology			X	X	X	DFNC
		Create a training center of excellence on the use of wood modern technologies			X	X	X	DFNC
	Establish the robust forest data management system	Update & finishing permanent SIEP	X	X				DFNC
		Continue the GIS of the forestry sector (ortho-photo maps & interpretation) at National level	X	X	X			DFNC
		Update & Improve the DFMP		X	X	X	X	DFNC
		Finishing master plan of the fuel woods & charcoal supply of Kigali City (application of WISDOM model)	X	X				DFNC
		Develop a digital M&E system of plantations & forests management	X	X	X	X	X	DFNC
		FMU management plans developed						
		Forest productivity measured on a regular basis (sample inventories)						
		District Forest plans developed and/or refined						
	Promote sustainable	Conduct a study on the contribution of the		X				DNFC

	forest management	forestry sector to the national economy						
		Establish a system of measuring, reporting and verification (MRV) of carbon status	X	X	X	X	X	DFNC
		Organise trainings for stakeholders in the implementation of DFMP		X	X	X	X	DFNC
		Implement the DFMP	X	X	X	X	X	DFNC
		Promote the understand the international standards for sustainable forest management	X	X	X	X	X	DFNC
		Setting criteria for inspection and monitoring	X	X	X			DFNC
		Conduct the inspection and law enforcement	X	X	X	X	X	DFNC
		Produce an annual comprehensive report on national forest resources state			X	X	X	DFNC
		Operationalize the Province & Districts forestry task forces.	X	X	X	X	X	DFNC
Security of tenure for all land claimants ensured and sustained	Implement the road map for land tenure reform through Systematic land registration of all land parcels	Finalisation of demarcation and Adjudication, digitisation and data entry of all land parcels estimated to 10.4million	X					RNRA and Development Partners
		Issuance of 8million leasehold titles	X	X				RNRA, Development Partners and Districts
	Undertake impact assessment of Land tenure regularization with emphasis on gender	Assessment of the impact of the land tenure regularisation including gender (women land rights)	X	X	X			RNRA, Development Partners and Non States Actors
Rational land use ensured through comprehensive land use plans and adequate mapping	Develop land use plans and their guidelines and ensure their dissemination	Develop district land use plans that will be part of the district development plans	X					RNRA, Districts
		Disseminate the National Land Use and Development Master Plan through Public Information Awareness (PIA)	X	X				RNRA, MINIRENA, Districts
		Participation in the design layout of village plans through a consultative process	X	X	X	X	X	MINIRENA/RNRA, MININFRA, MINALOC/TF Rural Settlements

		Participate in the review of the Urban planning system and in the formulation of clear urban planning and management guidelines in compliance with the National Land Master Plan.	X	X	X	X	X	MININFRA (RHA, RTDA), MINALOC, MINIRENA
		Develop guidelines for land use planning and land use monitoring for district	X	X				RNRA
	Build capacity of District officials involved in land use planning	Training of District officials in land use planning and in Geographic Information System (GIS)	X					RNRA, Development Partners and Districts
	Implement the national geodetic reference network	Establish a modern geodetic reference network for Rwanda and Spatial Data Infrastructure	X	X				RNRA, RCMRD and Development Partners
		Establish clear surveying procedures through manuals and trainings	X	X	X	X	X	RNRA, Districts, private sector, RCMRD
National land registry maintained and sustained by strengthening land administration institutions	Update the Land Administration Information System and ensure its awareness	Integrate the legal data and the spatial data into Land Administration Information System.	X	X	X			RNRA, RDB,
		Create an interface onto existing Land Administration Information System to facilitate connection to mortgage registration system, banks, management of building permit system and create room for online services.	X	X	X			RNRA, RDB, KCC, Rwanda Bankers Association
		Connect decentralised land administration institutions to LAIS and build their capacity in land administration	X					RNRA, RDB
		Conduct Public Information Awareness of the land administration (registration of all transactions)	X	X	X	X	X	RNRA, CSOs, Districts, MINALOC
	Support land administration structures for their sustainability	Implement a cost recovery system of land administration both at national and district level	X					RNRA, District, MINALOC
		Finalise refurbishing and equipping district land bureaus	X					RNRA, Development Partners and Districts

		Fast-track the provision of land to investments priorities priority investments so long as these investments adhere to agree upon development criteria.	X	X	X	X	X	RDB, MINICOM, MINECOFIN, MININFRA (EWASA, RTDA) MINALOC, Districts, MINAGRI (NAEB), MINERENA
		Develop a clear mechanism to guide the process of land allocation for investment projects based on a collaborative system between investors, RDB, relevant ministries, districts and land owners.	X	X	X	X	X	RDB, MINICOM, MINECOFIN, MININFRA (EWASA, RTDA) MINALOC, Districts, MINAGRI (NAEB), MINERENA
To update the legal and policy framework and conduct researches and evidence based analysis on land and ensure their dissemination	Undertake the review of the land legal and policy instruments	Review of the National Land Policy of 2004		X				MINIRENA, RNRA
		Amendment of the Organic Land Law of 2005 and its secondary legislations	X	X				MINIRENA, RNRA
		Advocate for harmonization of various legislation in order to meet the sub-sector's objectives (i.e. Review of succession law, matrimonial regime laws and other related laws)	X	X				MINIRENA, MIGEPROF, MINIJUST, MINALOC,
	Promote research and build capacity of actors in land sector and ensure dissemination of land laws and dispute resolutions	Promote research and evidence based analysis on land	X	X	X	X	X	RNRA, Development Partners, CSOs
		Capacity building of CSOs and NGOs involved in land sector	X	X	X	X	X	RNRA, Development Partners, CSOs
		Dissemination of the land policy, land related laws and dispute resolution mechanisms	X	X	X	X	X	RNRA, Development Partners, CSOs
	Undertake assessment of land governance vis-à-vis international best practices	Conduct an assessment of land governance in Rwanda vis-à-vis international best practices and Africa Land Policy Guidelines and Framework	X	X				RNRA, Development Partners, CSOs
Knowledge of national mineral and potential raised	Make strategic use of the existing geological and mineral data	Review all the existing key geological and mineral data and put it in compatible formats	X					RNRA/GMD

		Re-interpret and integrate with new data	X	X	X	X	X	RNRA/GMD
		Publish and disseminate (Integrate existing data into investment promotion material)	X	X				RNRA/GMD, MINIRENA, RDB,
		Building and updating of geological and mining metadata	X	X	X	X	X	RNRA/GMD
	Develop geological and mining research strategy by both public and private sectors	Continue surveys for key minerals (Tin, Tungsten, Tantalum, Gold, Lithium, Rare Earth Elements, Phosphates, Nickel, Platinum Group Minerals, Base metals, Uranium & Thorium) in new mineral potential target areas so far identified	X	X	X	X	X	RNRA/GMD
	Facilitate acquisition of petroleum data	Aquisition of detailed 2D seismic	X					RNRA/GMD, MINIRENA, RDB,PRIVATE OIL COMPANY
		Improve the capacity of laboratory facilities at GMD and collaborate with other well established laboratories in and outside the country		X	X			RNRA/GMD, RBS, UoR, External laboratories
		.Monitor and assess exploration activities of private companies	X	X	X	X	X	RNRA/GMD
		Participate in the development of policy and legal framework in petroleum exploration	X					MINIRENA, RNRA/GMD
		Continue to assess the quality and the quantity of peat in peat bogs	X	X	X	X	X	RNRA/GMD, EWSA
		Attract and increase private sector investment capital in petroleum exploration and development						
		Facilitate the passing of legislation providing transparent legal and fiscal regimes for petroleum exploration, development and production	X					MINIRENA, MINIJUST
		Finalization of the model production sharing contract to guide and fast track negotiations with investors						MINIRENA,RNRA/GMD,RDB
		Mapping up of the acreage in Rwanda to make available more concessions		X				MINIRENA, RNRA/GMD,
Sector skills developed	Build human capacity and expertise	Sensitize young Rwandese to study mining related subjects	X	X	X	X	X	RNRA/GMD, MINEDUC, MINIRENA
		Sponsor young Rwandese to study abroad degrees in mining and petroleum exploration and development courses	X	X	X	X	X	REB, PSCBS, MINEDUC, MINIRENA, RNRA/GMD
		Establish mining related technical courses		X	X	X	X	MINEDUC, MINIRENA, RNRA/GMD

		through apprenticeship and VTCs						VCTs, WDA, PSF, Donors, NGOs
		Establish local degree and diploma courses on mining related subjects	X	X	X	X	X	UoR, MINEDUC, RNRA/GMD
		Training of small scale miners in resources evaluation	X	X	X	X	X	RNRA/GMD, PSF, RDB, NGOs
		Professional upgrading of GMD staff	X	X	X	X	X	RNRA/GMD, PSCBS, REB, MINIRENA, Donors
Natural hazards mitigated	Monitor seismic and volcanic activities	Continuous collection and interpretation of seismic data from existing stations	X	X	X	X	X	RNRA/GMD
		Publication of a monthly seismic data reports	X	X	X	X	X	RNRA/GMD
		Construction and equipment of Karongi seismic station		X				RNRA/GMD,
		Training in operating and maintaining seismic stations	X	X	X			PSCBS, RNRA/GMD
		Establishment of early warning systems		X	X	X	X	MIDIMAR, OVG, RNRA/GMD
		Follow up of the functioning of differential GPS in cooperation with OVG (Goma Volcanology Observatory)	X	X	X	X	X	OVG, MRAC, AfricaArray, RNRA/GMD
	Monitoring other natural hazards like landslides	Mapping and zoning natural hazards areas (relative intensities)			X	X	X	MIDIMAR, UoR, RNRA/GMD, MINIRENA, MININFRA
		9. Community sensitization on natural hazards		X	X	X	X	MIDIMAR, RNRA/GMD
		1.Continuous collection and interpretation of seismic data from existing stations	X	X	X	X	X	RNRA/GMD
Minerals productivity sustainably raised	Promoting viable mining cooperatives, small and medium scale mining companies	Helping in building technical and management capacities of mining cooperatives and small scale mining companies	X	X	X	X	X	RNRA/GMD, RDB, RCA, FECOMIRWA, PSF, MINICOM
		Sensitizing and guiding banks towards financing small scale miners.	X	X	X	X	X	RNRA/GMD, MINIRENA, BNR, PSF, RDB, BANKS
		Promote partnerships between investors and mining cooperatives and Rwandan small and medium scale mining companies	X	X	X	X	X	RNRA/GMD, MINIRENA, PSF, RDB
		Splitting of large government concessions into viable medium size concessions	X	X				RNRA/GMD, MINIRENA,
		Organizing sensitization and training sessions on entrepreneurship in mining for women and youth	X	X	X	X	X	RNRA/GMD, MINIRENA, MIGEPROF, MINICYOUTH, RDB
	Develop a conducive competitive investment	Initiate a mineral fiscal regime suitable for the government and the investors	X	X			X	MINECOFIN, RRA, MINIRENA, RNRA/GMD, PSF, RDB, MINICOM, MINIJUST

	environment							
		Develop comprehensive mining investment promotional tools	X	X				RDB, RNRA/GMD
		Organize and participate actively in promotional events at national and international level	X	X	X	X	X	RNRA/GMD, PSF, RDB, MINICOM, Institutions involved in similar activities
		Develop a comprehensive mining cadastre and a modern licensing system	X	X				RNRA/GMD, MINIRENA
		Disseminate price data through all trade point offices	X	X	X	X	X	RNRA/GMD
		Participate in the establishment of the Kigali Mineral Campus		X	X	X	X	RDB, PSF, RNRA/GMD
	Increase value addition of minerals and quarry products	Promote processing technologies in mineral and quarry resources (industrial minerals and semi precious stones) products	X	X	X	X	X	RNRA/GMD, PSF, MINICOM
		Facilitating the setting up of industrial minerals and rocks processing plants	X	X	X	X	X	MINICOM, MINIRENA, MINECOFIN, RDB, EWSA, RNRA/GMD
		Facilitating in setting up of mineral ores upgrading facilities (high value concentration and smelting)	X	X	X	X	X	MINICOM, MINIRENA, MINECOFIN, RDB, EWSA, RNRA/GMD
		Develop strategic projects that could attract public funding	X	X				RNRA/GMD, MINECOFIN, RDB, MINICOM
	Strengthen the enabling legal, regulatory and institutional framework	Revise the existing mining law and regulations and put in place new regulations	X	X				MINIRENA, MINIJUST, RNRA/GMD, PSF, RDB, MINECOFIN, MINICOM
		Put in place a model mining agreement	X					RDB, MINIRENA, MINIJUST, RNRA/GMD
		Produce clear guidelines for local authorities' role in processing mining permit applications	X					MINIRENA, RNRA/GMD
		Disseminate the legal framework to all stakeholders	X	X				MINIRENA, RNRA/GMD, RDB
	Strengthen mineral certification mechanisms	Establish national mine sites inspection procedures	X					RNRA/GMD
		To strengthen national chain of custody (traceability and tagging)	X	X	X	X	X	RNRA/GMD, ICGLR, RBS, MINIRENA, PSF, NGOs
		Develop mineral export certification procedures	X	X	X	X	X	RNRA/GMD, RBS, PSF, NGOs, MINIRENA, ICGLR
		Manage and share data with ICGLR	X	X	X	X	X	RNRA/GMD, ICGLR

		Sensitize mining companies to develop their mineral certification policies	X	X				RNRA/GMD
		Monitor the implementation of certification policies		X	X	X	X	RNRA/GMD
		Establish a committee to work towards attaining EITI status	X	X	X			RNRA/GMD, MINIRENA, NGOs
	Develop and Institutionalize best practices in mining	1. Develop occupational Health & Safety and Security standards	X	X				RNRA/GMD, RBS, REMA, MIFOTRA, MINISANTE, MININTER
		Develop standards for safe and effective mining	X	X				RNRA/GMD, REMA, RBS
		Train stakeholders (mining professionals, miners, local leaders and others) on good practice standards	X	X	X	X	X	MINIRENA, RNRA/GMD, REMA, RBS, NGOs
		Establish a comprehensive inspection regime	X	X				RNRA/GMD, MINIRENA
		Generate and regularly update mining statistics	X	X	X	X	X	RNRA/GMD, MINIRENA, NISR, BNR
		Enforce the environment standards(EIA, rehabilitation of closed mines, water catchments system)	X	X	X	X	X	RNRA/GMD, MINIRENA, RBS, REMA, RNP, Reserve Force, MINALOC
		Pilot a 'model' mine	X	X	X	X	X	MINIRENA/GMD, FONERWA
Environmental and climate change issues mainstreamed across all development sector		Identification of priority sectors, policies, strategies and plans for mainstreaming and carry out training and other capacity building requirements	X	X	X	X	X	REMA, MINIRENA, MINECOFIN
		Support central Government to identify key Env & CC issues and integrate them in budget and planning. (including support to MINECOFIN)	X	X	X	X	X	REMA, MINIRENA, MINECOFIN
		Review, update and disseminate environmental mainstreaming guidelines and checklists for use in different sectors	X	X	X	X	X	REMA, MINIRENA, RDB
		Develop specific guidance packages on integrating environmental sustainability and climate change resilience in local level planning (DDPs)	X	X	X	X	X	REMA, MINIRENA, MINALOC
		Build Capacity for Local level institutions to enhance understanding of Environment & Climate Change issues and promote engagement in decision making at the District.	X	X	X	X	X	REMA, MINIRENA, MINALOC
		Develop a national environment performance incentive structure and award the best performing districts.	X	X	X	X	X	REMA, MINIRENA, MINALOC

		Monitor and evaluate District Environment Committees activities	X	X	X	X	X	REMA, MINIRENA, MINALOC
		Revision of Curriculum for different levels of education for the integration of sustainable development	X	X	X			REMA, MINIRENA, MINALOC
		Develop strategy for University education by establish programmes to promote mainstreaming of Env. and CC in higher and technical education	X	X	X	X	X	REMA, MINIRENA, MINEDUC
		Equip educators/trainers with competences to include EESD in their programmes/ Train the trainer's (TOTs)	X	X	X	X	X	REMA, MINIRENA, MINEDUC, HIGH LEARNING INSTITUTIONS
		Training of journalists on how to integrate EESD in Media reporting	X	X	X	X	X	REMA, MINIRENA, MINEDUC, HIGH LEARNING INSTITUTIONS
		Monitoring and evaluation of school environmental clubs at tertiary, secondary and primary levels	X	X	X	X	X	REMA, MINIRENA, MINEDUC, HIGH LEARNING INSTITUTIONS
		Promote green and climate resilient village model	X	X	X	X	X	REMA, MINIRENA, MINEDUC, MINALOC, HIGH LEARNING INSTITUTIONS
		Develop SEA for Energy , waste, transport and land use sectors	X	X		X	X	REMA, MINIRENA, MINAGRI, MININFRA
		Provide TA to integrate environment into Private Sector Development Strategy	X	X	X	X	X	REMA, MINIRENA, MINAGRI, MININFRA, PSF
		Carry out communication and advocacy activities on Poverty and Environment issues targeting Public, private sectors and civil societies;	X	X	X	X	X	REMA, MINIRENA, MINAGRI, MININFRA, PSF
		Establish public, private and civil society partnerships for environment management through MoUs	X	X	X	X	X	REMA, MINIRENA, MINAGRI, MININFRA, PSF
		Training & capacity development support to CSOs, media, SMEs and private environmental service providers (including EIA practitioners) in EIA principles & techniques as well as eco-business;	X	X	X	X	X	REMA, MINIRENA, MINAGRI, MININFRA, PSF
		Develop a national environmental performance incentive structure: Annual Excellency Awards for environmental innovation and good practices	X	X	X	X	X	REMA, MINIRENA, STAKEHOLDERS
		Commemorate National and international Environmental events	X	X	X	X	X	REMA
		Train teachers, students environment clubs, purchase and distribute Greening schools materials	X	X	X	X	X	REMA, MINIRENA, MINEDUC, HIGH LEARNING INSTITUTIONS
Pollution management		Monitor and follow up of the relocation of	X	X	X	X	X	REMA

ensured and environmental regulations enforced for sustainable development		illegal activities located wetland						
		Raise awareness and build capacity on organic farming focusing on balancing the use of organic and chemical pesticides and fertilizers in wetlands	X	X	X	X	X	REMA, MINAGRI
		Control of emissions from the transport sector (keeping the Sulphur dioxide below 60 mg/m ³ in residential areas of cities throughout the year)	X	X	X	X	X	REMA
		To Gradual elimination of Polychlorinated Biphenyls oils (PCB oils)	X	X	X	X	X	REMA
		Promotion of cleaner technologies and environmental efficient innovations (capacity building, awareness raising, technical support, etc)	X	X	X	X	X	REMA
		Carry out pollution level assessment and develop Pollution Control Plan for five (5) Districts : Kicukiro, Gasabo, Rwamagana/Musanze Huye, Muhanga Districts	X	X				REMA, EWSA
		Carry out master plan, feasibility study detailed engineering design and EIA for a centralized sewage system for Rwamagana						REMA
		Implementation of project proposal of demarcation of wetlands proposed to be Ramsar sites in Kigali		X				REMA, Districts
		Restore Nyandungu wetland for recovery of ecological functions			X	X		REMA
		Rehabilitation of Kivu Lake watersheds by radical terrasses in Gihombo and Kirimbi Sectors in Nyamasheke District for 400 ha	X	X	X	X	X	REMA
		Rehabilitation of Kivu Lake watersheds by radical terrasses, site Mushubati and Murunda Sectors in Rutsiro District for 210 ha	X	X	X	X	X	REMA
		Rehabilitation of Muhazi lake watersheds by radical terrasses, site Gasange, Gasange Sector in Gatsibo for 100 ha	X	X				REMA
		Rehabilitation of Muhazi lake watersheds by radical terrasses for 100 ha, site Giti and Bukure sectors in Gicumbi District	X	X	X			REMA

		Rehabilitation of Mugesera lake watersheds by progressive terrasses for 1600 ha in Ngoma and Rwamagana district	X	X				REMA
		Rehabilitation of Nkora river bank and watersheds for 150 ha by progressive terrasses in Rutsiro	X	X				REMA
		Rehabilitation of Musogoro river bank and watersheds by progressive terrasses in Rubengera, Gitesi Sector in Karongi District	X					REMA
		Rehabilitation of Cyagara and Mugonero rivers banks and watersheds by progressive terrasses for 200 ha in Rusizi and Nyamasheke Districts	X	X	X	X		REMA
		Viabilisation of Rubavu mountain and extension of paved way	X	X				REMA
		Develop detailed sub catchment management plans for Gikondo and Nyabugogo wetland system	X					
		Gradual elimination of Polychlorinated Biphenyls oils (PCB oils)	X	X	X	X	X	
		Develop guidelines for the sound environmental management (special wastes, EIA, EA and SEA guidelines, etc)	X	X	X	X	X	
		Harmonization of environmental regulations and standards at regional level for effective management of trans-boundary environmental resources	X	X	X	X	X	
		Pollution management through control and monitoring of air quality (keeping the Sulphur dioxide below 60 mg/m ³ in residential areas of cities and gradually phasing out the use of Hydro Chlorofluorocarbons (HCFCs))	X	X	X	X	X	
		Promotion of Cleaner technologies and environmental efficient innovations (capacity building, awareness raising, technical support, etc)	X	X	X	X	X	
		Enforcement of environmental regulations and standards for main sources of point pollution through inspections, EIA and EA (industries, mining, construction, coffee washing stations, agriculture...)	X	X	X	X	X	
Vulnerability to climate change reduced		Update Climate change risk zones map	X				X	REMA, MINIRENA
		Conduct climate change vulnerabilty, risks	X				X	REMA, MINIRENA

		assessment and mapping						
		Update National Adaptation Programs of actions (NAPA)		X				REMA, MINIRENA
		Supporting RMS, MIDIMAR, MINAGRI, MINALOC and Districts to train staff on Modelling forecasting, disaster management preparedness and support establishment of Operational Integrated EWS	X					REMA, MINIRENA,RMS, MIDIMAR, MINAGRI, MINALOC
		Establish and sustain online climate portal	X					REMA, MINIRENA
		Develop capacity for national communication on climate change	X					REMA, MINIRENA
		Integrate NIP and COP decisions in national policies and strategies	X	X	X	X	X	REMA, MINIRENA
		Build capacity on CDM and carbon market	X	X	X	X	X	REMA, MINIRENA, MINEDUC, HIGH LEARNING INSTITUTIONS
		Support extension of TVET programme for renewable energy, irrigation and agroforestry		X				REMA, MINIRENA,RMS, MIDIMAR, MINAGRI, MINALOC
		Build capacity on climate change adaptation and mitigation for user sectors and districts	X	X	X	X	X	REMA, MINIRENA,RMS, MIDIMAR, MINAGRI, MINALOC
		Raise public awareness on climate change in different sectors including academics and research institutions	X					REMA, MINIRENA,RMS, MIDIMAR, MINAGRI, MINALOC
		Implemet pilot adaptation activities as demonstration in selected vulnerable regions to climate change and develop outscaling strategies	X		X		X	REMA, MINIRENA,RMS, MIDIMAR, MINAGRI, MINALOC
		Develop national appropriate mitigation actions (NAMAs)	X					REMA
		Put in place legal and regulatory framework of carbon trading to facilitate investment	X					REMA
		Conduct GHGs inventory , mitigation and adaption assessment for National communication		X			X	REMA
		Develop guidelines for mainstreaming climate change in different sectors			X			REMA
	Increase the level of "green" investment and environmentally sustainable urban development	Build the case for green urbanisation in Rwanda	X	X	X	X	X	MINIRENA, REMA, FONERWA
		Develop an environment and climate	X	X	X	X	X	MINIRENA, REMA, FONERWA

		change innovation centre to pilot promising green technologies and innovations						
		Establish an institutional structure – a Centre of Excellence- to promote and develop green urban areas and technologies	X	X	X	X	X	MINERENA, REMA, FONERWA
		Reform policies to support green urban development	X	X	X	X	X	MINERENA, REMA, FONERWA
		Develop a pilot ‘green’ city	X	X	X	X	X	MINERENA, REMA, FONERWA
	Incentivize high environmental standards and sustainable green innovations in the industrial and private sectors	Build a regulatory environment that incentivises green technologies and innovation	X	X	X	X	X	MINERENA, REMA, FONERWA
		Pilot promising ‘green’ technologies	X	X	X	X	X	MINERENA, REMA, FONERWA
Environmental research and planning improved		Establish criteria and process for identifying new PAs for sustainable use		X				REMA, RNRA, RDB
		Develop the national invasive species strategy			X			REMA
		Raise awareness on domesticated Nagoya Protocol		X				REMA
		Develop the strategic plan for wetlands conservation	X					REMA
		Develop a National Biodiversity Strategy and Action Plan(NBSAP)	X	X				REMA
		Conduct an inventory of alien invasive species in Rwanda		X	X			REMA
		Develop the biodiversity catalogue			X	X	X	REMA
		Update GMOS Guidelines ,policy and law	X	X	X			REMA
		Capacity building on GMOs: potential benefits and perceived risks that can be caused by modern biotechnology	X	X	X			REMA
		Purchase of equipments for GMOs detection and awareness materials	X	X	X			REMA
		Raise awareness on GMOs	X	X	X			REMA
		Develop a project document on economic valuation of key ecosystem services in Rwanda	X					REMA

		Valuate ecosystem services of National park services	X	X	X			REMA
		Valuate ecosystem services of wetland(Key) services				X		REMA
		Develop Guidelines for integrating biodiversity conservation in urban planning		X				REMA
		Regular update of REMA Monitoring and Evaluation System	X		X		X	REMA
		Regular update of Rwanda Environment and Climate Change Information system (RENVIS)	X		X		X	REMA
		Library establishment (documentation center)	X		X		X	REMA
		Undertaking Environmental Information Network meetings	X	X	X	X	X	REMA
		Create partnership with Government institutions /Universities doing research(MoU) to implement REMA research strategy	X	X	X	X	X	REMA
		General mapping of all fields activities and gathering all data of done studies in REMA in the system which facilitates easy access	X	X	X	X	X	REMA
		Produce Rwanda State of Environmental report	X	X	X	X	X	REMA
Environmental governance strengthened		Develop guidelines for biodiversity prospection by domestic and foreign companies	X	X				REMA
		Develop PES Legislation		X				REMA
		Operationalize and Institutionalize the Public Expenditure Review on env and CC	X	X	X	X	X	REMA
		Develop strategy and guidelines for integrating environmental accounting principles into national accounts;						REMA
		Insure the integration of NIP and COP decisions in national policies and strategies	X	X	X	X	X	REMA
		Harmonization of environmental regulations and standards at regional level for effective management of trans-boundary environmental resources	X	X	X	X	X	REMA
		Develop legislation on invasive species				X		REMA, MINIRENA
		Conduct Functional/ organisational analysis of REMA and identify HR and institutional capacity needs;		X				REMA

		Design & implement a comprehensive capacity development plan	X	X	X	X	X	REMA
Watersheds rehabilitated and water storage enhanced		Develop rehabilitation plans for critical catchments	X	X	X			RNRA
		Implement catchments rehabilitation plans	X	X	X			RNRA/MINAGRI/DISTRICTS
		Control and monitor water weeds						RNRA
		Control point-source pollution of all major water resources	X	X	X	X	X	RNRA/REMA
		Establish, communicate and enforce water quality Standards						RNRA/RBS
		Promote water storage in large and medium dams ;ponds and soil profile	X	X	X	X	X	MININFRA/MINAGRI/RNRA
		Promote the establishment of rainwater harvesting systems on Institutions and Households						RNRA/MININFRA
		Establish a flood early warning system	X					RNRA
		Put in place safety plans for Water ways and Water infrastructure		X				MINIRENA/MININFRA/MINAGRI
		Put in place a maintenance system to manage water infrastructure		X				RNRA/MININFRA/MINAGRI
		Put in place a maintenance system to manage water infrastructure	X	X				RNRA/MININFRA/MINAGRI
Equitable Water Allocation and Utilisation framework		Update Hydrological database and Water Resources Information System	X	X	X	X	X	RNRA
		Establish real time water monitoring system	X	X				RNRA
		Establish catchments water balance	X					RNRA
		Publish regularly Water quantity and quality status reports						RNRA
		Develop a Water Resources Development and Management Master Plan	X					RNRA
		Implement the Water Resources Master Plan	X	X	X	X	X	RNRA
		8. Put in place an incentive structure to Promote water use efficiency and conservation			X			RNRA
Effective governance for WRM and Capacity Developed		Decentralize water resources management functions at the most appropriate level	X	X	X	X	X	RNRA
		Put in place an inclusive and effective WRM inter-sectoral coordination and	X	X				MINIRENA/RNRA

		monitoring mechanism						
		Resource adequately the WRM Department	X	X	X			MIFOTRA/RNRA
		Enhance community capacity to develop, utilize and manage their water resources	X	X	X			RNRA
		Operationalize a Public – Private partnership arrangements for WRM		X	X			MINIRENA/MINICOM
		Involve Community and civil society in WRM activities	X	X	X	X	X	RNRA/MINALOC
		Operationalize the National Water Consultative Commission	X	X				MINIRENA/RNRA
		Put in place a Trans-boundary Water Cooperation framework	X	X				MINIRENA/RNRA
		Participate in the Nile, Congo, Kagera and Victoria Basin cooperation and management framework	X	X	X	X	X	MINIRENA/RNRA
		Plan and budget for continuous WRM skills improvement and institutional capacity development	X	X	X	X	X	MINEDUC/MINIRENA
		Document and share lessons and good practices from WRM Programme and related activities	X	X	X	X	X	RNRA

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