REPUBLIC OF BURUNDI

PORTFOLIO OF PRIORITY CLIMATE PROJECTS OF BURUNDI FOR COP 31











CONTEXT

Faced with the growing effects of climate change and their impact on economic sectors and people's living conditions, the Republic of Burundi is continuing its efforts towards resilient and sustainable development, in line with its national priorities and international commitments to combat climate change.

As part of this process, Burundi has submitted its third Nationally Determined Contribution (NDC 3.0) and is in the process of updating its initial National Adaptation Plan (NAP), thereby reaffirming its commitment to strengthening adaptation to climate change, reducing greenhouse gas emissions and integrating climate considerations into national development policies and strategies.

However, realising these ambitions requires significant investment, adequate financial resources and technical support to enable the identified priorities to be transformed into concrete and achievable projects. The needs relate in particular to the resilience of agricultural and pastoral systems, the sustainable management of water resources, the restoration of ecosystems, access to clean energy, and the development of sustainable infrastructure and transport systems.

It is with this in mind that the Government of Burundi is strengthening dialogue and cooperation with technical and financial partners, international institutions, investors and other development stakeholders.

The organisation of a high-level round table with technical and financial partners represents an important step in this process. It aims, in particular, to present national priorities, mobilise the necessary support and explore partnership opportunities to accelerate the implementation of climate investments.

To this end, this Portfolio of Priority Projects of the Republic of Burundi for COP31 brings together a selection of transformative initiatives in the fields of agriculture and rural resilience, infrastructure and sustainable mobility, water and sanitation, energy, and environmental conservation and biodiversity.

These projects reflect Burundi's commitment to making climate finance a genuine driver of economic and social transformation, whilst strengthening community resilience and the sustainability of public investment.

They also offer opportunities for collaboration and for mobilising appropriate funding through various financing mechanisms, risk-sharing arrangements and partnerships.

Through this portfolio, the Government of Burundi aims to present its partners with a coherent vision of its investment priorities and to foster the development of concrete partnerships with a view to their effective implementation.

1 PROJECT TO STRENGTHEN CLIMATE RESILIENCE AND SUSTAINABLE LIVELIHOODS IN RURAL COMMUNITIES IN BURUNDI







Lead Ministry: Ministry of the Environment, Agriculture and Livestock

Location

Republic of Burundi, with priority given to the provinces targeted by the project. For the initial phase, the project is planned to take place in particular in the provinces of Gitega (Kiganda and Gishubi) and Bujumbura (Rwibaga and Mugere), focusing on vulnerable hillsides.

Project status

The project is at the conceptual preparation stage, with an initial definition of the objectives, components, areas of intervention and indicative budget. Preliminary analyses have identified the main challenges relating to climate resilience, sustainable land management and the improvement of rural communities' livelihoods. Detailed technical, economic, environmental and social feasibility studies, as well as institutional validation and the mobilisation of funding, still need to be carried out or further developed.

Project duration: SIX years
Estimated total cost: 120 M USD

Sources of funding
The total projected cost of the project is estimated at **120 million US dollars (USD)**. The funding sought could cover the entire budget or be mobilised gradually from several technical and financial partners. It is sought in **the** form **of grants and/or concessional loans**, with priority given to grants in order to limit Burundi's debt burden.

Alignment with national policies and strategies
The project aligns with the priorities of Burundi's National Climate Change Strategy (CDN) regarding climate change adaptation, agricultural resilience and the sustainable management of natural resources. It contributes to landscape restoration strategies through the rehabilitation of degraded land, agroforestry, reforestation, the protection of catchment areas and the promotion of nature-based solutions, with a view to strengthening food security and the livelihoods of rural communities.

Alignment with regional and international instruments

Contribution to the SDGs, notably SDG 1 (poverty), SDG 2 (zero hunger), SDG 5 (gender equality), SDG 8 (decent work), SDG 13 (climate action) and SDG 15 (life on land). Also aligned with Burundi's commitments under the Paris Agreement, as well as with African regional frameworks and strategies relating to agriculture, climate resilience, food security and the sustainable management of natural resources.

Overall objective

To strengthen the climate resilience of rural communities, sustainably improve food and nutrition security, and promote inclusive and sustainable livelihoods.

Specific objectives

Pillar 1: Landscape resilience

- To restore degraded landscapes, land and ecosystems by promoting agroforestry, water and soil conservation, and nature-based solutions, in order to enhance biodiversity, water resource protection, carbon sequestration and climate resilience.

Pillar 2: Food security

- To improve the productivity and sustainability of agricultural systems by promoting agro-ecological practices adapted to local conditions, in order to strengthen food and nutritional security for vulnerable rural households.

Pillar 3: Sustainable Livelihoods and Local Governance

To diversify and strengthen the livelihoods of rural communities, particularly women and young people, whilst building institutional and community capacity in the areas of sustainable natural resource management, climate change adaptation and disaster risk reduction.

Situation prior to the project

Rural communities face land degradation, water erosion, loss of soil fertility and climate-related disturbances, which undermine agricultural production and food security. At regional level, studies estimate soil loss at around 217 tonnes/ha/year in the former province of Gitega and 182 tonnes/ha/year in the former province of Rural Bujumbura. However, the extent of degraded land, agricultural losses and the number of households directly affected remain to be determined. The project's intervention area, comprising the communes of Kiganda and Gishubi (Gitega province) as well as Rwibaga and Mugere (Bujumbura province), has a population of approximately 1,014,754 according to data from the 2024 census. The project's intervention area is exposed to the effects of climate change, characterised by rising temperatures, high variability in rainfall and episodes of heavy rain alternating with dry spells. These phenomena exacerbate soil erosion, watershed degradation, the risk of landslides and losses in agricultural production. Climate projections also indicate a risk of more frequent and intense rainfall. These trends justify the use of nature-based solutions, landscape restoration, soil and water conservation, agroforestry and the development of climate-resilient agricultural practices. A more detailed climate analysis will help to clarify the specific trends in the four targeted municipalities. (Source: World Bank: Burundi Historical Climate Data Portal).

Project rationale

The heavy reliance of rural populations on agriculture, combined with the effects of climate change and the degradation of natural resources, calls for structural investments. The project aims to promote resilient, inclusive and sustainable production systems through nature-based solutions, agroecology, agroforestry and soil and water conservation. It is expected to generate economic benefits through improved agricultural yields, reduced crop losses, lower production costs, income diversification and the creation of employment opportunities, particularly for women and young people, whilst strengthening food security and preserving ecosystems.

Post-project situation

At the end of the six-year implementation period, the beneficiary communities will have restored landscapes, more productive and resilient agricultural systems, and diversified livelihoods. The project will aim to restore **15,000 hectares of degraded land**, sustainably improve the incomes of **30,000 rural households** and support the creation of **5,000 jobs**, particularly for women and young people. Food and nutritional security will be strengthened and households' vulnerability to climate shocks reduced. These indicative targets will be confirmed during the feasibility study and the establishment of the baseline.

Main components and activities

Component 1: Institutional strengthening and capacity building: USD 16.8 million

This component aims to strengthen the capacity of national and local institutions to manage natural resources sustainably and to support sustainable agriculture.
Key activities:

- Strengthen the technical capacities of public institutions and local authorities.
- Developing climate information and early warning systems.
- Support participatory mechanisms for natural resource governance
- Generating and disseminating knowledge on nature-based solutions.
- Strengthening inter-institutional coordination.

Component 2: Ensuring food security through resilient landscapes: USD 66 million

This component aims to increase agricultural productivity in a sustainable manner whilst strengthening the resilience of food production systems to climate change. Key activities:

- Promoting climate-smart agriculture, in particular through the introduction of climate-resilient seed varieties and the development of small-scale irrigation and rainwater harvesting systems.

Disseminating agroecological and soil conservation practices.
Strengthening agricultural extension services.
Support household nutrition and dietary diversification.
Implementing nature-based solutions to enhance landscape resilience, notably through the restoration of degraded land and agricultural landscapes, afforestation and the enrichment of community forests with suitable species, and the promotion of agroforestry and agro-sylvo-pastoral systems.
Protect and restore catchment areas and riparian zones
Establishment of green infrastructure to combat erosion and landslides
Preserving biodiversity and protecting natural habitats.

Component 3: Development of sustainable livelihoods and inclusion: USD 25.2 million

This component aims to improve the incomes of rural households and create sustainable economic opportunities, particularly for women and young people.
Key activities:

Supporting the development of resilient agricultural value chains.
Supporting cooperatives and producer organisations.
Promoting green entrepreneurship and green jobs, notably through beekeeping, productive agroforestry and non-timber forest products.
Facilitating access to markets and financial services.
Strengthening the economic empowerment of women and young people.

Component 4: Project management: USD 12 million

This component will support the effective implementation of the project and the monitoring of results. Main activities

Project coordination and operational management.
Financial management and procurement.
Implementation of the monitoring and evaluation system.
Technical and financial audits.
Management of environmental and social safeguards.
Capitalisation on and dissemination of good practices.

Expected results

Expected results	Proposed indicators for the duration of the project
1. Strengthening of climate resilience	70 per cent of beneficiary households adopt at least two climate resilience practices.
2. Improvement of agricultural productivity	An increase of at least 5 per cent in yields of priority crops, compared with the baseline.
3. Discount of land degradation	15,000 ha benefiting from soil and water conservation or restoration measures.
4. Restoration of landscapes and catchment areas	50,000 ha placed under sustainable management and 2.5 million agroforestry and forestry seedlings produced and planted.
5. Improvement of food security	An increase of at least 10 per cent in food availability for beneficiary households.
6. Diversification of income	An increase of at least 25 per cent in the real average income of beneficiary households.
7. Economic inclusion of women and young people	At least 5,000 women and young people supported in entrepreneurship and income-generating activities.
8. Capacity of	At At 5 ,000 producers, technical officers and community community trained.

Key performance indicators

Infrastructure

Number of water and soil conservation structures completed; number of storage and processing facilities built; infrastructure operational rate; proportion of structures with an operational maintenance mechanism.

Agricultural production

Number of beneficiary producers; areas developed and restored; changes in yields of priority crops; hectares under climate-smart agriculture and agroforestry; adoption rate of resilient agricultural practices; proportion of farms using varieties or practices adapted to climate-related hazards.

Socio-economic

Number of beneficiary households; number of women and young people supported; number of jobs created or secured; number of farmer-led groups (AGRs) established and still active; change in real average household income; diversification of income sources.

Resilience and vulnerability reduction

Percentage of households adopting at least two climate resilience measures; change in crop losses linked to climate hazards; percentage of households using climate information and early warnings; change in households' ability to

maintain or restore their production following a climate shock; changes in the proportion of households experiencing food insecurity.

Management and sustainability

Physical and financial implementation rates; number of institutional and community structures strengthened; number of beneficiaries trained; proportion of infrastructure with a functional maintenance mechanism; survival rate of seedlings after planting.

Environmental

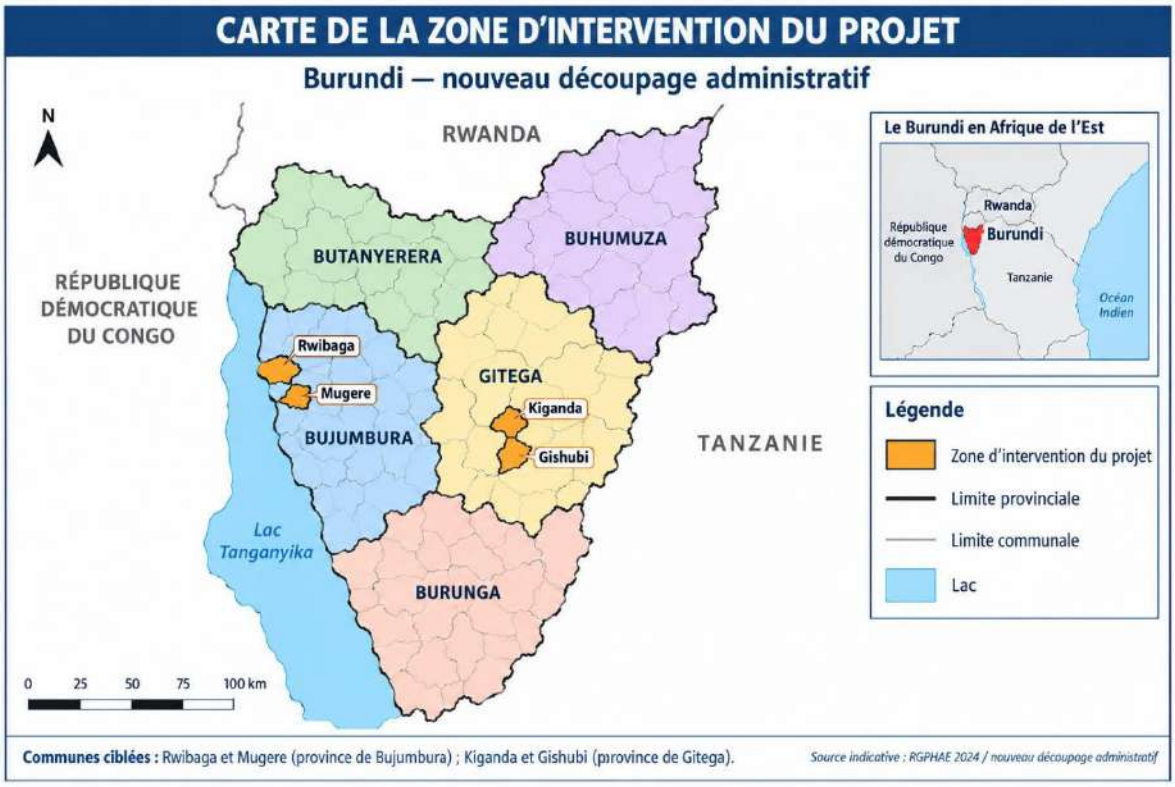
Hectares of land restored; hectares protected against erosion; hectares under sustainable management; hectares under agroforestry; number of sites benefiting from nature-based solutions; area of restored catchment basins; changes in signs of erosion and land degradation.

Project maturity

The main design elements of the project have been defined, including the problem statement, objectives, components, priority activities, area of intervention, beneficiaries, a six-year implementation period and a projected budget of USD 120 million. The project is aligned with Burundi's national priorities regarding climate resilience, food security, sustainable agriculture and natural resource management, as well as with the commitments under the Paris Agreement and the Nationally Determined Contribution (NDC).

The project therefore has a structured conceptual framework, but still requires in-depth technical and economic feasibility studies, a baseline assessment, consultations with beneficiaries and stakeholders, and the consolidation of environmental and social assessments. The next step will be to mobilise technical and financial support to finalise the preparation, specify the investment costs and draw up the complete funding proposal.

MAP OF THE PROJECT AREA



The selection of the communes of Kiganda and Gishubi (Gitega Province), as well as Rwibaga and Mugere (Bujumbura Province), is based on the following criteria:

- Climate vulnerability: exposure to droughts, floods and landslides.
- Land degradation: presence of degraded catchment areas, erosion and loss of soil fertility.
- Food insecurity: vulnerability of rural households dependent on rain-fed agriculture.
- Agricultural potential: opportunities for improving production (irrigation and crop diversification), etc.
- Ecological restoration potential: opportunities to implement nature-based solutions (reforestation, agroforestry, etc.).
- Socio-economic impact: the project's capacity to improve the incomes and livelihoods of women, young people and smallholder farmers.
- Operational feasibility: accessibility of sites, community engagement and complementarity with interventions by public authorities and partners.

2 PROJECT OF INTEGRATED RESTORATION TO STRENGTH THE RESILIENCE OF THE URBAN AND PERI-URBAN COMMUNITIES OF THE MUGERE RIVER WATERSHERD







Responsible Ministry: Ministry of the Environment, Agriculture and Livestock

Location: Burunga and Bujumbura Provinces; Municipalities: Matana (Kivumu Hill) Mugere (7 hills: Bugongo, Buhanda, Masenga, Nyankere, Nyarwedeka, Rukingiro and Ruvyagira in the Buhanda zone; and 8 hills: Bubânza, Burima, Kayengwe, Gakara, Gomvyi, Murambi, Ntobo and Rubanda in the Gomvyi zone), Rwibaga (Mayiyu hill).

Project status

The integrated restoration project to strengthen the resilience of urban and peri-urban communities in the Mugere River catchment is at an advanced stage of technical preparation, with riverbank restoration and protection measures already underway by certain local public bodies.

The catchment area, covering an estimated 144.02 km², has been the subject of academic studies and diagnostic work focusing in particular on water erosion, sediment transport, river dynamics and risks affecting infrastructure. Measures to stabilise the riverbanks, notably through the use of gabions, as well as bamboo and tree planting activities, have also been reported along the River Mugere and adjacent watercourses. These initiatives will need to be documented and distinguished from the activities that will be specifically funded by this project.

Project preparation also relies on the involvement of the municipalities concerned, notably Mugere, Rwibaga and Mutambu, as well as on community-led initiatives for soil conservation and the protection of natural resources. Certain emergency measures have received specific funding, the amounts and corresponding activities of which have yet to be specified.

Despite this progress, several steps remain necessary to ensure the project is fully prepared, notably the consolidation of detailed technical studies, the confirmation of the mapping of priority areas, the completion or validation of the environmental and social assessment, the definition of outcomes and performance indicators, and the mobilisation of the financial resources required to implement the five-year programme, estimated at 117 million US dollars.

The project is therefore currently in a phase of technical, institutional and financial preparation and consolidation, whilst building on restoration initiatives already underway in the catchment area. Its transition to large-scale, integrated implementation will depend on the validation of the required studies, the coordination of existing interventions and the mobilisation of additional funding.

> The hills of Kivumu, Bugongo, Buhanda, Masenga, Nyankere, Nyarwedeka, Rukingiro and Ruvyagira, Bubânza, Burima, Kayengwe, Gakara, Gomvyi, Murambi, Ntobo; Rubanda, Ruziba Zone, Mubone, Gakungwe; Rwibaga and Mayuyu Hill). The neighbourhoods of Gitaramuka, Kazimuha and Gakungwe constitute the project's target area.

In terms of the technical interventions required, these involve the preparation of integrated measures to combat erosion, stabilise river banks, restore vegetation cover and protect land, infrastructure and communities.

Project duration: Seven years

Total estimated cost: 117,000,000 US dollars

Sources of funding: To be mobilised

Alignment with national policies and strategies

Vision 2040–2060, Pillar 4: Ecology and Sustainable Heritage,
Revised National Development Plan (PND) 2023–2027, Axis 3: Environment and Cultural and Natural Heritage
National Contribution (NDC), Water Resources sector, Natural Resources / Ecosystems / Forests / Mines sector: rehabilitation of degraded areas on the western escarpment of Mumirwa and improvement of living conditions for local communities

Alignment with regional and international instruments

Agenda 2063, Aspiration 1 – Objective 7: Ecologically sustainable and climate-resilient economies and communities

SDG 6.5: By 2030, ensure integrated water resources management at all levels, including through transboundary cooperation as appropriate
Sendai Framework 2015–2030:
EAC Regional Water Policy

Sector
Water Resources and Environment

Overall objective
"To strengthen the resilience of strategic infrastructure in the catchment area, in particular the Mugere hydroelectric dam, riverbanks, bridges and settlements exposed to climate-related risks"

Specific objectives

To reduce the risks of erosion, flooding, riverbank scouring and landslides;
Strengthen local capacity for catchment management;
Improve agricultural productivity and household incomes
These objectives constitute initial planning assumptions and will need to be validated during the detailed technical preparation phase. Achieving them will help to reduce erosion and sediment inflows into the hydroelectric reservoir, limit future infrastructure repair and maintenance costs, and preserve agricultural productivity and the livelihoods of the beneficiary populations.

Pre-project situation

The Mugere River catchment area is experiencing significant soil erosion, which contributes to sediment transport into the watercourse and the silting up of the hydroelectric reservoir. According to Célestin Nkunzimana's thesis, completed in 2023 at the University of Burundi, soil loss in the catchment is estimated at approximately 1.44 million tonnes per year, based on the RUSLE model and a geographical information system analysis. The area requiring restoration is estimated at approximately 14,440.224 ha out of a total of 144,02.24 hectares of degraded land (i.e. 10 per cent of the total area), the number of households at risk is estimated at 22,424 out of a total of 112,120 households (i.e. one-fifth of all households), which corresponds to a population of 10,908 people if we apply the average of 4.5 people per household defined in the General Population and Housing Census, agriculture and livestock farming in 2024. This degradation poses a threat to agricultural productivity, the livelihoods of households living along the riverbanks, the stability of the riverbanks and the sustainability of strategic infrastructure. The National Report on Vulnerability and Adaptation to Climate Change, published in 2009 by the Burundian authorities with the support of the UNDP, also documents disruptions to the operation of the Mugere hydroelectric power station and damage to access infrastructure following intense rainfall events.
Potential economic losses include, in particular, reduced agricultural yields, land degradation, additional costs for dredging and maintenance, infrastructure repairs and possible losses in hydroelectric power generation. However, the exact number of households affected and the monetary value of the damage in the intervention area have not yet been established by consolidated data. A socio-economic baseline study, supplemented by a technical and economic assessment carried out in collaboration with REGIDESO and the relevant authorities, will be required to quantify these losses and establish the expected economic benefits of the restoration measures.
The project will thus help to reduce the costs associated with land degradation, improve the resilience of urban and peri-urban communities, and strengthen the sustainable protection of water resources and hydroelectric infrastructure in the catchment area in question.

Thus, prior to the project, the Mugere River catchment was characterised mainly by:

- degradation of vegetation cover and land;
- deterioration of the Mugere hydroelectric dam's infrastructure;
- significant soil and riverbank erosion;
- increased runoff and flood risk;
- silting and deterioration in the quality of the watercourse;
- increasing pressure from urbanisation and human activities;
- significant vulnerability of urban and peri-urban communities;
- the population's limited capacity to cope with environmental and climate-related risks;
- insufficient coordination of catchment management interventions.

Project rationale

The implementation of an integrated restoration project for the Mugere River catchment is justified by the need to address, in a sustainable manner, the environmental and socio-economic problems affecting urban and peri-urban populations.

From an environmental perspective, the project will restore degraded areas, reduce erosion and runoff, protect riverbanks and improve the quality of water resources. The restoration of vegetation cover will also help to enhance biodiversity and the ecological functions of the catchment area. The interventions will focus on the restoration of vegetation cover, agroforestry, the conservation of agricultural soils, the stabilisation of slopes and riverbanks, as well as the control of surface runoff, the improvement of groundwater recharge and the quality of water resources.
From a social perspective, the project aims to reduce communities' vulnerability to flooding, land degradation and other environmental risks. Involving local people in restoration activities will foster their ownership of the initiatives and strengthen their capacity to manage natural resources sustainably.

Economically, the restoration of the catchment area should be viewed not only as an environmental intervention but also as a preventative investment designed to protect infrastructure, secure livelihoods and reduce future costs borne by households, local authorities and public services.

The implementation of **the Mugere River Integrated Watershed Restoration Project** – a five-year initiative with an estimated cost of US$21 million to be raised – is justified by the need to sustainably reduce land degradation, climate-related risks and the resulting economic losses for communities, strategic infrastructure and productive activities located within the watershed. At national level, soil degradation results in losses estimated at 120 million dollars per year (3.9 per cent of GDP). Protecting the catchment area against erosion and controlling siltation, particularly around the Mugere hydroelectric power station (8 MW) and the adjacent agricultural plains of Imbo, generates massive avoided costs for the Burundian economy and major productivity gains. The impact of the protective measures centres on the avoided costs associated with the silting up of the Mugere dam (avoidance of dredging and clearing costs, avoidance of loss of storage capacity and destruction of the structure, and avoidance of REGIDESO having to resort to more polluting backup thermal power), costs avoided in terms of the safety of the dam, infrastructure and homes located downstream) and offers direct benefits for agricultural productivity, helping to maintain a yield of 5.5 tonnes of paddy rice per year; 4 tonnes per year for maize and 40 tonnes of maioc per year in the Imbo region, which is the catchment area of the Mugere River; enables the preservation of soil nutrients …)

Post-project situation

Following the implementation of the project, the Mugere River catchment will be progressively restored and better managed through reduced erosion, the restoration of vegetation cover, the protection of riverbanks and improved stormwater management. Urban

urban and peri-urban communities will be more closely involved in the sustainable management of natural resources and will have greater capacity to prevent and manage environmental and climate risks. The project will thus contribute to improving people's living conditions, preserving ecosystems and sustainably strengthening the environmental, social and economic resilience of the catchment area

Over a seven-year period, the Mugere River Integrated Watershed Restoration Project aims, on a provisional basis, to restore approximately 14,440.224 ha out of a total of 14,402.24 hectares of degraded land (representing 10 per cent of the total area), directly support 112,120 households and benefit a population of 507,542 people (RGPH, 20024). It also aims to contribute to the protection of 15 to 25 sites or structures at risk of erosion, flooding, landslides and hydrological degradation, of which the Mugere hydroelectric complex is a strategic priority infrastructure.

Project components:

1. **Ecosystem restoration and sustainable land management**
2. **Strengthening the resilience of communities' livelihoods**
3. **Integrated water resources management**
4. **Project governance and monitoring and evaluation**

Component 1. Ecosystem restoration and sustainable land management

Sub-component 1.1. Restoration of degraded landscapes and soils

- Conduct a technical feasibility study;
- Carry out an environmental and social impact assessment;
- Map areas at risk;
- Establish water resource management committees;
- Reforestation and regeneration;
- Install erosion control measures;
- Manage rainwater sustainably;
- Protect the catchment's water sources;
- Plant agroforestry, fruit and forest trees;
- Develop sustainable agricultural practices;

Sub-component 1.2. Sustainable agricultural practices ()

- agroforestry, climate-smart agriculture.

<u>Component 2</u>. Strengthening capacity and the resilience of livelihoods

- Establish income-generating activities;
- Establish early warning systems and community-based disaster response plans;

- Strengthen capacity in financial education regarding the project's benefits;
- Securing land tenure
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<u>Component 3</u>. Integrated water resources management

- Runoff water collection;
- Protection of water sources.
- Rehabilitate the banks and buffer zones of the Mugere River
- Stabilising the river banks and riverbed;
- Develop/rectify gullies and ravines;
- Demarcate and protect buffer zones and wetlands;
- Combat encroachment upon and degradation of protected areas;
- Establish a settling basin at the river mouth;

<u>Component 4.</u> Governance and project monitoring and evaluation

- Establish the project management unit.
- Recruit support staff; Coordinate and implement the project.

Indicators

Indicators relating to Component 1:

- Approved technical feasibility study report;
- Approved environmental and social impact assessment report for the project;
- Number of structured water resource management committees;
- Number of rainwater harvesting systems installed and operational
- Area of the catchment developed (ha);
- Number of protected water sources;
- Level of community participation in project activities;
- Length of river banks and stabilised riverbed;
- Number of agroforestry, fruit and forest trees planted;
- Number of gullies and ravines rehabilitated or rectified;
- Occupation and degradation of protected areas combated;
- Area of buffer zones and wetlands demarcated and protected;
- Sustainable agricultural practices developed;
- A sedimentation basin constructed and in operation;

Indicators relating to Component 2:

- Number of income-generating activities created;
- Rate of adoption of resilient practices (as a % of households or producers)
- Number of people trained and now working in the sector;
- Average number of distinct sources of income per household to reduce dependence on a single sector
- Percentage of beneficiaries with access to formal credit from savings groups
- Coverage rate of the catchment area's population reached by early warning messages followed by pre-emptive actions;
- Number of land titles issued

Indicators relating to Component 3:

- Runoff water collection;
- Protection of water sources.
- Rehabilitation of the banks and buffer zones of the Mugere River
- Stabilising the river banks and riverbed;
- Develop/rectify gullies and ravines;
- Demarcate and protect buffer zones and wetlands;
- Combat encroachment upon and degradation of protected areas;
- Establish a settling basin at the river mouth;

Indicators relating to Component 4:

- Project management unit established;
- Support staff in place
- Project implemented.

Outcomes

Outcomes relating to Component 1:

- Technical feasibility study report validated;
- The environmental and social impact assessment report for the project has been approved;
- Water resource management committees have been established;
- Rainwater harvesting systems have been installed and are operational;
- 14,402 ha of the catchment area have been developed;
- Water sources have been protected;
- At least 50 per cent of participants in project activities were women;
- 47 km of riverbanks and 23.5 km of the Mugere riverbed have been stabilised;
- 57,608 agroforestry, fruit and forest tree seedlings have been planted;
- Gullies and ravines have been managed/remedied;
- Encroachment upon and degradation of protected areas are being tackled;
- 1,175 $km^2$of buffer zones and wetlands have been demarcated and protected;
- Sustainable agricultural practices have been developed;
- A settling tank has been constructed and is operational

Results relating to Component 2:

- Income-generating activities have been established;
- 100 per cent of the catchment's population are reached by early warning messages followed by pre-emptive actions;
- Capacities regarding financial education on the project's benefits are strengthened;
- Climate-resilient agriculture has been developed in the catchment area;

Results relating to Component 3:

- A project management unit has been set up;
- The project is being implemented.

Project maturity
The maturity status of this project, structured according to key performance indicators:

1. Technical and Scientific Maturity: High

- **Finalised baseline studies available**: The catchment area (covering a specific area of 144.02 km²) has been subject to comprehensive hydrological modelling. The impacts of the developments on flow rates and the transport of solids (sediments) downstream have been scientifically assessed.
- **Vulnerability assessments**: Critical areas prone to bank collapse (notably around the hydroelectric dam, downstream and upstream of the Mugere bridge, etc.) as well as the impact of uncontrolled urbanisation within the 25-metre buffer zone have been precisely mapped.

2. Operational Maturity (Achievements): Currently being consolidated

The project is no longer just an idea on paper; it has entered its active, phased implementation phase:

- **Civil engineering and stabilisation**: OBUHA regularly carries out gabion works and major bank rehabilitation projects to halt the creeping river erosion threatening the surrounding infrastructure.
- **Vegetation engineering**: More than 62,667 **bamboo** saplings **and** 71,429 **trees** have been planted on the banks of the Mugere and adjacent rivers by municipal services to biologically stabilise the soil.

3. Institutional Maturity and Community Engagement: Moderate

- **Local mobilisation**: The development projects rely heavily on Community Development Works (CDW) and initiatives from the municipalities of Mugere, Rwibaga and Mutambu;
- **Barriers (Maturity Challenges)**: Although the technical structures are mature, the project faces challenges relating to sustainable land use management. The continued dumping of household waste and failure to respect riverbank protection zones are undermining the long-term viability of the developments.
- **Pollution management**: Actively championed by the Mugere local authorities, this requires a stronger regulatory framework to combat pollution.

4. Financial maturity:
Funding has been secured for emergency measures (Belgian funding, a project that forms part of the national vision for catchment area management

The project is clearly justified: erosion, surface runoff, gullies, siltation and flooding are affecting the catchment and the low-lying areas of Bujumbura. It is in line with national and international climate change strategies, notably the Nationally Determined Contribution (NDC) and priority areas. However, given the current status of the project, full maturity still requires detailed technical studies, mapping of risk areas, an environmental and social assessment, and the mobilisation of the funding

required for its implementation will enable the project to reach an advanced stage of maturity and prepare for the commencement of works.

Several major **academic studies and technical impact reports** have been carried out specifically on the Mugere River catchment, notably on: (*i)* Contribution to sediment control through a retention system: the case of the Mugere Dam catchment,(ii) *Map of the study area from the mouth of the Mugere River to the mouth of the Kanyosha River, (iii)* Study on vulnerability to and adaptation to climate change in Burundi

(iv)Assessment of the impacts of development in the Muha River catchment on the hydrological response and verification of the hydraulic conveyance capacity of crossing structures, (vi) Contribution of the sedimentological study to understanding the current dynamics of watercourses flowing through the city of Bujumbura: the case of the Muha River,(vii) Study of gravitational movements and water-induced erosion and their environmental consequences around and within the city of Bujumbura: the case of the Muha River catchment, (viii) Study of diatom flora in relation to habitat heterogeneity and the electrical conductivity of the waters of the Muha River in Bujumbura

- **Technical and scientific maturity:** level of availability and validation of studies, accuracy of assessments, existence of hydrological models and quality of reference data.
- **Operational maturity:** progress of construction sites, nature of the work carried out, number of plants planted and status of implementation of interventions.
- **Institutional and community maturity:** capacity of local authorities, coordination of stakeholders, functioning of management structures and level of community ownership.
- **Financial maturity:** funding already secured, contributions from partners, remaining financial requirements and prospects for mobilising resources.

Constraints and prerequisites: gaps in studies, difficulties in managing protection zones, pollution and measures required to ensure the sustainability of developments.

3 PROJECT TO BOOST SUSTAINABLE MOBILITY THROUGH THE DEVELOPMENT OF ELECTRIC, LOW-CARBON AND INCLUSIVE TRANSPORT INFRASTRUCTURE AND SERVICES IN BURUNDI







Lead Ministry: Ministry of Infrastructure, Social Housing, Transport and Public Works.

Location: National

Project status: The project is at the concept stage

Project duration: 3 years

Total estimated cost: USD 35,767,440 **Funding sources:** Climate funds **Alignment with national policies and strategy:**

- Vision 2040–2060: Pillar 4, Ecology and Sustainable Heritage
- Objective: To protect the environment and strengthen resilience to climate change
- National Development Plan (NDP) 2018–2027: Axis 3: Environment and Cultural and Natural Heritage, aimed at protecting the environment and heritage
- Strategic objective: To protect the environment and heritage

Alignment with regional and international instruments

- SDG 13: Climate Action
- The United Nations Framework Convention on Climate Change (UNFCCC)
- Paris Agreement: The project contributes directly to the objectives of this agreement, which aims to **limit global warming** by reducing greenhouse gas (GHG) emissions from the vehicle fleet.
- AGENDA 2063: Economies and communities are environmentally sustainable and climate-resilient

Sector
Transport and transport infrastructure

Overall objective

To develop a national electric mobility system through the roll-out of electric vehicle fleets, charging infrastructure and local technical capacity in order to reduce emissions from the transport sector.

Specific objectives

- To reduce GHG emissions and fine particulate matter from internal combustion engine vehicles;
- Strengthen the technical and operational capacities of transport sector operators in the field of electric mobility;
- Ensure the safety of the transport system, promote inclusion and facilitate access to basic services for vulnerable groups.
-

Deploy fast-charging points (≥ 50 kW) along priority routes on the road network

Pre-project situation

Electric mobility in Burundi remains in its infancy but offers considerable potential for future development and expansion.

Although there is strong political will, as the government has clearly steered the country towards electric mobility through Vision 2040–2060, the CDN 3.0 and the 2026–2027 Budget Act—which introduced a favourable tax regime (exemption from duties, taxes and VAT) on the import of 100 per cent electric vehicles, hybrid vehicles and their spare parts, in order to offset the high purchase costs, the transition to the widespread use of electric vehicles for transport, supported by adequate infrastructure, remains a project in need of funding in Burundi.
The reality is that transport remains largely dependent on older internal combustion engine vehicles, characterised by high fuel consumption, significant maintenance costs and high levels of air pollution. A few electric vehicles (light cars, motorbikes) are certainly already on the road thanks to private initiatives such as Skyline, but the introduction of commercial vehicles such as high-capacity electric buses and lorries widely used for goods transport is still at the planning stage.

As a result, the proportion of electric vehicles in Burundi remains extremely small, accounting for less than 0.5 per cent of the vehicle fleet, whilst internal combustion engine vehicles (petrol and diesel) make up the vast majority – over 99.5 per cent – of the market.

Furthermore, there is still a significant need for charging infrastructure. To date, the country has only one 100 per cent solar-powered charging station, located in Bujumbura, which is a major obstacle to the roll-out of electric vehicles across the country.

The sector also suffers from a severe shortage of trained specialists and garages equipped to repair and maintain electric vehicles. Building local skills has been identified as a critical requirement for ensuring the sustainability of the brand-new electric vehicle fleet.

In terms of inclusion and gender issues, good intentions in this regard are often expressed in official statements and project proposals, but are still rarely translated into action. The accessibility of infrastructure (charging points, depots, buses) for people

with reduced mobility, as well as the active participation of women in technical transport roles, are areas where concrete action has yet to be taken in Burundi.

The few initiatives already underway in this area in Burundi have not yet produced significant results across the public transport sector as a whole. Nevertheless, they provide a solid foundation on which the Sustainable Mobility Project can build to accelerate the transition towards a transport system with lower greenhouse gas emissions.

With financial support from the Global Environment Facility (GEF), Burundi has already launched two major initiatives in this area.
The first is the **Project to Support the Transition to Electric Mobility**, which has helped to establish a political, legal and regulatory environment conducive to the development and roll-out of electric mobility in the country.
The second initiative, which is due to begin implementation shortly, involves an investment **of** approximately **4 million US dollars**, also funded by the GEF and formed part of the Soleil Nyakiriza Project portfolio. It aims, in particular, to support the roll-out of charging infrastructure and electric buses in the city of Bujumbura, with a view to facilitating the gradual introduction of clean public transport solutions.
The Sustainable Mobility Project intends to build on these achievements by ensuring complementarity with existing interventions, whilst promoting their scaling up to produce more significant impacts across the entire transport system. In particular, it will help to strengthen financing mechanisms by reinvesting revenue generated from service charges into the growth of the electric fleet, stimulate private-sector participation and facilitate the adoption of electric vehicles by transport operators, with a view to accelerating the sustainable transformation of the sector in Burundi.

In summary, Burundi is at a stage where the legal framework is in place, but operational roll-out – particularly for public transport – still requires significant investment in infrastructure, equipment and technical maintenance services.

Project rationale

Four strategic pillars aligned with Burundi's national priorities provide the rationale for the project.

1. Mitigation of environmental and health impacts:
   The urban transport sector is identified as a major contributor to greenhouse gas (GHG) emissions in Burundi. To help reduce CO_2 emissions and other fine particulate matter from transport, the large-scale adoption of electric vehicles is one of the best solutions, which also meets the objectives of the CDN 3.0 and Vision 2040–2060. The expansion of electric mobility contributes to public health by improving air quality, thereby reducing respiratory diseases, which is consistent with public health objectives.

2. Economic modernisation and energy efficiency: the current reliance on imported internal combustion engine vehicles and fossil fuels poses a challenge to the national economy. Replacing obsolete vehicles with an electric fleet enables the technological modernisation of the transport system; and this structural change fosters the development of new maintenance services and the management of charging infrastructure, thereby creating local jobs and stimulating the private sector. By adopting a gender-sensitive approach, the project will promote social cohesion as it will bring about a lasting improvement in connectivity between communities, thereby supporting social harmony – a crucial pillar for peace and stability in Burundi.

3. Finally, this project forms part of a phased mitigation strategy in response to the current situation, with Burundi now incorporating electric mobility into its strategies to combat climate change. This project enables these political commitments to be translated into concrete actions at national level. It is not merely a technological initiative, but also a vehicle for human development that combines environmental conservation, the economic empowerment of young people and women, and the strengthening of social cohesion.

Post-project situation

Following the implementation of a fully operational electric transport system in Burundi, the project will lead to the operational modernisation of this sector.

Indeed, a fleet of 86 electric buses will be in service, supported by 42 eco-friendly charging stations distributed across various towns and cities in the country, as well as suitable maintenance workshops. Technical staff, drivers and managers will be trained in the operation and maintenance of these technologies.

Furthermore, this environmental and climate performance will transform the current situation of dependence on fossil fuels, and greenhouse gas (GHG) emissions will be significantly reduced, contributing directly to Burundi's climate commitments (NDC 3.0). Air quality will improve, helping to reduce respiratory illnesses.

By taking gender issues into account, the project will generate socio-economic impact and promote the inclusion of the most marginalised groups, particularly as safe and inclusive mobility will be guaranteed and will facilitate access for vulnerable populations — notably women, young people and those in remote areas — to essential services, including health and education.

The project will also strengthen social cohesion, as improved inter-community connectivity supports social harmony and stability, making transport a driver of overall human development.

A new national economic dynamic will also be created, as the widespread adoption and use of electric vehicles and transport at national level will

generate new maintenance and management services, stimulating local employment and the development of the private sector linked to charging infrastructure.

Main Components and Activities of the Project

Component I: Capacity-building for stakeholders in the electric mobility sector in Burundi: USD 1,200,000

Activities:

1. Organise, raise awareness amongst and structure transport operators with a view to creating consortia of transport operators by route for the city of Bujumbura and by province for the rest of the country, as beneficiaries of the Electric Mobility Project:

The transition to electric mobility in Burundi must rely on the stakeholders who already provide transport for people and goods, so that they can participate directly in the sector's transformation and reap the economic benefits. It is therefore essential to ensure that the introduction of electric vehicles does not result in the exclusion or marginalisation of traditional transport operators in favour of new operators

To this end, the Project to Scale Up Sustainable Mobility through the Development of Infrastructure and Electric, Low-Carbon and Inclusive Transport Services in Burundi plans to organise, raise awareness amongst and structure existing transport operators with a view to forming consortia by transport corridor in the city of Bujumbura (southern and northern corridors) and by province in the interior of the country.

The transport consortia formed will be the beneficiaries of electric mobility equipment, notably electric buses, which they will operate under public-private partnerships (PPPs) entered into with the Government of Burundi. Under this scheme, the Government will play a strategic role in supervising and supporting the sector's development, ensuring in particular that a portion of the revenue generated by the operation of electric buses – as agreed between the parties – is reinvested in the acquisition of new vehicles and the gradual expansion of the electric public transport fleet. This reinvestment mechanism will ensure the gradual growth of the electric bus fleet, strengthen the economic viability of the model and promote the long-term sustainability of investments in electric mobility in Burundi.

- Raise awareness of electric mobility amongst stakeholders in the transport sector;

- Build inclusive technical capacity in the fields of electrical maintenance, battery management, charging point maintenance, recycling and safety:

As electric mobility is still a new field in Burundi, relying on equipment based on innovative technologies that differ from those of conventional internal combustion engine vehicles, the inclusive development of technical capacity is an essential condition for the success and sustainability of the project. It will help to develop national expertise in vehicle maintenance

electric vehicles, battery life-cycle management, the maintenance of charging points, recycling and safety issues relating to these new technologies. This approach aims to ensure the efficient and safe operation of the equipment, reduce dependence on foreign expertise, keep maintenance costs under control and extend the lifespan of investments. It will also promote the creation of green jobs and entrepreneurial opportunities, particularly for young people and women, whilst ensuring the environmentally responsible management of end-of-life batteries and supporting the gradual development of a national ecosystem of skills and services tailored to the expansion of electric mobility in Burundi

Component II:

Deployment of the electric vehicle fleet and establishment of the infrastructure and equipment required for its operation: 32,114,000

Activities:

1. Install 42 eco-friendly charging stations: 4,410,000 US dollars

2. Procure 86 electric public transport buses: 22,704,000 US dollars

The project involves the deployment of 86 electric buses supported by 42 eco-friendly charging stations in the city of Bujumbura and across the country, with a view to improving public transport provision, facilitating people's mobility and reducing greenhouse gas emissions from the transport sector. The fleet will be distributed across eight urban routes in the city of Bujumbura, with five buses per route (40 buses), and the main inter-city routes: Bujumbura–Gitega–Karusi–Muyinga (10 buses), Bujumbura–Kayanza–Ngozi–Kirundo (8 buses), Bujumbura–Rumonge–Bururi–Makamba (8 buses), Bujumbura–Rutana (5 buses), Bujumbura–Cibitoke (5 buses), Bujumbura–Jenda–Mwaro (5 buses) and Bujumbura–Bubanza (5 buses). This allocation aims to strengthen transport links to the main urban and provincial centres, improve the quality and reliability of public transport services, and promote sustainable, modern and accessible mobility in Burundi.

3. Equipping the RUSI technical training centre: US$5,000,000

Equipping the CEFORE-RUSI with electric mobility resources aims to strengthen practical training capacities and develop professional skills tailored to the emerging needs of the sustainable mobility sector in Burundi. Given that this technology is still new to the country, this initiative will prepare young people for careers in driving, maintaining and repairing electric vehicles, as well as in charging technologies and battery management. It will contribute to labour market integration, job creation, technology transfer and the reduction of greenhouse gas emissions, whilst establishing RUSI as a centre of excellence and a national hub for the promotion, training and development of electric mobility in Burundi.

Component III: Governance, Monitoring and Evaluation (US$2,**453,440):**

Activities

1 Establish a PPP contract between the State and transport operator consortia:

Transport operators will be organised into consortia which will receive, in the form of a public grant, electric buses procured by the Government of Burundi as part of this Project to Scale Up Sustainable Electric Mobility. They will operate these vehicles under public-private partnerships (PPPs) entered into with the Government. The Government will provide oversight and strategic guidance for the sector, whilst ensuring that a proportion of the operating revenue – to be determined by mutual agreement between the parties – is reinvested in the purchase of new electric buses and the gradual expansion of the public transport fleet. This reinvestment mechanism will help to ensure the sustainable growth of the vehicle fleet, strengthen the economic viability of the model and secure long-term investment in electric mobility in Burundi.

2 Establish a project monitoring and evaluation system (steering committee, procedures manual);

3 Carry out a regular inventory of greenhouse gas emissions avoided;

Expected results

The expected outcomes of electric mobility in Burundi are:

- To reduce air pollution, particularly in cities such as Bujumbura;
- To reduce CO_2 emissions and contribute to the fight against climate change: 11,045.39 tonnes CO_2 equivalent will be avoided annually;
- To reduce the consumption and import of petrol and diesel;
- To create green jobs: specialist mechanics, charging station operators, sales staff and assemblers;
- Train young people, women and technicians in the maintenance of electric vehicles;
- An increased number of people will have access to sustainable, accessible and environmentally friendly electric transport services: 6,394,800 people will benefit from electric public transport services in the first year, a figure that will rise as the electric fleet expands with the project's growth.

In summary, this project aims to provide Burundi with cleaner, cheaper, modern and more environmentally friendly transport.

4 PROJECT FOR SUSTAINABLE ACCESS TO DRINKING WATER, IMPROVED SANITATION AND CLIMATE CHANGE RESILIENCE IN THE NORTH OF THE CITY OF BUJUMBURA







Responsible Ministry: Ministry of Mineral Resources, Energy, Industry, Trade and Tourism / REGIDESO.

Location: Bujumbura **Province**, Ntahangwa and Mpanda municipalities

Project status: Awaiting funding

Project duration: 60 months / 5 years

Total estimated cost: 138.95 million USD

Sources of funding: To be secured

Alignment with national policies and strategies

In line with Burundi's 'Emerging Country 2040, Developed Country 2060' vision, addressing
1. Pillar 3: Social Pillar
2. Objective: to improve access to safe drinking water, hygiene and sanitation

Revised National Development Plan (PND) 2018–2027, aimed at improving the provision of and access to basic social services; Axis 2: Human capital development and social inclusion

Alignment with regional and international instruments

1. Sustainable Development Goals (SDG 6: Clean Water and Sanitation)
2. Agenda 2030: the Sustainable Development Programme adopted in September 2015, which is a global roadmap aimed at transforming our world by eradicating poverty
3. The African Union's Agenda 2063
4. African Charter on Human and Peoples' Rights
5. Convention on the Sustainable Management of Lake Tanganyika
6. United Nations Framework Convention on Climate Change and the Paris Agreement
7. Convention on Biological Diversity

Sector: DRINKING WATER AND SANITATION

Overall objective

To promote access to drinking water and sanitation by strengthening the resilience of infrastructure and communities in the northern part of Bujumbura to the effects of climate change.

Specific objectives

To promote access to safe drinking water and sanitation by strengthening the resilience of infrastructure and communities in the north of Bujumbura to the effects of climate change.

Specific objectives

SO1: To increase the capacity for the production and storage of drinking water,

SO2: Improve access to safe drinking water for communities in the northern part of Bujumbura;

SO3: To reduce the prevalence of waterborne diseases in the target area.

Pre-project situation

The northern part of Bujumbura is experiencing growing demand for drinking water due to population growth and the expansion of economic activities. Current water production, storage and distribution capacities remain insufficient to meet this demand in a sustainable manner.

This situation is characterised in particular by:

- An insufficient supply of drinking water relative to demand;
- Network coverage that remains inadequate in certain areas;
- Irregular distribution and pressure problems in certain localities ;
- Limited capacity for water production, storage and transport;
- A need to develop and secure new production capacity, particularly from Lake Tanganyika;
- Shortcomings in wastewater and stormwater management;
- Risks of water resource pollution linked to urbanisation and inadequately controlled discharges;
- The vulnerability of certain infrastructure and populations to heavy rainfall, flooding, surface runoff and erosion;
- A need to take greater account of the effects of climate change in water infrastructure planning.

Project rationale

The northern area of Bujumbura covers the localities of the Ntahangwa and Mpanda municipalities, which have a combined population of approximately 1,290,000.

However, access to drinking water is extremely limited in this area. Indeed, existing springs and boreholes are overburdened due to population growth of 1.95 per cent per year.

Consequently, the majority of households experience water cuts lasting more than 8 hours a day. Furthermore, diarrhoeal diseases are common in the area.

This is why water abstraction from Lake Tanganyika is becoming the strategic option. Despite its potential of approximately 18,900 million m^3, the lake is under-utilised for drinking water supply.

Furthermore, improving access to drinking water must go hand in hand with the development of sanitation. Urban growth is increasing the volumes of wastewater and stormwater that need to be managed. Inadequate sanitation and drainage infrastructure can lead to public health problems, pollution of receiving waters, health risks and the degradation of the urban environment.

Climate change further reinforces the need for action. Variability in rainfall, an increase in heavy rainfall events, significant surface runoff, flooding and erosion can affect water and sanitation infrastructure and disrupt the continuity of services.

Conversely, periods of low rainfall and fluctuations in the availability of water resources can increase pressure on water supply systems. It is therefore essential that new infrastructure is designed and operated using an approach that integrates climate change adaptation and risk reduction.

Post-project situation

Upon completion of the project, the northern part of the city of Bujumbura will have a strengthened and secure drinking water supply system, comprising improved capacities for water abstraction, treatment, storage, transmission and distribution.
The expected outcome will be characterised by:

An increase in drinking water production capacity;
Improved network coverage;
An increase in the number of people with access to drinking water;
Improved service continuity and water pressure;
An increase in the number of domestic and institutional connections;
Improved storage capacity;
Improved wastewater and stormwater management;

Main components

Drinking water supply

- Raw water abstraction from Lake Tanganyika
- Transport of raw water to the north of the capital
- Construction of raw water treatment facilities
- Storage
- Distribution/Rehabilitation

Liquid waste management

- Organising and equipping sewage collection companies;
- Raising public awareness of liquid waste management;
- Strengthen the capacity of the Buterere wastewater treatment plant

Project Governance

- Draw up public-private partnership contracts between the State and the companies;
- Provide technical assistance;
- Coordinate project activities

Key performance indicators

Number of infrastructure facilities (storage tanks, treatment plants, standpipes, etc.) constructed
Additional production capacity (m^3/day)
Flow rate utilised at the catchment L/s
Volume of drinking water produced (m^3/day)
km of pipework
Storage capacity created/rehabilitated (m^3)
Number of connections
No. of households served
Length of sewerage network constructed/rehabilitated (km)
Length of drainage network/structures constructed km
Coverage rate
Water quality compliance rate (%)
Number of infrastructure assets protected against climate-related risks
Number of structures benefiting from environmental protection measures

Project maturity

The Project for Access to Drinking Water and Sanitation in the North of Bujumbura through the Tanganyika Lake Water Catchment (PAEPAN) is currently at the preparation and initial development stage. At this stage, the project is primarily documented in a concept note which sets out the context, the main issues to be addressed, the objectives, the beneficiaries and the broad outlines of the proposed interventions. The concept note provides an initial basis for structuring the project and mobilising the resources required for its implementation. However, the detailed technical, environmental, social, economic and financial studies required for the project's full preparation have yet to be carried out or require further analysis.

5 TRAMWAY PROJECT BUJUMBURA



BUJUMBURA TRAMWAY PROJECT FACT SHEET

Project details

Section	Information
Project Title	Bujumbura Tramway Project
Country	Republic of Burundi
Area of operation	City of Bujumbura and its surrounding area
Sector	Urban transport / Sustainable mobility
Client	Government of the Republic of Burundi
Responsible organisation	Burundi National Railway Company **Type of**
project	Urban mass public transport infrastructure
Delivery method	To be determined: public funding, PPP or a mixed model
Status	Feasibility studies completed; project funding mobilisation phase

Context and rationale

Bujumbura is experiencing significant urban growth and a gradual increase in demand for transport. The current public transport system relies mainly on buses and other road-based modes of transport, with challenges relating to congestion, insufficient network capacity, journey times and service quality.

Previous studies on urban transport have already identified the need to modernise and restructure Bujumbura's public transport system. In particular, a JICA study analysed the city's urban transport system and made recommendations regarding improvements to public transport.

More recently, in 2025, the UNDP launched a process to recruit an international consultant to carry out a **feasibility study on the creation of the first three routes of a tram system running through Bujumbura**. **This feasibility study has been completed and is now available**.

The tramway project is therefore part of a wider drive to modernise urban transport and establish a high-capacity, reliable, safe and sustainable public transport system.

The Bujumbura Tramway Project represents a major strategic infrastructure initiative designed to bring about a lasting transformation of the urban mobility system in Burundi's economic capital. Faced with rapid urbanisation, sustained population growth and the gradual saturation of the main roads, the current transport system is no longer capable of supporting the region's economic momentum. Exclusive reliance on private minibuses, taxis and motorbike taxis is causing chronic congestion, an alarming rise in road accidents and a continuous deterioration in air quality.

To address these challenges, the Government of Burundi, through the Office for Strategic Studies and Development (BESD) attached to the Presidency, proposes the establishment of a modern **electric tram** network structured around three interconnected priority lines:

- **Line 1:** Tenga – Carama – City Centre – Kanyosha (main north-south axis, 20 km)
- **Line 2:** Ntare House (Presidential Palace) – City Centre – Kajaga (North-East/West axis, 17 km)
- **Line 3:** International Airport – Junction of Tram Lines 1 and 2 – Musaga (5+5 km)

Project impact objectives

- **Modernisation and capacity:** Replacing an informal and fragmented transport model with a modern, sustainable mass transit system offering a high quality of service.
- **Urban performance:** A **35 per cent** reduction in average journey times for users of the corridors concerned and the alleviation of congestion at critical road junctions.
- **Environment:** Avoidance of over **46,000 tonnes of CO_2 equivalent per year** once the network is fully operational, bringing Burundi into line with its climate commitments.
- **Social inclusion:** Improved access to outlying working-class neighbourhoods (Rubirizi, Tenga, Carama, Maramvya, Kamenge, Mirango, Gasenyi, Buterere, Kanyosha) and socially responsible pricing for low-income groups.

The preliminary total capital expenditure (CAPEX) for the project is estimated at $327,000,000 and 1,178,080,000,000 BIF, totalling 725 million USD (including provisions for contingencies and project management fees).
The proposed institutional model is based on a Public-Private Partnership (PPP) for operation and maintenance, whilst major infrastructure will be financed through grants and concessional loans, multilateral subsidies and climate finance mechanisms.
The estimated economic internal rate of return (EIRR) of **14.2 per cent** confirms the project's high socio-economic viability, positioning it as a priority investment for the donor community. The Economic Net Present Value (ENPV):
+345 million USD. As the IRR significantly exceeds the benchmark discount rate of 8 per cent, the project demonstrates significant socio-economic returns for the country.
This document constitutes the Technical, Environmental and Financial Reference Report for the roll-out of the guided public transport network in the city of Bujumbura. Designed to bring about a sustainable restructuring of the economy of the economic capital, this project lies at the heart of Burundi's major national policy priorities. The overall reference budget is firmly set at $327,000,000 and 1,178,080,000,000 BIF, totalling 725 million USD, optimised for the deployment of 38 stations and a nominal continuous traction power requirement of 17.4 MW, seamlessly integrated into the REGIDESO infrastructure.

Current state of urban transport in Bujumbura

Bujumbura's urban transport system relies primarily on road transport. Daily journeys are made by buses, minibuses, taxis, motorbike taxis, private vehicles and on foot. The lack of a high-capacity public transport system is leading to increasing congestion on the main roads, particularly during peak hours.

Estimated breakdown of urban journeys:

Table 1: Estimate of urban journeys in Bujumbura

Mode of transport	Estimated proportion of journeys
Walking	35%
Buses and minibuses	30%
Motorcycle taxis	15%
Private cars	12%
Taxis	5%
Bicycles	2%
Other	1%

(Source: Survey household journeys made as the context of the Feasibility Study for the Bujumbura in Bujumbura, 2026).

Target frequency: 15 minutes during peak hours / 30 minutes during off-peak hours.
Estimated annual passenger demand for the network: 80.3 million journeys, representing an average of around 300,000 passengers per day across the entire tram network.
Breakdown of demand:
Line 1: Tenga – City Centre – Kanyosha: 165,000 passengers per day (55 per cent); Line 2: Ntare House – City Centre – Kajaga: 105,000 passengers per day (35 per cent); Line 3: Airport –– City Centre –– Musaga: 30,000 passengers per day (10 per cent).
NB: The percentages shown above are preliminary estimates intended for feasibility studies. They will need to be confirmed and refined during the preliminary design and detailed design phases using travel surveys and traffic counts
Key findings

- High reliance on public road transport (buses and minibuses).
- A significant proportion of journeys are made on foot, particularly for local trips.
- Continuous growth in the number of motorbike taxis and private vehicles, contributing to urban congestion.
- Lack of a high-capacity public transport system capable of meeting growing demand.
- Concentration of travel flows towards the city centre, the Central Market, administrative areas, schools and universities, the Port of Bujumbura, Melchior Ndadaye International Airport and the main commercial hubs.

These findings justify the establishment of a backbone tram network capable of providing fast, regular and high-capacity travel, whilst reorganising the entire urban transport network around future stations and interchange hubs.

The tramway's contribution to Bujumbura's transport system

The tramway project will bring about a major transformation of Bujumbura's transport system by offering a modern, reliable, fast and environmentally friendly mode of travel. It will form the backbone of the capital's future public transport network and will meet the demands of population growth and increasing mobility needs. Compared with the current situation, characterised by road congestion, long journey times and heavy reliance on buses, minibuses, taxis and motorbike taxis, the tramway will

significantly improve traffic flow, reduce journey times and increase passenger capacity.
The project will also promote better organisation of urban transport. Bus routes will be gradually reorganised to ensure service to neighbourhoods and connections with tram stations, thereby creating an integrated and more efficient transport network.
Beyond mobility, the tramway will help improve residents' quality of life by reducing pollution, improving road safety, creating jobs and enhancing Bujumbura's main economic, administrative and commercial hubs. It will thus support the modernisation of the capital and underpin its sustainable economic and urban development.

Alignment with the Burundi National Vision 2040–2060

1. Horizon 2040: The Tramway as a Catalyst for Economic Emergence.
For Burundi to achieve emerging market status by 2040, the elimination of urban logistical bottlenecks is imperative. The city of Bujumbura is currently suffering a significant loss of its potential GDP due to road congestion and the inefficiency of the informal transport system. By guaranteeing contractual journey times thanks to a dedicated right-of-way, the Bujumbura Tramway will redefine the hourly productivity of the workforce.
It will seamlessly connect the major industrial and commercial hubs (Buyenzi, Ngagara, the city centre and the Asian quarter) to high-density residential areas (Carama, Kamenge, Mirango, Kanyosha, Kajaga, etc.).

2. Horizon 2060: The Developed Country's Sustainability Model.
The 2060 vision requires the complete decarbonisation of urban transport and energy sovereignty for Burundi. By gradually replacing polluting petrol-powered minibuses with a heavy rail system powered 100 per cent by clean hydroelectric energy from national dams (such as Kabu16, Rusumo, Jiji and Mulembwe, for example), the project will gradually end the state's dependence on imported refined petroleum products.

The alignment of the tramway with international, continental and national priorities.

The Bujumbura Tramway Project is fully aligned with the main development priorities at international, continental and national levels. It is a key driver for the transition to sustainable mobility, the reduction of greenhouse gas emissions, the improvement of transport conditions for the population, the creation of skilled jobs, industrial development and the urban transformation of Bujumbura. As such, it represents a strategic investment that contributes to the fulfilment of Burundi's commitments under the Sustainable Development Goals (SDGs), the African Union's Agenda 2063, the Burundi Vision 2040–2060 and the revised National Development Plan (NDP)

A SYNTHESIS OF INTERNATIONAL, CONTINENTAL AND NATIONAL INTEGRATION.

Strategic Strategic	Objectives	Contribution of the Bujumbura Tramway Project
Sustainable Development Goals (SDGs) – United Nations 2030 Agenda	Sustainable development, mobility, combating the climate change, sustainable cities	The tramway contributes directly to SDG 3 (Good Health), SDG 7 (Clean Energy), SDG 8 (Decent Work), SDG 9 (Industry and Infrastructure), SDG 11 (Sustainable Cities) and SDG 13 (Climate Action) through electric transport, reduced CO_2 emissions, job creation, improved road safety and equitable access to urban services.
African Union Agenda 2063	African integration, industrialisation, modern infrastructure, sustainable development	The project constitutes a key infrastructure initiative promoting modern urban mobility, economic development and capacity-building in rail transport and industry.
Vision Burundi 2040–2060	Economic transformation, sustainable urbanisation, industrialisation, modern infrastructure	The tramway is supporting Bujumbura's transformation into a modern capital by improving public transport, supporting urban development, reducing road congestion and enhancing the city's economic appeal. It also contributes to the transfer of skills and the development of the rail sector in Burundi.
Burundi's Revised National Development Plan (PND)	Modernisation of infrastructure, transport development, economic growth, protection of the environment	The project addresses national priorities relating to the modernisation of transport infrastructure, sustainable urban mobility, the reduction of travel costs, job creation, environmental protection and the improvement of quality of life.

General objectives of the project

The general objective of the project is to establish a modern, clean, safe, inclusive and economically viable mass transit system capable of reshaping Bujumbura's urban development for the next fifty years.
The specific, quantifiable objectives by the 2031 commissioning date are as follows: to capture at least 35 per cent of the total transport demand on the corridors served; to reduce the average journey time for workers travelling between home and work by 45 minutes; to reduce the number of serious road accidents on key routes by a factor of four; and to eliminate the emission of thousands of tonnes of carbon dioxide per year through the exclusive use of hydroelectric-powered electric traction.

Specific project objectives

- **To deploy 43 to 57 kilometres of** double-track, dedicated-right-of-way **urban railway lines** by 2031 – the year the project is due to enter service –
- To carry approximately **300,000 passengers per day** across the entire network during normal operation.
- Ensure a regular service with trains running every **15 minutes** during peak hours and every 30 minutes during off-peak hours.
- Develop major intermodal transport hubs to facilitate connections with secondary modes of transport (feeder services by bus, bajaj, motorbike and bicycle).
- Ensure universal accessibility for people with reduced mobility (PRM) at stations and on rolling stock. Future mobility needs
  Source By 2035, overall transport demand within Bujumbura's urban area is expected to increase by **65** per cent. The factors driving this rise in demand are structural:

1. **The emergence of new high-density residential areas:** such as the housing estates in Carama, Tenga, Muzinda and the Buterere area, which are home to an ever-growing middle-class population.

2. **The expansion of the Northern Industrial Zone:** This is creating thousands of daily jobs, requiring large-scale commuting of workers from the southern municipalities (Kanyosha, Nyabugete, Ruziba, Kabezi).

   University expansion: The University of Burundi (Mutanga, Kamenge and Kiriri campuses) generates flows of students who are reliant on public transport at fixed times

a) ***Current urban transport***

The province of Bujumbura is responsible for the management and organisation of all forms of urban transport in the three municipalities of Ntahangwa, Muha and Mugere within the city's boundaries.

As such, it is responsible for the following tasks:

- organising the operation and development of the public bus transport network;
- managing and coordinating several bus routes linking the main residential and commercial centres to the city centre;
- drawing up and implementing the Urban Transport Plan covering all urban areas as well as outlying neighbourhoods;
- planning, constructing and putting in place the facilities and infrastructure necessary for the development and modernisation of public transport.

Within this institutional framework, the municipalities of Bujumbura play a central role in the implementation of the urban tramway project, acting as the organising authority for urban mobility.

Recent surveys on urban travel reveal that walking remains the predominant mode of transport for short-distance journeys (**45 per cent of the modal share (***Source: Household Travel Survey carried out as part of the Bujumbura Tramway Feasibility Study, 2026.)).* For medium and long distances, public transport provision is as follows:

- **Private buses and minibuses (coasters/Hiaces):** Operated by private operators affiliated with local associations. They run without fixed timetables, wait until fully loaded before departing, and focus solely on profitable routes during peak hours, neglecting late-night services.
- **Two- and three-wheelers (motorbikes and tuk-tuks):** Provide detailed coverage of unpaved neighbourhoods. However, regulatory restrictions on access to the city centre limit their role to transport from the outskirts, creating mandatory transfers for passengers at the city's access points.
- **Taxis: As** they are expensive, they are reserved for a wealthy section of the population or for emergencies.

Main identified congestion points:

- **The Mutuelle junction and the United Nations roundabout:** A critical convergence point for traffic coming from the northern municipalities (Kamenge, Kinama).
- **The roundabout at Independence Square on the Boulevard du Peuple Murundi:** A major bottleneck linking the northern neighbourhoods to the commercial hub of the city centre.
- **The RN3 (Route de Rumonge) at Kinindo and Kanyosha (note: identify these points individually):** Suffers from complete gridlock in the mornings and evenings due to the lack of viable alternative routes along the lakefront. There is only one bridge directly linking Kanyosha and the city centre on the RN3; other options require a longer detour.

- **Other points to be added**: the Monument to the Unknown Soldier, the North Station, the Nunciature, the junctions at Chaussée du Prince Louis–Avenue Muyinga and Avenue de la JRR,
  …

This tramway project will transform Bujumbura into a modern, resilient and inclusive metropolis, equipped with a clean urban rail network that will shape the city's expansion, revitalise public spaces and guarantee the right to mobility for all.

The project involves creating three interconnected **electric tram** lines:

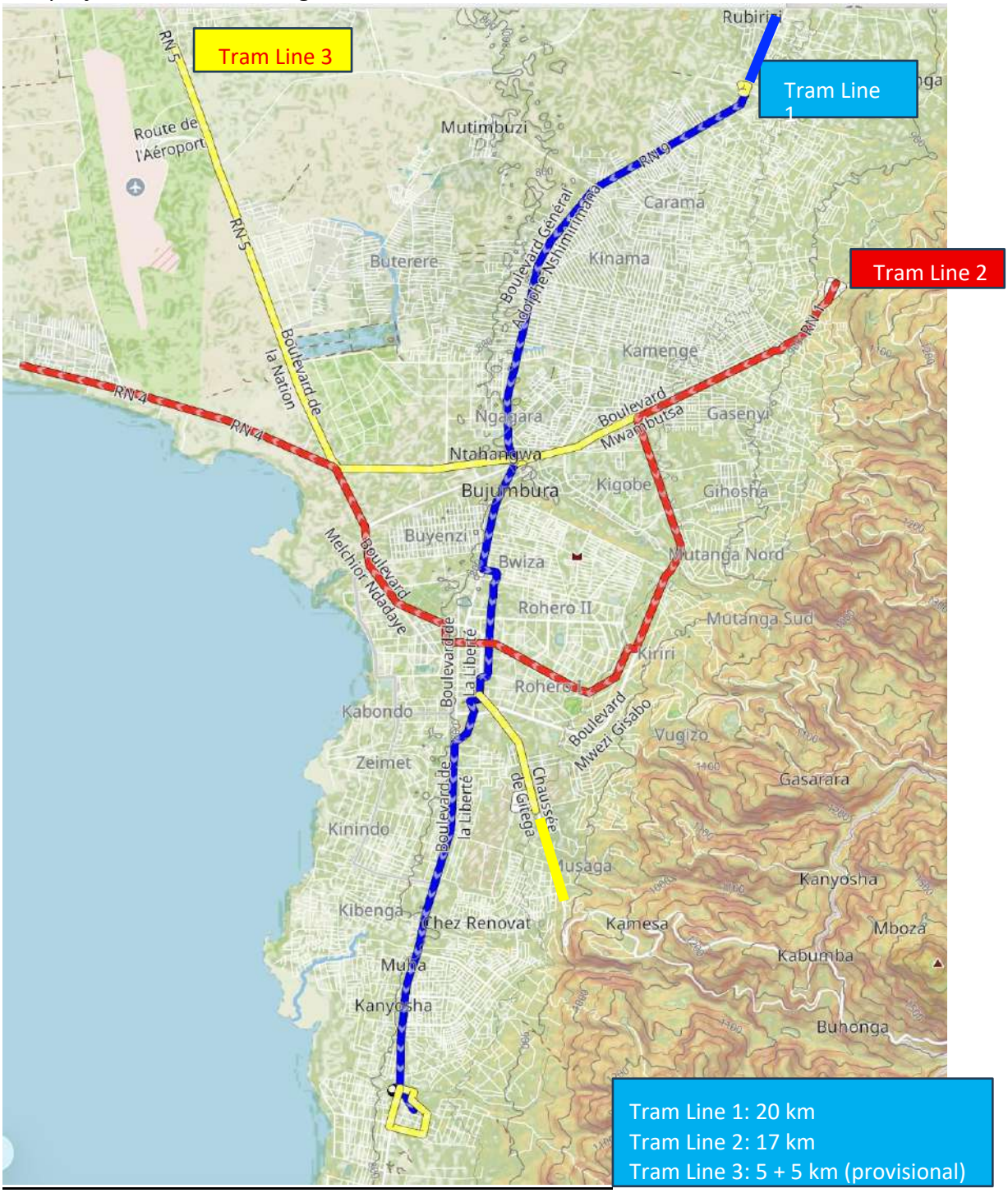
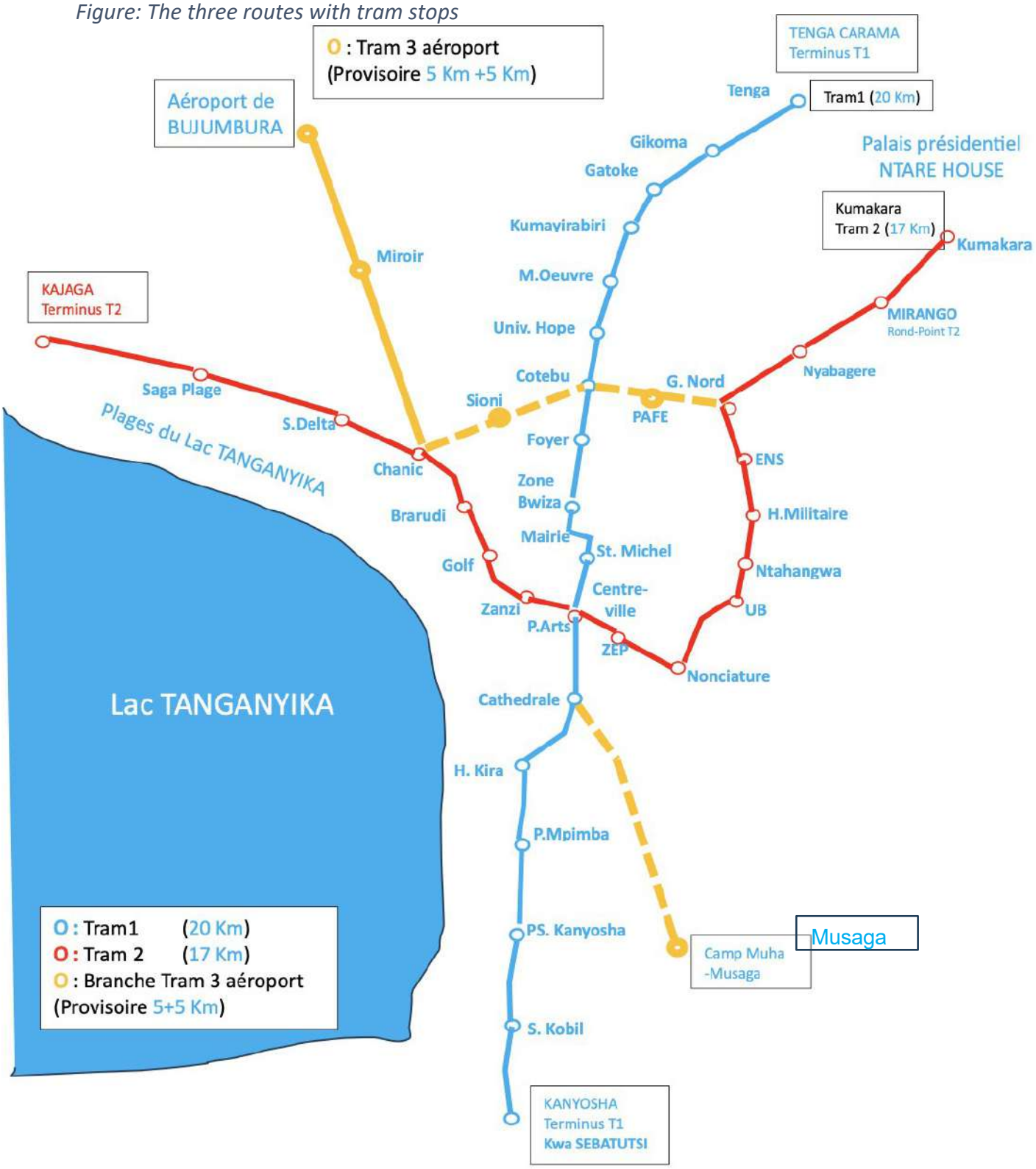


Figure: Route of the three tram lines

a) The three tram lines with their stops/stations marked.

Below are the routes across the entire network:

Figure: The three routes with tram stops

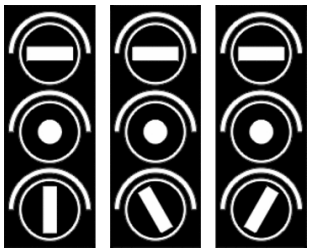


General technical description: electric tram

Main characteristics:
Construction of tram lines
Tram 1: 20 km, 17 stations (spaced 1 km apart)
Tram 2: 17 km, 17 stations (spaced 1 km apart)
Tram 3: Airport: 5+4 km with 4 stations
Operating speed: 50–70 km/h
Frequency: 1 tram every 15 minutes during peak hours / every 30 minutes during off-peak hours.
Carrying capacity: approx. 300 passengers per tram
Service hours: From 05:30 to 00:00,
Maintenance: Maintenance work is carried out at night after the trams have finished running.

- **Trains:** 38 trains
- **Dimensions:** 33 m long, 40 tonnes
- **Electrification:** 750 V direct current via overhead contact line (OCL)
- **Electrical substations:** Dedicated substations have been built to ensure a continuous power supply
- **Track:** Grass-covered concrete, grooved rails, standard gauge 1.435 m
- **Configuration:** Double track, single track where necessary,
- **Crossings:** Secured with roads and footpaths
- **Signalling and safety:**
  - Speed limit signs
  - Route protection signals
  - R11, R17 and R18 traffic lights
  - Signals to protect crossings at junctions

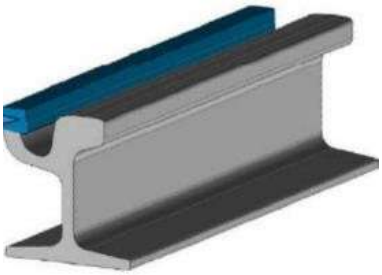






The key features of the Bujumbura tramway project are as follows:

- **Grooved rails**: These are widely used in tram systems and allow the track to be shared with road users, vehicles and pedestrians. Traffic is shared. The track gauge will be 1.435 m
- A single track on the main line
- Double tracks at stations
- Construction of grass-covered concrete tracks in areas dedicated exclusively to the tramway.



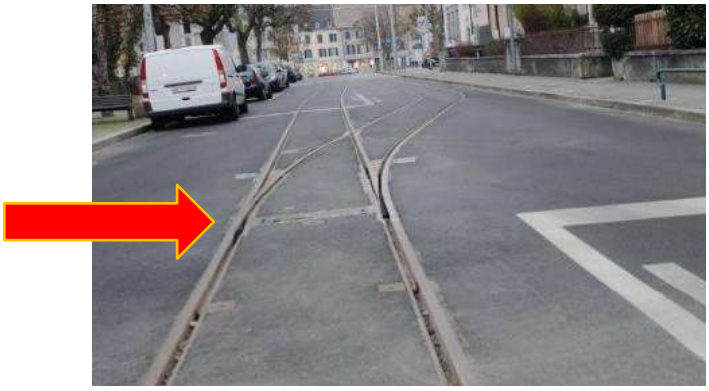


Figure: Types of grooved rails

<u>Tramway bridges:</u>



Figure: Tramway rail bridges

Grooved RAIL:



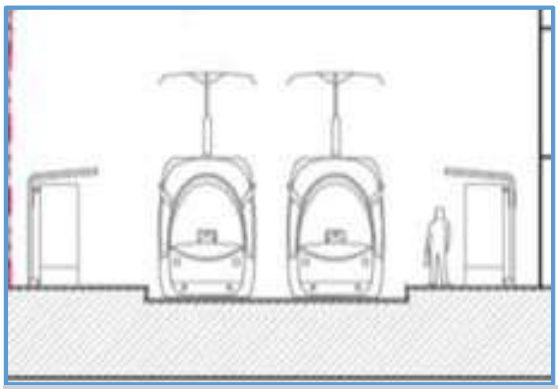


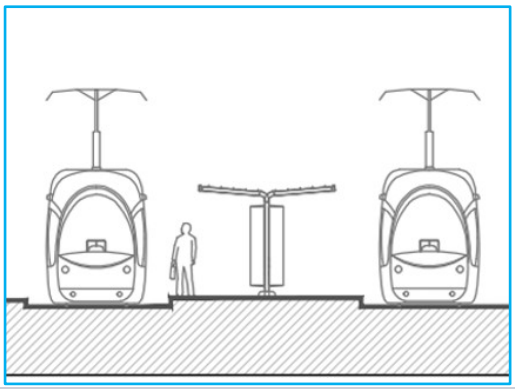
Side and central platforms

Tram stations can be laid out in two main configurations:

- **Side platforms**: the platforms are situated on either side of the tracks. This layout is suitable for urban sections with sufficient space and facilitates access from the pavements.
- **Central platform**: a single platform is situated between the two tram tracks. This solution optimises the footprint and reduces the construction and operating costs of the stations.

The choice between side platforms and a central platform will depend on the available width of the boulevard, the urban environment and the capacity requirements of the various stations on the Bujumbura tram network.
Below is an example of side and central platforms







Project financing plan

The Government of Burundi and the province of Bujumbura are seeking technical and financial partners, as well as operators, for the design, construction and operation of the urban tramway project. The project is open to all interested parties, including national and international companies, transport operators, financial institutions, retailers and associations.

The design and implementation of the project are ideally envisaged within the framework of a public-private partnership (PPP), enabling the pooling of expertise, the sharing of risks and the optimisation of investment and operating costs.

To date, the Government of Burundi has confirmed its ability to provide the power supply required to operate the tramway, based on a 750-volt direct current system, which is an essential condition for the network's operation.

The electric tramway project, which produces no pollution, is fully in line with the objectives of the energy transition and the fight against climate change. It is eligible for funding mechanisms linked to the Green Climate Fund and other international schemes dedicated to environmental protection, thereby reinforcing the project's compatibility with climate finance.

b) *Scenario 1: Funding via grants, PPPs and a contribution from the Government of Burundi*

The project's financial scope of **$327,000,000 and 1,178,080,000,000 BIF** – totalling **725 million USD** – requires the mobilisation of a syndicate of lenders combining several national and international funding sources.

The target financing structure is designed to optimise the average cost of capital and maximise the proportion of non-repayable or highly concessional funding. The percentage indicated below is based on costs in US dollars of 327 million. The Government of Burundi will finance the costs in local currency.

Table: Financing Plan Structure

FINANCING PLAN STRUCTURE								
AfDB/WB (Grant) 44.1%		**EIB** (Green) 17.6%		**FVC** Climate 15.3%		**PPP** (Private) 23 per cent		**State** Land VAT

Below are the financing details

Indicative breakdown by donor

- **African Development Bank (AfDB) & World Bank (WB): USD 145 million (44.1 per cent)**
  - *Type of instrument:* Supports the 'Burundi 2040–2060' vision through a grant for urban development and public transport, with a view to improving and safeguarding jobs.
  - *Allocation:* Funding for major civil engineering works, railway infrastructure, urban regeneration and engineering structures.
- **European Investment Bank (EIB) & Bilateral Agencies (AFD, KfW, JICA): USD 57.5 million (17.6 per cent)**
  - *Type of instrument:* Support provided as part of the contribution to reducing pollution from public transport in Africa, and grants dedicated to green infrastructure.
  - *Allocation:* Energy systems (traction substations), overhead contact lines and railway signalling.
- **Green Climate Fund (GCF) & Environmental Facilities: USD 50 million (15.3 per cent)**
  - *Type of instrument:* Pure grants and non-repayable funding as part of the contribution towards the decarbonisation of African transport.
  - *Allocation:* Acquisition of part of the electric rolling stock and full implementation of the PGES.

- **Public-Private Partnership (PPP) / Consortium of Local Commercial Banks / Constructor-Operator Consortium: USD 75.21 million (23%)**

  - *Type of instrument:* Equity contribution from the operator and commercial debt raised by the concessionaire or the Consortium of Local Commercial Banks.

  - *Allocation:* Depot maintenance equipment, connected ticketing systems, and contribution towards the co-financing of the tram fleet.

- **Contribution from the Government of Burundi: 1,178.080 billion BIF**

  - *Type of instrument:* State investment budget (budgetary equity).

Allocation: Full financing of land acquisitions and compensation under the PAR, coverage of the operating costs of the project's implementing agency, and the granting of full tax and customs exemptions on all equipment imported for the project.
Total grants = 252.5 M USD, i.e. as a proportion of the cost in foreign currency (**252.5 / 327 M USD**) = 77.2%
The project therefore benefits from a **grant covering approximately 77.2 per cent of foreign currency expenditure**, resulting in an **IRR of 11 per cent** for a tramway project operated under a PPP.

Case 2: Funding via a PPP model and investors

Proposal to establish a Bujumbura Urban Mobility Authority:
The institutional framework proposes introducing a strict separation between the roles of regulation, asset ownership and commercial operation. It is based on the creation, by presidential decree, of the Bujumbura Urban Mobility Authority, in the form of a Public Industrial and Commercial Establishment.
The Bujumbura Urban Mobility Authority will be the sole owner of the rail infrastructure, rolling stock and stations. Its remit will be to regulate transport fares, ensure compliance with rail safety standards and manage the public service delegation contract.

The Bujumbura Tramway Operating Company

The technical operation of the fleet and the industrial maintenance of the facilities are entrusted to a dedicated project company, established under a Public-Private Partnership (PPP): **the Bujumbura Tramway Operating Company**.
The tramway operating company will link its operations to the Bujumbura Urban Mobility Authority through a 12-year lease agreement, renewable.
The share capital is divided equally amongst three parties:

- **The State of Burundi (50 per cent):** Represented by the Presidency, the Ministry of Finance and the Ministry of Transport, ensuring public sovereignty over strategic direction.

- **Consortium of Local Commercial Banks (30 per cent):** Mobilising savings and national banking financing capacity to ensure the project's economic viability.

- **Leading International Operator (20 per cent):** Selected through an international tender process (e.g. RATP Dev, Keolis, Transdev, MT), acting as the majority technological and industrial partner, guaranteeing the application of global rail operating standards and ensuring an immediate technology transfer programme for Burundian managers and engineers.

SHAREHOLDING STRUCTURE FOR THE PPP: tramway construction company

Commercial operation and industrial maintenance could be delegated via a 12-year lease agreement to a Public-Private Partnership (PPP) project company named the **Bujumbura Tramway Operating Company**. Its share capital could be structured on a tripartite basis:

- **The State of Burundi (50 per cent):** Public oversight and national strategic guidance.
- **Consortium of Local Commercial Banks (30 per cent):** Local presence and involvement of the Burundian private financial sector.
- **Leading International Operator (20 per cent):** Major technical partner (e.g. RATP Dev, Keolis, Transdev) responsible for industrial excellence and the immediate transfer of railway expertise to local teams.

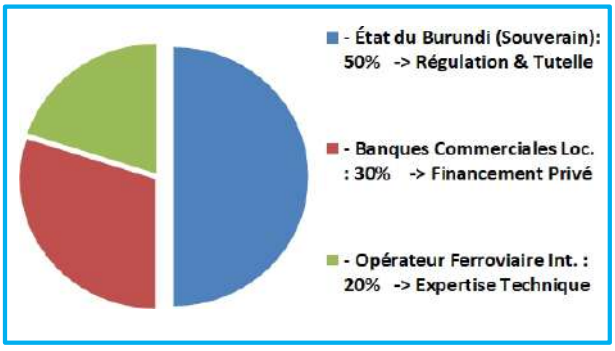


Figure 1 a) Operating and Maintenance Costs (OPEX)

DETAILED COST ESTIMATE

The projected investment budget has been finalised on the basis of kilometre-based ratios observed in recent tramway projects in North Africa and sub-Saharan Africa, adapted to the topographical and economic context of Bujumbura.

The project components are:

Technical studies, engineering & project management
EIA studies, implementation of the PGES and monitoring
Land acquisition and compensation (PAR)
Rail infrastructure & civil engineering
Stations, stops and intermodal transport hubs
Electrical systems (11 substations + LAC)
Safety Signalling, Priority at Junctions & ICT
Rolling Stock (33-metre articulated trainsets)
Depots, Central Workshops and Storage Facilities (North/West)
Control Centre and Control Room (PCC)

Provision for contingencies and price fluctuations

The implementation of this project will involve several successive stages, ranging from preliminary studies to construction works, including administrative, environmental and land acquisition procedures, through to testing and commercial commissioning.

Table: Components of the project works

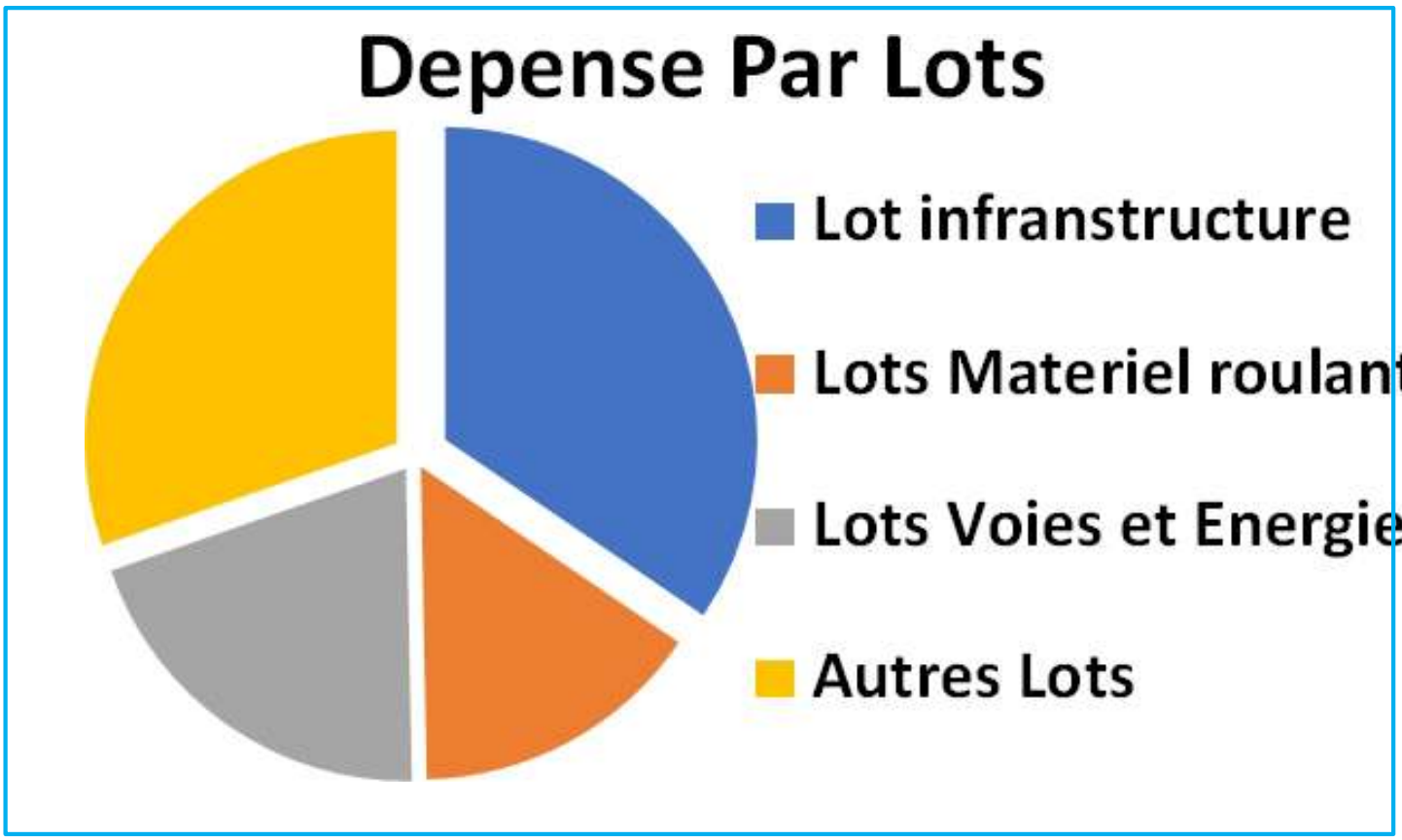
Expenditure Item / Component	Line item / Quantity	Cost Average Unit Cost	Total Cost (Millions USD)
Technical studies, engineering & project management	Fixed-price contract	-	25
EIES studies, implementation of the PGES and monitoring	Fixed-price contract	-	10
Land Acquisition and Compensation (PAR)	Fixed-price contract	-	30
Rail infrastructure & Civil engineering	50 km	5 million USD per km	250
Stations, stops and intermodal transport hubs	38 units	2 million USD per unit	78
Electrical systems (11 substations + LAC)	Fixed-price contract	-	50
Safety signage, priority at junctions & ICT	Fixed-price contract	-	40
Rolling Stock (33-metre articulated trainsets)	38 trainsets	4.26 million USD / train	162
Depots, Central Workshops and Storage Facilities (North/West)	2 sites	20 million USD / site	40
Control Centre and Command Post (PCC)	1 site	-	20
Provision for contingencies and price fluctuations	Fixed-price contract	-	20
TOTAL CAPITAL EXPENDITURE (CAPEX)	**50 km**	**14.5 million USD / km**	**725**

SUMMARY TABLE OF PROJECT CAPEX

Summary table of the Tramway project's CAPEX

Lot No.	Detailed Description of Lot	Share Currency (USD)	Share National Currency (BIF)	Total Equivalent (USD)	Total Equivalent (BIF)
		Millions of USD	**BIF billions**	**Millions of USD**	**Billions BIF**
Lot 01	Infrastructure, Earthworks, Geotechnical Investigations & Local Civil Engineering	$55	577,200 BIF	**$250**	740 BIF
Lot 02	Railway Superstructure (Supply of Ri60/UIC54 rails, track switches and crossings)	$65	74 BIF	**$90**	266,400 BIF
Lot 03	Rolling Stock (Acquisition of the premium fleet of 38 tropicalised trains, Citadis Alstom)	$110	0 BIF	**$110**	325,600 BIF
Lot 04	Traction Power System (11 SSR 2MVA, HV Substations, Copper LAC)	$40	44,400 BIF	**$55**	162,800 BIF
Lot 05	Systems Railway (Signalling, SCADA, TETRA telecoms)	$32	23,680 BIF	**$40**	118,400 BIF
Lot 06	Specialised Civil Engineering: Development of the 38 stations	$15	74 BIF	**$40**	118,400 BIF
Lot 07	Land Acquisition, PAR Plan Compensation & EIES Follow-up Measures (OBPE)	$0	88,800 BIF	**30 $**	88,800 BIF
Lot 08	Master's Project (Project Management), Detailed Engineering Studies, Insurance	$10	296 BIF	**$110**	325,600 BIF
TOTAL	**Overall Reference Budget for the Bujumbura Tramway**	**$327**	**1,178.08 BIF**	**$725**	**2,146 BIF**

THE TOTAL CAPITAL EXPENDITURE (CAPEX) is 725 million USD.



c) Traffic model and passenger demand by line (Peak year 2032)

Traffic forecasts are based on population growth in the Bujumbura metropolitan area, trends in demand for urban transport and the attractiveness of the tram network.

Breakdown of the network by line

Table 2 Breakdown of the tram network by line

Tram line	**Length**	**Percentage of the network**
Tram 1: Tenga – Carama ⇄City Centre ⇄Kanyosha	20 km	**42.2%**
Tram 2: Ntare House (Presidential Palace) City Centre Kajaga	17 km	**37.8 per cent**
Tram 3: Airport City Centre Musaga	10 km	**20.0%**
Total network	**47 km**	**100 per cent**

Indicative breakdown of passenger demand

Taking into account the urban role of each line (population density, administrative centres, commercial areas, connections and facilities served), a provisional estimate of demand could be broken down as follows:

Line	**Main function**	**Estimated share of passengers**
Tram 1: **Tenga – City Centre – Kanyosha**	Main north-south route, high residential density and connection to the city centre	**50% to 55%**
Tram 2: **Ntare House – City Centre – Kajaga**	East-West East–West, residential, industrial and commercial areas	**35% to 40%**
Tram 3: **Airport – City Centre – Camp Muha – Musaga**	Airport link, tourism, government offices and southern districts	**10% to 15%**
Total		**100 per cent**

Preliminary network passenger numbers:
Passenger demand per tram line at 300,000 passengers per day.

Line	Share of passengers	Estimated passengers per day
Tram 1	55%	**165,000 passengers per day**
Tram 2	35%	**105,000 passengers per day**
Tram 3	10 per cent	**30,000 passengers per day**
Total	**100 per cent**	**300,000 passengers per day**

These figures must then be revised and incorporated into the detailed analyses **of** a **traffic study** (origin-destination surveys, road traffic counts, urban density, travel attractions, pricing and connections).

The main assumptions adopted are as follows:

- **Annual network ridership**: **80.3 million journeys**,
- representing an average of around **300,000 passengers per day**.

The tram will operate at an **average commercial speed of between 50 and 70 km/h**, reducing journey times by **50 to 70 per cent** compared with current traffic conditions and offering an average time saving of **25 to 35 minutes** per journey.

The proposed fare policy is based on a **time-stamped ticket**, the validity period of which is determined by the **maximum journey time on Line 1 (Tenga – City Centre – Kanyosha)**, which is the longest route on the network.

General conclusion

The feasibility study for **the Bujumbura Electric Tramway Project** demonstrates that this project is much more than simply a transport infrastructure: it represents a strategic lever for urban transformation, economic development and ecological transition for Burundi's economic capital. The technical, financial, socio-economic and environmental analyses carried out by the consultant confirm the **technical feasibility**, **financial viability** and **socio-economic profitability** of the project.
With an **Economic Internal Rate of Return (EIRR) of 14.2 per cent** – exceeding the criteria generally required by international technical and financial partners – the project meets the financing standards of major multilateral development banks. The proposed financing plan, which is balanced and diversified, provides the necessary guarantees to ensure gradual and sustainable implementation.
The consultant demonstrates that the construction of the tramway will generate considerable benefits for Bujumbura and for the population as a whole. The network will significantly reduce journey times, improve the punctuality and reliability of transport, lower the costs associated with urban congestion, and ensure safe, comfortable and accessible travel for workers, students, vulnerable people, as well as visitors and tourists. With a station located every kilometre, the network

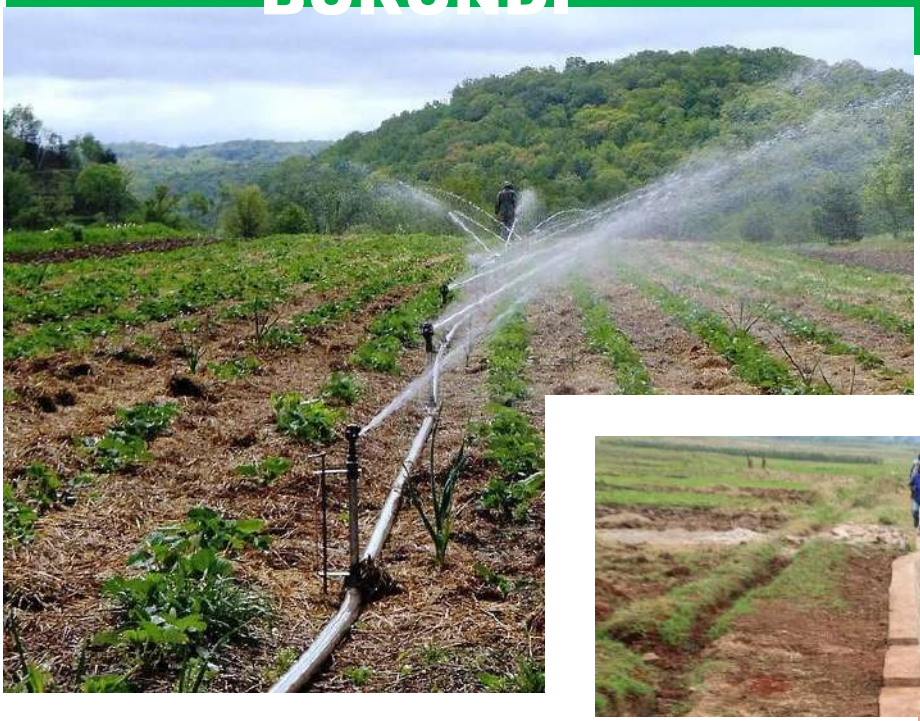
will ensure excellent accessibility and promote inclusive mobility.

The project will also be a powerful driver of regional development by enhancing outlying neighbourhoods, stimulating public and private investment, promoting property and commercial development, and creating numerous direct, indirect and induced jobs during the construction, operation and maintenance phases. It will thus help to strengthen Bujumbura's economic competitiveness whilst sustainably improving the quality of life for its residents.

From an environmental perspective, the electric tramway will help to reduce greenhouse gas emissions, air pollution and noise pollution, whilst promoting clean mobility and sustainable urbanisation. It will help to gradually transform Bujumbura's image into that of a modern, green, attractive and resilient city, in line with Burundi's ambitions for sustainable development and regional integration.

Finally, the consultant considers that the **Bujumbura Electric Tramway Project is technically feasible, economically viable, socially beneficial and financially sustainable**. Its implementation will improve the well-being of the population, enhance the capital's economic and tourist appeal, and position Bujumbura as a **leading city in terms of sustainable urban mobility and one of the most innovative green cities in the East African Community (EAC)**.

6 PROJECT TO STRENGTHEN THE RESILIENCE OF PRODUCTION SYSTEMS AGRICULTURE, LIVESTOCK AND FISHERIES IN THE FACE OF CLIMATE CHANGE IN BURUNDI







Lead Ministry: Ministry of the Environment, Agriculture and Livestock

Location: Bujumbura, Burunga, Buhumuza and Gitega provinces
Communes of Bubanza, Mpanda, Musongati, Butaganzwa and Gitega; the shores of Lake Tanganyika; the Gihungwe, Kizina and Mitakataka hills; and the Bukemba SRR (Bukemba, Kabanga and Murama, Kigarika and Nyamugari) (see Annex 1: Location map and brief description of project sites).

Project status

The project aims to address low agricultural productivity in the aforementioned sites, which is primarily attributable to drought and soil degradation. It will build on the encouraging results achieved in certain hills in the communes of Mutambu and Mubimbi, where irrigation has helped to improve agricultural production conditions. This project will also complement the efforts already undertaken by development partners, notably the United Nations Development Programme (UNDP), which has recently funded hydro-agricultural developments covering a total area of 180 ha, distributed as follows: 50 ha on Higiro Hill, in the commune of Kiremba, Butanyerera province; 50 ha on Gatwaro Hill, in the commune of Rutana, Burunga Province; 50 ha on Mugumure Hill and 30 ha on Nyanza-Lac Hill, in Burunga Province. This initiative forms part of a wider drive to consolidate and expand efforts to develop hill irrigation and promote more productive and resilient agriculture.

Furthermore, the potential water resources required for irrigating the targeted hills have already been identified, characterised and analysed in the laboratory. The results of these analyses indicate that these resources are available in sufficient quantities and are of an appropriate quality for the intended uses. These findings represent significant achievements for the technical feasibility of the project.

In the livestock sector, the available infrastructure meets the standards required to ensure the proper management of livestock. Furthermore, studies to identify spawning grounds have already been carried out, providing a baseline to guide interventions in the fields of fisheries and fish farming.

The project therefore aims to capitalise on existing studies and infrastructure, complement the partners' investments and promote an integrated approach to climate resilience covering irrigated agriculture, livestock farming and fisheries. It will thus help to strengthen the resilience of agricultural systems to the effects of climate change and sustainably improve yields.

Project duration: Five years

Estimated total cost: USD 44.8 million

Sources of funding: To be mobilised

Consistency and alignment of the project with national, regional, continental and international policies, strategies and commitments

The project ***'Strengthening the resilience of agricultural, livestock and fisheries production systems to climate change in*** **Burundi'** is in line with national, regional and international priorities regarding agricultural transformation, food security, adaptation to climate change and the sustainable management of natural resources. Its strategic alignment is structured around four complementary pillars.

Agricultural transformation, productivity and food security

The project contributes to the implementation of the 'Burundi Vision' – for Burundi to become an emerging country by 2040 and a developed country by 2060 – as well as the guidelines of the National Development Plan (NDP) 2018–2027, particularly with regard to the modernisation of agriculture, the development of livestock farming, the improvement of productivity and the strengthening of food security.

Through applied research, the development and dissemination of technologies adapted to different agro-ecological zones, the project will promote the sustainable improvement of the performance of agricultural, livestock and fisheries production systems. It will also contribute to the diversification of production and rural incomes, the strengthening of value chains and the improvement of producers' livelihoods.

This priority area is aligned in particular with SDG 2 (Zero Hunger), specifically Target 2.4 on sustainable food production systems and resilient agricultural practices, as well as with Aspiration 1 of the African Union's Agenda 2063, dedicated to a prosperous Africa based on inclusive growth and sustainable development.

Climate change adaptation and building resilience

The project forms part of Burundi's commitments under **the Paris Agreement**, particularly with regard to adaptation to climate change and strengthening the resilience of communities and production systems. It also contributes to the guidelines of the East African Community (EAC) regional framework on reducing climate vulnerability and promoting sustainable development.

Interventions will focus in particular on adapting production practices to climatic constraints, soil and water conservation, the restoration of degraded land, improved natural resource management and the diversification of production systems. Research and innovation will enable the development of solutions tailored to Burundi's specific agroecological conditions.

This priority area will contribute directly to SDG 13 (Climate action) and will strengthen producers' capacity to anticipate, absorb and overcome the effects of droughts, erratic rainfall, erosion and other climate-related risks.

Biodiversity conservation and sustainable management of natural capital

The project is consistent with Burundi's National Strategy and Action Plan for Biodiversity, the Convention on Biological Diversity and the Kunming–Montreal Global Biodiversity Framework, in particular its Target 10 on the sustainable management of agricultural,

aquaculture, forestry and other production areas.

It will promote the integration of agroecological practices, agroforestry, crop diversification, the conservation of agricultural and animal genetic resources, the restoration of degraded land, and the protection of habitats and organisms beneficial to agroecosystems. Particular attention will be paid to the conservation of pollinators and the reduction of pressures on natural resources.

This priority area will contribute to SDG 15 (Life on Land) and to the sustainability of production systems, by recognising biodiversity and natural resources as essential factors for long-term productivity, adaptation and resilience.

Research, innovation, inclusion and partnerships for sustainable development

The project prioritises an approach based on applied research, knowledge generation, technology transfer and capacity-building for producers, researchers and technical services. It will foster synergies between research institutions, public administrations, producer organisations, the private sector and technical and financial partners.

This approach will contribute to the adoption of innovations, the promotion of local and traditional knowledge, and the dissemination of solutions tailored to the realities of different agroecological zones. The participation of women and young people will be encouraged in order to promote more equitable access to technologies, training and economic opportunities.

This priority area is consistent with the cross-cutting themes of the Burundi Vision 2040–2060, the African Union's Agenda 2063 and SDGs 1, 5, 12 and 17, relating respectively to poverty reduction, gender equality, sustainable consumption and production patterns, and partnerships for the goals.

Strategic conclusion

The project's alignment with these four pillars reflects an integrated approach to the transformation of agricultural, livestock and fisheries production systems in Burundi. By combining research, innovation, climate adaptation, biodiversity conservation and capacity building, the project will contribute to sustainably improving productivity, food security, rural household incomes and the management of natural capital.

It thus serves as a lever for aligning national development priorities with Burundi's regional and international commitments, whilst fostering the emergence of more productive, inclusive and resilient production systems.

Sector

Agriculture: Hillside irrigation (in Gihungwe, Kizina and Mitakataka, and at the ISABU Regional Research Station in Bukemba)
Livestock: - Genetic improvement of livestock (cattle, goats, pigs, etc.) and
- Improvement of animal feed (cattle, goats, pigs, etc.)
Fisheries: Management and restoration of the aquatic ecosystems of Lake Tanganyika.

Overall objective

To improve food security and living conditions for households in an inclusive manner through sustainable agro-pastoral and fisheries systems that are resilient to climate shocks.

Specific objectives

- To increase productivity through irrigation and agricultural practices adapted to climate change;
- To improve the zootechnical and productive performance of livestock through the selection and use of high-performing breeding stock;
- To increase livestock productivity through a balanced animal feed supply that is accessible and tailored to the animals' nutritional needs; and
- Restore and protect aquatic ecosystems in order to enhance the resilience of fishery resources and fishing communities.'

Project background and rationale

Burundi is one of the countries most vulnerable to the effects of climate change due to its heavy reliance on agriculture and the limited adaptive capacity of its rural populations.

The national economy relies primarily on the agricultural sector, which accounts for nearly 39.6 per cent of Gross Domestic Product (GDP), providing around 95 per cent of the country's food supply and employing nearly 90 per cent of the working population. However, this agriculture remains largely subsistence-based and dependent on seasonal rainfall, which leaves rural households highly exposed to climate-related risks.

In recent years, Burundi has experienced an upsurge in extreme weather events, notably prolonged droughts, erratic rainfall, floods, landslides and accelerated soil erosion. Rising average temperatures and increasing variability in rainfall patterns are disrupting agricultural calendars, reducing the availability of water resources and causing long-term damage to agricultural, pastoral and fisheries production systems.

The consequences of these climate changes are already evident in a decline in agricultural productivity, the ongoing degradation of arable land, a reduction in fodder resources and a fall in producers' incomes. Recent climate-related disasters have highlighted the extent of this vulnerability. According to the Burundi PDNA Agriculture Sector Report, the effects of the 2024 El Niño event caused losses and damage estimated at over 257 billion BIF in the agriculture, livestock and fisheries sectors. More than 22,000 hectares of crops were damaged, severely affecting national production of maize, beans, cassava, rice, soya and other strategic crops. These losses have significantly exacerbated food insecurity and the economic vulnerability of rural households.

The low yields observed in the main food crops result not only from soil degradation but also from limited access to improved inputs, appropriate agricultural technologies and production infrastructure. In many rural areas, farmers can only cultivate their land during the rainy season

due to inadequate water collection and storage infrastructure.

The livestock sector also faces numerous constraints linked to climate change. Recurring droughts reduce the availability of pasture and fodder resources, whilst limited access to veterinary services and modern animal feeding techniques contributes to low livestock productivity. These constraints result in reduced incomes for mixed farmers and increased vulnerability to climate-related shocks.

Furthermore, fishery resources are suffering the combined effects of climate change and human pressure. Rising water temperatures, the degradation of fish spawning habitats, riverbank erosion and extreme weather events are contributing to a gradual decline in catches and a reduction in the incomes of communities dependent on fishing.

Women and young people are particularly affected by this situation. Inequalities in access to productive resources, the excessive burden of domestic and agricultural work, and limited participation in decision-making processes restrict their ability to adapt to climate change. Consequently, the impacts of climate change further exacerbate the socio-economic inequalities that already exist within rural communities.

In the face of these challenges, strengthening agricultural resilience is a strategic necessity to ensure food security, safeguard livelihoods and support the country's sustainable economic development. The project aims to promote climate-smart agricultural practices, improve the sustainable management of water and natural resources, strengthen crop and livestock production systems, restore degraded ecosystems and develop producers' adaptive capacities. Its implementation will help to sustainably increase agricultural productivity, reduce households' vulnerability to climate-related hazards, improve the incomes of rural populations and contribute to national objectives on climate change adaptation, food security and sustainable rural development. By promoting more resilient agriculture, the project will provide a concrete response to the climate challenges currently threatening Burundi's economic and social stability.

Post-project situation

Following the project's implementation, the intervention area will have adequate infrastructure for water collection, storage and distribution, ensuring that crops can be irrigated during periods of low rainfall. Runoff from the hills will be harnessed through hillside reservoirs and a functional irrigation network.
Farmers will benefit from regular access to water for their agricultural activities, which will enable them to increase the area under irrigation and intensify agricultural production throughout the year. This improved access to water will encourage crop diversification and the adoption of more productive farming practices.
Agricultural productivity will see a significant increase, thereby contributing to improved food and nutritional security for households. The incomes of

farmers will also be boosted thanks to higher yields and the ability to produce crops during the dry season.

Furthermore, the project will promote better management of water and soil resources, notably by reducing erosion and establishing community-based mechanisms for the management and maintenance of irrigation infrastructure. Farmers' capacities will be strengthened through training on the rational use of water and irrigated farming techniques. Farming households are diversifying their diets (market gardening, pulses) and increasing their incomes. Women and young people, who are involved in cooperatives and in processing or maintenance activities, have direct access to financial resources and decision-making. The access roads that have been built or rehabilitated make it easy to transport inputs to farms and to move produce to major urban centres or across borders at a lower cost.

Furthermore, livestock farmers have access to genetically improved animals that are more productive and better adapted to local agro-ecological conditions. The production of milk, meat and other livestock products is increased, contributing to improved household incomes, food security, soil fertility and the resilience of livestock systems in the face of climate change.

Improvements in animal feed, meanwhile, ensure that livestock farmers have a sustainable supply of sufficient, high-quality feed available throughout the year, thanks to the promotion of fodder crops, the utilisation of agri-food by-products and improved animal feed storage practices. This availability helps to improve animal health, livestock productivity and farm profitability, whilst reducing farms' vulnerability to droughts and seasonal fluctuations in forage resources.

Finally, the aquatic ecosystems of Lake Tanganyika are better preserved and are gradually being restored thanks to the protection and rehabilitation of habitats essential for fish reproduction, particularly spawning grounds. Aquatic biodiversity and fishery resources are better protected, promoting the renewal of fish stocks, the sustainable improvement of catches and the strengthening of fishing communities' livelihoods.
Thus, the implementation of the project will bring about a sustainable improvement in the living conditions of rural populations, strengthen their resilience to climate change and contribute to the agro-pastoral, fisheries and economic development of the area concerned.

Project components

Component 1: Increasing agricultural productivity

Estimated budget: $12.2 million

This component aims to develop irrigation and improve water management in order to secure agricultural production and strengthen the resilience of farms to climate change

Activities:

- Carry out the technical and feasibility studies required for the implementation of hillside irrigation infrastructure;
- To construct and develop water retention basins to secure the agricultural water supply;
- Develop and upgrade irrigation networks, as well as access roads to infrastructure and farms;
- Develop infrastructure and facilities for the storage, processing and post-harvest management of agricultural produce, in particular sheds, equipment and processing units;
- Organise and structure beneficiaries into cooperatives to facilitate production, infrastructure management, marketing and access to services;
- Train management staff and beneficiaries in the techniques for operating, maintaining and servicing hillside irrigation infrastructure, as well as in good agricultural practices;
- Raise awareness amongst local administrative authorities and communities regarding the sustainable management, use and preservation of irrigation infrastructure;
- Promote and disseminate high-yield, short-cycle and/or stress- and climate-shock-tolerant varieties and crops;
- Facilitate producers' access to markets and strengthen marketing channels for agricultural produce;
- Mark out and plant vegetation along contour lines to combat erosion and promote soil and water conservation; and
  Reforest and restore degraded areas within the catchment areas of irrigation infrastructure to reduce erosion, improve water infiltration and ensure the sustainability of the structures.

Expected outcomes

- A technical feasibility study report is available;
- 500 ha of land at the Gihungwe, Kizina, Mitakataka and SRR Bukemba sites are irrigated;
- 10 km of access tracks have been constructed or rehabilitated;
- A storage shed and two post-harvest processing and preservation units are established;
- Producers in Gihungwe, Kizina and Mitakataka are organised into water management and production cooperatives;
- At least 1,500 households are farming well-irrigated plots at the Gihungwe, Kizina and Mitakataka sites;
- At least 1,000 temporary jobs are created in the project area
- The capacities of 500 farmers, 35 per cent of whom are women and 25 per cent young people, are strengthened
- Six awareness-raising sessions for local authorities and communities on the sustainable management, use and preservation of irrigation infrastructure are facilitated;
- At least three high-yield, short-cycle and/or climate-stress-tolerant crops are introduced;
- At least two value chains have been developed;

- Capacities for marketing agricultural produce are strengthened, thereby improving producers' incomes; and
- Agricultural land and catchment areas are restored and protected against erosion through the establishment and revegetation of contour lines and the reforestation of degraded areas.

Component 2: Increasing livestock and fisheries productivity

This component aims to sustainably improve the productivity and resilience of livestock systems and fisheries resources in the face of climate change, by strengthening animal genetics, nutrition and health, as well as the restoration of aquatic ecosystems, in order to increase food security and the incomes of rural communities.

a. Strengthening production capacity, animal nutrition and animal health for climate-resilient livestock farming

Estimated budget: $12.2 million

Activity 1. Genetic and reproductive improvement of livestock herds

Introduce and evaluate improved genetic resources for cattle, sheep, goats and pigs; develop selection and cross-breeding strategies adapted to Burundi's agro-ecological conditions; and test reproductive biotechnologies, notably artificial insemination and embryo transfer, to improve the animals' productive, reproductive, health and adaptive performance;

Activity 2. Development of reproduction infrastructure and the breeding of small ruminants

To construct and equip two goat and sheep breeding centres, ensure their operation, and organise the production, selection and distribution of high-performing breeding stock suited to local agro-ecological conditions;

Activity 3. Improvement of forage resources and development of resilient animal feeding systems

To introduce and evaluate improved forage species and varieties based on their yield, nutritional value, tolerance to water stress and agroecological adaptation; to develop feeding systems based on forage diversification, grass-legume mixtures and the utilisation of local resources; and to set up two livestock feed production units;

Activity 4. Strengthening the prevention and epidemiological surveillance of animal diseases in the face of climate change

Assess the effects of climate change on animal health and disease dynamics; develop integrated strategies for prevention, vaccination and biosecurity
; establish or strengthen an integrated epidemiological surveillance system; and set up and operationalise communal committees responsible for health monitoring, early warning and the reporting of animal diseases;

Activity 5. Capacity building for livestock sector stakeholders

Strengthen the skills of livestock farmers, technicians and support services in the areas of genetic improvement, reproduction, feeding, animal health and climate risk management;

Activity 6. Validation, demonstration and dissemination of innovations in livestock farming

Validate and disseminate the most effective technologies through participatory trials, pilot farms, practical demonstrations and mechanisms for transferring knowledge to producers.

Results

Outcome 1. The genetic potential and reproductive performance of livestock herds are improved

- Improved genetic resources for cattle, sheep, goats and pigs are characterised, evaluated and, where their suitability is demonstrated, introduced into the various agro-ecological zones of Burundi.
- High-performing, hardy, disease-resistant genotypes and crossbreeds that are adapted to climatic stresses are identified and selected.
- Reproductive techniques, notably artificial insemination and embryo transfer, are tested and validated under local conditions.
- The herd's productive, reproductive, health and adaptive performance has improved.

Outcome 2. Infrastructure for the breeding and propagation of small ruminants is operational

- Two goat and sheep breeding centres have been built, equipped and made operational.
- High-quality goat and sheep breeding stock, selected on the basis of their performance and adaptation to local conditions, are produced and multiplied.
- Mechanisms for selection, health monitoring and the distribution of breeding stock have been put in place.
- Farmers' access to high-performing breeding stock suited to different agro-ecological zones has been improved.

Outcome 3. The availability and quality of forage resources and livestock feed are improved

- High-yielding forage species and varieties with good nutritional value and tolerance to water stress are identified and evaluated.
- Resilient animal feeding systems, based on forage diversification, grass-legume mixtures and the utilisation of local resources, are developed and validated.
- Two livestock feed production units are established and operational.
- The seasonal availability of forage and livestock feed is improved, helping to reduce feed shortages during periods of drought and other climatic hazards.

- Livestock performance and the animals' ability to adapt to climatic variations are enhanced.

Outcome 4. Capacities for the prevention, surveillance and response to animal diseases are strengthened

- The effects of climate change on animal health and the dynamics of major diseases are documented.
- Integrated strategies for prevention, vaccination and biosecurity, tailored to health and climate risks, are developed and implemented.
- An integrated system for epidemiological surveillance, early warning and notification of animal diseases is established or strengthened.
- Local health monitoring committees are established and made operational.
- Capacities for the early detection, reporting and response to outbreaks of animal diseases are improved, helping to reduce livestock losses.

Outcome 5. The technical capacities of livestock sector stakeholders in relation to climate resilience are strengthened

- Livestock farmers, technicians and support service staff are trained in improved practices relating to genetic selection, reproduction, feeding and animal health.
- The skills of stakeholders in climate risk management, disease prevention and livestock protection are strengthened.
- Technical tools and resources adapted to local agro-ecological conditions are developed and disseminated.
- The uptake of good livestock farming practices and climate change adaptation techniques is increased.

Outcome 6. Technological innovations in livestock farming are validated, demonstrated and disseminated to producers

- The most effective livestock farming technologies and practices, best suited to local conditions, are identified and validated.
- Participatory trials and pilot producer schemes – including demonstration farms and sites – are established in the various agro-ecological zones.
- Mechanisms for knowledge transfer and the dissemination of innovations are operational.
- Producers' uptake of improved technologies is strengthened.
- The productivity, profitability and climate resilience of aquaculture systems are improved.

Component 3: Sustainable management and restoration of aquatic ecosystems and strengthening the resilience of fisheries systems to climate change

Budget: $12.2 million

Activity 1. Development and equipping of climate-resilient fishing landing sites

- Develop boat mooring areas and fish landing areas adapted to fluctuations in water levels and extreme weather events;
- To construct and equip storage sheds for nets and fishing gear;
- Install solar-powered infrastructure for the preservation, packaging and processing of fishery products;
- Set up solar power systems to ensure the sustainable operation of landing stage equipment and infrastructure; and
- Improve hygiene, safety and preservation conditions for fishery products in order to reduce post-harvest losses.

Activity 2. Restoration and protection of aquatic ecosystems and habitats essential for fish reproduction

- Map and characterise spawning grounds and sensitive aquatic habitats in Lake Tanganyika;
- Restore and protect the buffer zones around Lake Tanganyika to limit bank erosion, siltation and the inflow of pollutants;
- Organise community-led operations to collect and remove floating waste and invasive plants, particularly water hyacinth, in the affected areas;
- Install settling and filtration basins or systems for water and suspended matter at the mouths of Lake Tanganyika's tributaries, following an assessment of their environmental feasibility;
- Install signs and marking devices to demarcate and protect spawning grounds and other sensitive aquatic habitats;
- Establish a monitoring and early-warning system to address climate-related risks affecting aquatic ecosystems, in particular through weather stations and systems for monitoring lake conditions; and
- Raise awareness and mobilise riparian communities, fishermen and other relevant stakeholders to ensure community participation in the restoration and sustainable management of aquatic ecosystems.

Activity 3. Development of a climate-resilient community fish farming scheme on Lake Tanganyika

- Install and monitor floating cages adapted to the ecological and hydrodynamic conditions of Lake Tanganyika, following an environmental risk assessment;
- Support cooperatives of women fishmongers and young fishermen in the production of high-quality fry in suitable hatcheries and fish ponds, for stocking the floating cages;
- Support the establishment and operation of community-based fish feed production units using locally available and nutritionally appropriate raw materials;
- Train beneficiaries in good aquaculture practices, including water quality management, fish feeding, disease prevention and climate risk management; and
- Establish mechanisms for monitoring fish production and environmental management in order to prevent negative impacts on the lake's ecosystems.

Activity 4. Strengthening the economic and organisational capacities of women and young people in the fisheries sector

- Strengthen the capacities of women and young people in relation to good practices in fishing, handling, preservation, processing and marketing of fishery products;
- Support the organisation and structuring of beneficiaries into functional, inclusive and economically viable cooperatives;
- Facilitate the cooperatives' access to markets, storage facilities, financial services and marketing channels for fishery products;
- To promote entrepreneurship amongst women and young people in fishing, fish farming, fry production, fish feed manufacturing and the utilisation of by-products; and
- To develop marketing and conservation mechanisms that reduce post-harvest losses and improve beneficiaries' incomes.

Results

Outcome 1. Climate-resilient fisheries infrastructure is in place and operational

- R1.1. A report on the technical, economic, social and environmental feasibility of fisheries developments and investments has been drawn up and validated;
- R1.2. Two climate-resilient fishing landing sites have been developed, equipped and are operational, one in Bujumbura and the other in Burunga;
- R1.3. Two solar power systems have been installed and are operational at the developed landing sites; and

- R1.4. The capacity for landing, storing, preserving and packaging fisheries products has been improved at both landing sites.

Outcome 2. Degraded aquatic ecosystems and fish spawning habitats are restored or protected

- R2.1. All spawning grounds in Lake Tanganyika are mapped, characterised, catalogued and protected;
- R2.2. Two priority buffer zones located at the mouths of the Kirasa and Dama rivers are protected and subject to sustainable management measures;
- R2.3. Operations to collect and remove water hyacinth and floating debris are carried out in priority areas of Lake Tanganyika;
- R2.4. Sixteen basins or systems for settling suspended solids and retaining waste are installed and operational at the mouths of priority tributaries of Lake Tanganyika;
- R2.5. Signage and demarcation systems are installed to mark protected spawning grounds and raise awareness amongst users of the need to preserve them;
- R2.6. Three meteorological monitoring and early-warning stations are installed and operational for the benefit of fishing communities and
- R2.7. Riparian communities, fishers and local organisations participate in activities to restore, monitor and protect aquatic ecosystems.

Outcome 3. Community fish farming is developed in a sustainable manner and is resilient to climate change

- R3.1. Four floating fish cages are installed and operational, including two in Kabezi and two in Rubindi, subject to the results of environmental feasibility studies;
- R3.2. Women's and youth cooperatives receive technical and material support to produce at least 20,000 fingerlings for stocking the floating cages;
- R3.3. Two community fish-feed production units are established or upgraded and made operational for the benefit of women's and youth cooperatives;
- R3.4. Beneficiaries apply improved fish farming practices, particularly relating to feeding, water quality monitoring, disease prevention and climate risk management; and
- R3.5. Community fish production is increased thanks to improved availability of fry, fish feed and production equipment.

Outcome 4. The economic, organisational and technical capacities of women and young people in the fisheries sector are strengthened

- R4.1. At least two commercial outlets or markets for fisheries products are developed or made accessible to women's and youth cooperatives;
- R4.2. At least 30 per cent of the project's direct beneficiaries are women and 50 per cent are young people, in accordance with the age criteria defined by the project;
- R4.3. At least 50 per cent of beneficiary fishing households show an increase in income compared with the baseline situation;
- R4.4. Eighteen fisheries co-management organisations or cooperatives are established or strengthened and participate in the sustainable management of fishery resources;
- R4.5. Eighteen cooperatives of women fishmongers and young fishermen are trained in best practices for responsible fishing, the conservation of fishery resources, hygiene, and the handling and marketing of products;
- R4.6. The entrepreneurial capacities of women and young people are strengthened in the areas of fishing, fish farming, fry production, fish feed manufacturing and marketing.

Component 4: Project management, monitoring and

evaluation Estimated budget: $8.2 million

Strengthen management, coordination, monitoring, evaluation and knowledge-sharing mechanisms to ensure the effective, transparent and results-oriented implementation of the project, as well as decision-making based on reliable data.

Activities:

- Project coordination and administrative management
- Establishment of a monitoring and evaluation system
- Assessment of the project's outcomes and impacts
- Production of technical and financial reports

Results

The administrative, financial and operational management of the project is carried out efficiently, transparently and in accordance with current procedures;

A functional, integrated monitoring and evaluation system is in place, enabling the regular collection, analysis and use of reliable data on the project's progress and performance;

The project's results, effects and impacts are regularly measured, documented and analysed to guide decision-making and continuously improve the implementation of interventions;

Experiences, good practices, innovations and lessons learnt are documented and capitalised upon with a view to their dissemination and scaling up; and

High-quality technical, financial and performance reports are produced regularly and submitted to stakeholders within the required timeframes.

Key performance indicators Increase in agricultural productivity

1 Rate of increase in average agricultural yield on farms benefiting from hillside irrigation

2 Rate of reduction in crop losses due to water shortages

3 Proportion of beneficiary farming households that have increased their agricultural income through irrigation

4 Rate of increase in cropping intensity within irrigated areas

5 Area of agricultural land effectively irrigated and farmed sustainably

6 Proportion of beneficiary farms maintaining agricultural production during periods of low rainfall

7 Rate of improvement in food security among beneficiary households

Increase in livestock productivity

1 Indicator 1: Livestock productivity

Rate of increase in average livestock productivity on beneficiary farms, by animal species and type of production.

Indicator 2 Livestock health and survival

Rate of reduction in livestock mortality on beneficiary farms. Indicator 3

Livestock food security

Rate of increase in the availability of usable forage resources during critical periods of the year.

Indicator 4 Climate resilience

Proportion of beneficiary livestock farms able to maintain or restore their production following a drought, a fodder shortage or another climate-related shock.

Indicator 5 Income improvement

Proportion of beneficiary livestock-rearing households that have recorded an increase in their net income from livestock farming.

c. Sustainable management of aquatic ecosystems and fish

1. Fish productivity

Rate of increase in annual fish production from fish farming supported by the project.

2. Income improvement

Proportion of beneficiary households that have seen an increase in their net income from fishing, fish farming or the sale of fish.

3. Climate resilience
Proportion of beneficiary fishing and fish farming units able to maintain or resume their activities following a climate-related shock.

4. Conservation of aquatic ecosystems

Proportion of priority spawning grounds subject to effective protection measures and ecological monitoring.

5. Economic inclusion

Proportion of women and young beneficiaries who have increased their net incomes through supported fisheries activities.

6. Sustainability of practices

Rate of adoption of responsible fishing practices and environmentally sound fish farming by beneficiaries.

Appendix 1

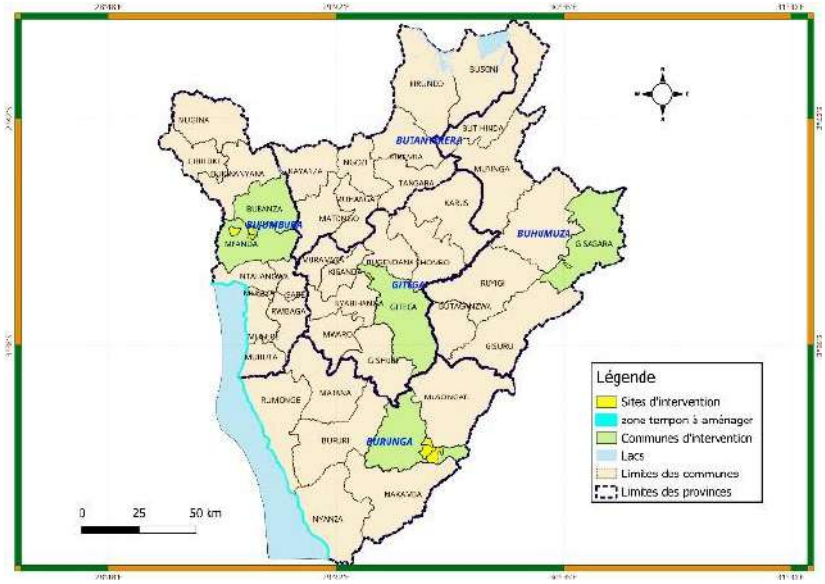


Figure 1: Location of project sites

Burundi is a landlocked country in East Africa, situated in the African Great Lakes region. It is bordered by Rwanda to the north, Tanzania to the east and south, and the Democratic Republic of the Congo to the west, from which it is partly separated by Lake Tanganyika. Its political capital is Gitega, whilst Bujumbura remains the country's main economic and commercial centre.

Burundi is characterised by a varied landscape, comprising plains, plateaus, hills and mountains, as well as a tropical climate moderated by altitude. The economy relies mainly on agriculture and livestock farming, which play a vital role in the livelihoods of rural populations. The country also possesses significant natural resources, notably agricultural land, forests, wetlands and the

fisheries resources of Lake Tanganyika. According to World Bank data, the country's population stood at approximately 14.4 million in 2025, and it is characterised by a high population density.

Despite its agricultural and natural potential, Burundi faces several challenges, including demographic pressure on land, soil degradation, vulnerability to climate change and low agricultural productivity. Sustainable development therefore requires strengthening the resilience of agricultural, pastoral and fisheries systems, protecting ecosystems and promoting economic diversification.

Project sites

Province	**Municipality**	**Hill/intervention sites**
Bujumbura	Mpanda	Gihungwe and Kizina
	Bubanza	Mitakataka
Buhumuza	Gisagara	Kigarika
Gitega	Gitega	Nyamugari
Burunga	Rutana	Bukemba, Kabanga and Murama

The project's intervention sites are mainly spread across three agro-ecological zones in Burundi. These are the Imbo plain, in the west of the country, notably in Gihungwe, Kizina and Mitakataka, in the communes of Bubanza and Mpanda, Bujumbura province; the eastern depressions, comprising Bukemba, Kabanga, Murama and Kigarika, in the communes of Rutana and Gisagara, in the provinces of Burunga and Buhumuza respectively; and the dry central plateaus, represented by Nyamugari, in the commune and province of Gitega.

Despite their agroecological differences, these sites share a common vulnerability to climate-related hazards, characterised in particular by recurrent droughts and limited water availability. These constraints are generally more pronounced in low-lying areas, particularly in the Imbo Plain and the eastern depressions, whilst the dry central plateaus also experience water shortages that are likely to affect crop and livestock production. Added to these constraints are soil degradation, erosion and declining fertility, phenomena exacerbated by over-exploitation of the land and certain unsustainable management practices. The interaction between these climatic and human-induced factors undermines the productivity of crop and livestock farming systems, weakens the livelihoods of rural households and reduces their capacity to cope with climate shocks. These characteristics justify the implementation of integrated interventions aimed at strengthening the resilience of production systems, improving the sustainable management of natural resources and promoting practices adapted to the agro-ecological conditions specific to each site.

7 PROJECT FOR SUSTAINABLE ACCES TO ELECTRIFICATION WITH CLEAN ENERGY FOR 1520 LOCALITRIES IN PROVINCES TRAVERSED BY 220 KV TRANSMISSION LINE.





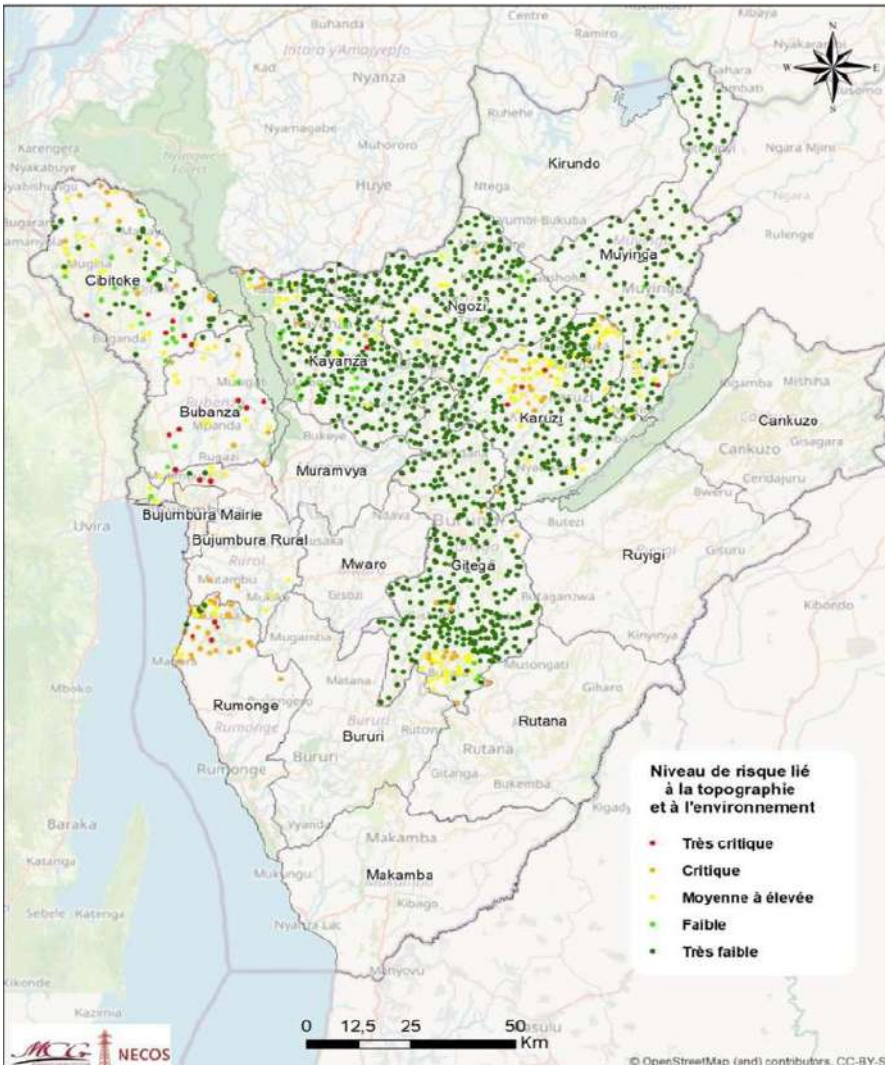
Responsible ministry: Ministry of Mining, Energy, Industry, Trade and Tourism (MRMEICT)

Delegated project owner: REGIDESO (Water and Electricity Production and Distribution Authority).

Location

The provinces of Bujumbura, Butanyerera, Gitega and part of Buhumuza province,

Corresponding to the localities situated in the hills of the former provinces of Cibitoke, Bubanza, Bujumbura, Ngozi, Kayanza, Gitega, Karusi and Muyinga.



Project status
Feasibility studies, funded by the African Development Bank (AfDB), are being finalised, and financing agreements for 113 localities are at an advanced stage with the AfDB.

Project duration
36 months for the current phase (Phase II), commencing from the effective mobilisation of funding for the works

Total estimated cost
Overall project budget: USD 1,154,419,951, of which financing agreements for 113 localities are at an advanced stage with the AfDB, amounting to an estimated USD 83,200,000

The amount to be raised for the remaining localities (excluding the 113 localities already committed) is estimated at USD 1,071,219,951, broken down as follows:

- Construction of electricity infrastructure: USD 1,010,117,457
- Procurement of improved stoves: USD 28,860,499
- Technical assistance for physical infrastructure: USD 36,075,623

Project coordination and capacity building for REGIDESO and other stakeholders in the energy sector, as well as compensation payments to those affected by the project: USD 79,366,372

Sources of funding

Funding agreements for 113 localities are at an advanced stage with the AfDB; funding for the remaining localities still needs to be secured.

Form of support requested: grant or concessional loan.

Alignment with national policies and strategies

Burundi Vision 2040–2060;

Revised National Development Plan (NDP) 2018–2027, which prioritises access to electricity;

National Energy Policy and Master Plan for the electricity sector;

Burundi's Nationally Determined Contribution (NDC) and National Climate Change Policy;

Burundi's National Gender Policy.

Alignment with regional and international instruments

The Paris Agreement on climate change and the objectives of the United Nations Framework Convention on Climate Change (UNFCCC);

Sustainable Development Goals, in particular SDG 7 (affordable and clean energy), SDG 5 (gender equality) and SDG 13 (climate action);

The African Union's Agenda 2063;

The regional interconnection programme of the East Africa Power Pool (EAPP) and the Central African Power Pool (PEAC).

Sector
Energy – Electricity distribution using clean and sustainable energy

Overall objective
To bring about a sustainable improvement in the living conditions of people in the targeted localities through reliable access to clean electricity, whilst supporting local economic development and Burundi's energy transition.

Specific objectives
- To increase the rate of access to electricity for households, administrative bodies and businesses;
- Strengthen the technical capacities of REGIDESO and other stakeholders in the energy sector;
- To reduce greenhouse gas emissions by replacing fossil fuels and biomass energy with electricity from the interconnected grid;
- Strengthen the resilience to of energy energy and the communities they serve;
- Promoting gender equality in energy management and decision-making.

Pre-project situation

Electricity access rates remain low in the targeted localities, even though the 220 kV transmission lines built as part of the regional interconnection already pass through the former provinces concerned.

The rate of access to electricity remains one of the lowest in Africa and the world: 25.9 per cent in 2025 The number of households affected by this project is 793,628

In the absence of a distribution network, households rely mainly on biomass energy (firewood, charcoal) and fossil fuels (generators, kerosene), with consequences for deforestation, the degradation of catchment areas and health (indoor air pollution), as well as a disproportionate workload for women responsible for collecting wood and water.

Project rationale
Access to electricity is a key driver of economic and social development, of improving people's living conditions and of enhancing the competitiveness of productive activities.

The main reasons justifying the implementation of the project are:
- Improved access to electricity in rural and peri-urban areas;
- Optimising the use of existing transmission lines;
- Stimulating local economic development;
- Improving basic social services;
- Contributing to job creation and poverty reduction;

- Strengthening regional equity and social cohesion.

The need to build medium- and low-voltage distribution lines stems from the existence of 220 kV transmission lines that are underutilised locally, as well as from growing energy demand.

The project is aligned with Vision 2040–2060 and the National Development Plan (PND) 2018–2027, which prioritise access to electricity, as well as with Burundi's Nationally Determined Contribution, by helping to reduce GHG emissions and strengthen climate resilience.

Post-project situation

- 1,520 localities electrified and connected to the national grid;
- A significant increase in the rate of access to electricity for households and administrative and commercial entities;
- Reduced dependence on biomass energy and fossil fuels, with a corresponding reduction in GHG emissions and pressure on forest resources;
- 1,520 localities electrified and connected to the national grid;
- A significant increase in the rate of access to electricity for households and administrative and commercial entities;
- Reduced reliance on biomass energy and fossil fuels, with a corresponding reduction in GHG emissions and pressure on forest resources;

Gender and social inclusion

In Burundi, women bear a disproportionate share of energy-related tasks (collecting firewood, domestic chores) and remain under-represented in decision-making bodies and technical roles within the energy sector. The project incorporates a gender-sensitive approach at every stage, in line with the National Energy COMPACT's guidelines on gender parity.

Expected benefits:

A reduction in the time spent by women and girls on collecting fuelwood and carrying out domestic chores; improved access to health and education services; and support for women-led economic activities (agricultural processing, crafts, small businesses) through more reliable access to electricity.

Key performance indicators

- Number of new households, administrative and commercial entities connected to the distribution network;
- Length of MV and LV lines built or upgraded (km);
- Volume of GHG emissions avoided (tonnes of CO_2 equivalent);
- Number of jobs created, broken down by gender;

- Number of women trained or involved in the management and governance of the energy sector. Number of new households, administrative and commercial entities connected to the distribution network;
- Length of MV and LV lines constructed or rehabilitated (km);
- Volume of GHG emissions avoided (tonnes of CO_2 equivalent);
- Number of jobs created, broken down by gender;
- Number of women trained or involved in the management and governance of the energy sector.

Project components

- **Component A:** Construction of electricity infrastructure;
- **Component B:** Technical assistance for physical infrastructure;
- **Component C:** Project coordination and capacity building for REGIDESO and other stakeholders in the energy sector.

Main project activities

- Conducting feasibility studies and environmental and social impact assessments (ESIA);
- Construction and rehabilitation of MV and LV distribution lines;
- Installation of equipment and connection of households, administrative bodies and commercial entities;
- Training and capacity building for REGIDESO and other sector stakeholders;
- Community awareness-raising, including on gender issues and the productive use of energy;
- Validation of technical and design studies;
- Supervision and monitoring of works;
- Project management;
- Project monitoring and evaluation;
- Implementation of environmental and social measures.

Project maturity

Feasibility studies are currently being finalised with funding from the AfDB. The next steps involve securing additional funding and launching international tenders for the works.

8 PROJECT TO STRENGTHEN THE NATIONAL ELECTRICITY TRANSMISSION NETWORK FOR THE INTEGRATION OF RENEWABLE ENERGY, ENERGY RESILIENCE AND REGIONAL INTEGRATION IN BURUNDI

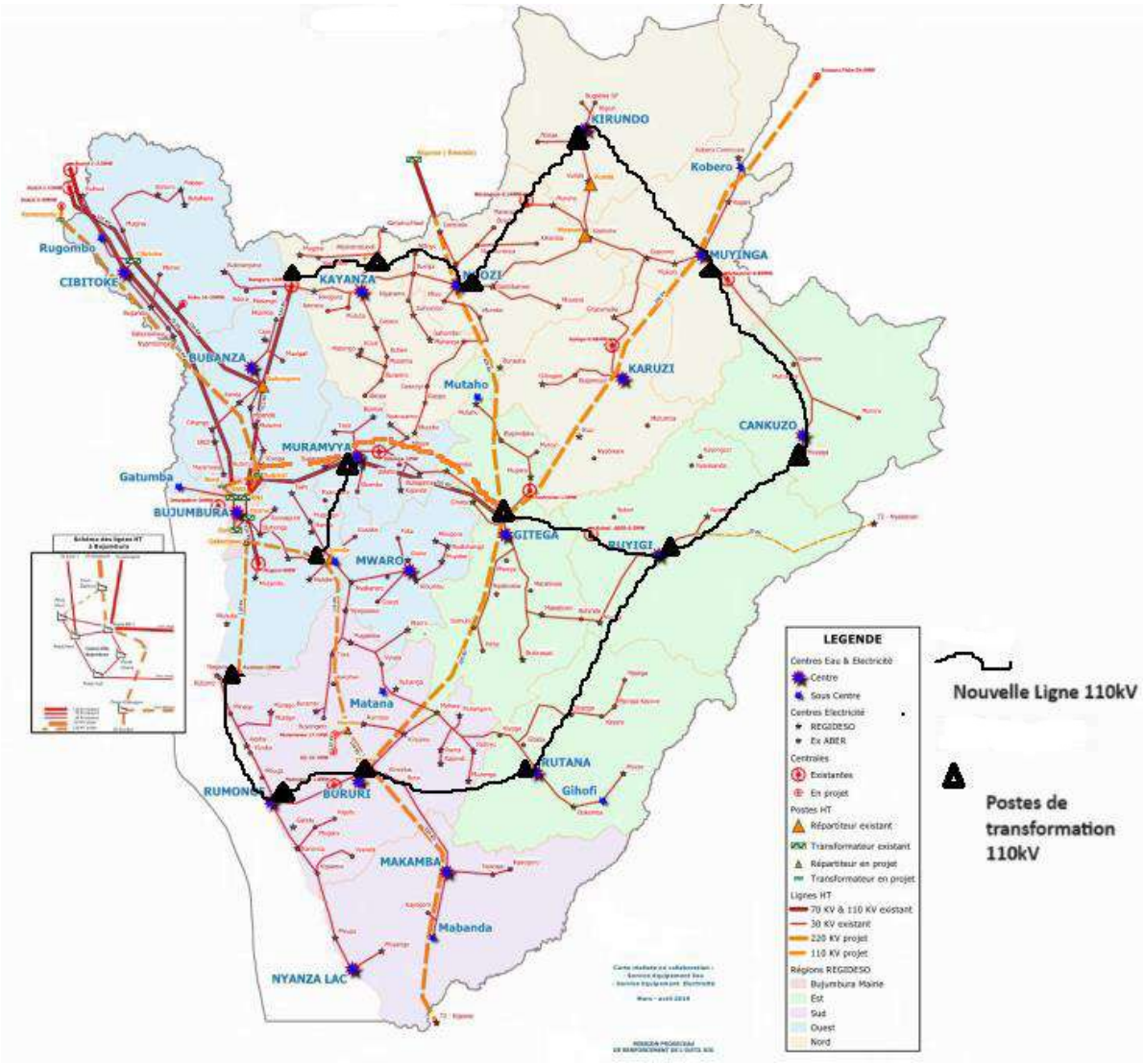


Responsible ministry: Ministry of Mineral Resources, Energy, Industry, Trade and Tourism (MRMEICT), through the Directorate-General for the Energy Programme.

Delegated project owner: REGIDESO (Water and Electricity Production and Distribution Authority).

Location

The provinces of Burunga, Butanyerera, Gitega, Buhumuza and Bujumbura in Burundi, as well as the province of Kigoma in Tanzania for the cross-border section of the 220 kV line (Rubirizi – Zege/Gitega – Horezo – Kigoma corridor).



Project status

Technical and feasibility studies are currently being carried out, funded by the World Bank as part of the ASCENT project – one of the projects included in the National Energy Pact

Energy 'COMPACT' (the Mission 300 initiative, jointly led with the African Development Bank). Funding for the construction of the infrastructure still needs to be secured.

Project duration

36 months (3 years), from the effective mobilisation of funding for the works

Total estimated cost

Overall amount not yet finalised: the feasibility studies currently underway should enable the final cost to be determined.

The estimated cost for the transmission line and associated substations is: 399,049,000 USD, broken down as follows:

- Construction of the 220 kV transmission line and associated substations (USD 89,100,000)
- Construction of the 110 kV national loop lines and associated substations (USD 277,000,000)
- Technical assistance for physical infrastructure (USD 18,305,000)
- Project coordination and capacity building for REGIDESO and other stakeholders in the energy sector (USD 14,644,000)

Sources of funding

The World Bank has funded the studies (feasibility, detailed technical studies, environmental and social safeguards) and funding for the execution of the works remains to be secured.

Funding for the works still needs to be mobilised from technical and financial partners (the World Bank, the African Development Bank, the European Union, bilateral cooperation, etc.), possibly supplemented by a contribution from the Government of Burundi and REGIDESO.

Alignment with national policies and strategies

The Vision 'Burundi: An Emerging Country by 2040 and a Developed Country by 2060' sets the objective of universal access to electricity (100 per cent) by 2040, with 80 per cent of the population connected to the main grid and 20 per cent via decentralised solar solutions, and 99 per cent of electricity generation coming from renewable sources.

The project is also part of the revised National Development Plan (PND) 2018–2027 and the National Energy Pact 'COMPACT', which aims to increase the rate of access to electricity to 70 per cent of the population by 2030 (compared with 25.9 per cent in 2025, of which only 8 per cent is via the interconnected grid);

Burundi's Nationally Determined Contribution (NDC) and National Climate Change Policy;

Alignment with regional and international instruments

- Integration into the East African Power Pool (EAPP) and cooperation with the Central African Power Pool (PEAC/CAPP).
- Regional programme for the interconnection of electricity grids in the Nile Equatorial Lakes countries (NELSAP).
- East African Community (EAC) Treaty – energy component.
- The World Bank and African Development Bank's 'Mission 300' initiative (providing access to electricity for 300 million people in Africa by 2030).
- Sustainable Development Goal 7 (SDG 7): access to clean, reliable and affordable energy.
- African Union Agenda 2063;

The Paris Agreement on climate change and the objectives of the United Nations Framework Convention on Climate Change (UNFCCC).

Sector
Energy – Transmission of electrical energy.

Overall objective

To develop a reliable and resilient electricity transmission network to increase access to energy, integrate new renewable generation capacity and strengthen Burundi's regional energy integration

Specific objectives

- To facilitate the integration of additional renewable energy generation capacity (hydroelectricity, solar) into the national grid.
- To improve the reliability, availability and resilience of the national electricity supply.
- Strengthen the technical and operational capacities of public institutions in the energy sector with regard to the operation and maintenance of the transmission network.
- To incorporate a gender-sensitive approach into the design, implementation and monitoring of the project, so that women and vulnerable groups benefit equitably from the project's outcomes.

To reduce greenhouse gas emissions by replacing fossil fuels and biomass energy with electricity from the interconnected grid.

Pre-project situation

- The existing national transmission grid, operated by REGIDESO, comprises approximately 650 km of lines (220 kV and 110 kV), a length considered to be largely insufficient: the Transmission Master Plan (2017–2040) estimates additional requirements at 763 km.
- The rate of access to electricity remains one of the lowest in Africa and the world: 25.9 per cent in 2025

- The 220 kV Rubirizi–Zege (Gitega)–Horezo–Kigoma line, designed to secure the supply throughout the country, facilitates regional power exchanges with Tanzania.
- The lack of a closed-loop 110 kV national grid limits the reliability of the supply, increases technical losses and hinders the optimal integration of new renewable generation capacity (Jiji-Mulembwe, Ruzizi III, solar projects, etc.).

Project rationale

- Burundi has significantly increased its installed generation capacity (from 47.35 MW in 2020 to 174 MW in 2025, 79 per cent of which is hydroelectric), but this generation cannot be fully utilised due to the lack of an adequate transmission network, which limits the conversion of the megawatts produced into actual access for the population.
- The project will resolve this bottleneck by connecting new generation capacity to consumption centres and securing the power supply by looping the 110 kV grid.
- It forms part of the national strategy to diversify supply sources through regional interconnection with Tanzania and the East African Power Pool (EAPP) and the Central African Power Pool (PRAC), thereby reducing Burundi's dependence on a limited number of domestic sources.
- It addresses the priorities of Burundi's National Energy Pact 'COMPACT', which explicitly identifies the completion of studies and the mobilisation of funding for the Rubirizi–Zege–Horezo–Kigoma line as a priority for regional energy integration.

The project will help reduce technical and commercial losses – which currently stand at around 25 per cent – through the integration of new 110kV transmission substations and loop lines. It will also contribute to increased generation through the import of electricity via regional integration, thereby resolving the issue of load shedding currently implemented during the dry season.

Post-project situation

- Commissioning of a 220 kV transmission line linking Rubirizi, Zege (Gitega), Horezo and the Tanzanian border (Kigoma), enabling cross-border electricity trade and the effective integration of Burundi into the regional energy market (EAPP).
- Completion of the 110 kV national transmission grid, improving the reliability, resilience and security of electricity supply across the entire territory concerned.
- Better utilisation of existing and future renewable generation capacity (hydroelectricity, solar), reducing reliance on fossil fuels and technical losses.
- 132 km of 220 kV power lines and two 220 kV substations constructed, with the extension of three existing 220 kV substations,
- 530 km of 110 kV power lines constructed, along with four new 110 kV substations and the extension of nine existing 110 kV substations.
- Approximately 300 MW of capacity will be imported from Tanzania and Ethiopia.
- 70 per cent of the population will be supplied with electricity.
- The loss rate will be less than 10 per cent

Gender and social inclusion

In Burundi, women bear a disproportionate share of energy-related tasks (collecting firewood, domestic chores) and remain under-represented in decision-making bodies and technical roles within the energy sector. The project incorporates a gender-sensitive approach at all stages, in line with the National Energy COMPACT's guidelines on gender parity.

Expected benefits:

A reduction in the time spent by women and girls on collecting fuelwood and carrying out domestic chores; improved access to health and education services; and support for women-led economic activities (agricultural processing, crafts, small businesses) through more reliable access to electricity.

Key performance indicators

- Number of kilometres of 220 kV and 110 kV power lines constructed and commissioned.
- Number of substations built, equipped or modernised.
- Additional transmission capacity of the grid (in MW/MVA).
- Volume of energy exchanged annually with Tanzania and other PEAC and EAPP countries,
- Availability and reliability rates of the transmission network (reduction in the number and duration of service interruptions).
- Change in the national electricity access rate (benchmark: 25.9 per cent by 2025).
- Proportion of women amongst the project's on-site workforce.
- Proportion of female-headed households amongst the beneficiaries of compensation/resettlement measures and new connections.
- Number of beneficiaries: 9,800,000 inhabitants
- Loss reduction rate will fall from 26 per cent to less than 10 per cent

Project components

Component A: Construction of the 220 kV transmission line and associated substations (89,100,000 USD)

Component B: Construction of the 110 kV national loop lines and associated substations (277,000,000 USD)

Component C: Technical assistance for physical infrastructure (USD 18,305,000)

Component D: Project coordination and capacity building for REGIDESO and other stakeholders in the energy sector (USD 14,644,000)

Main project activities

- Finalisation of the detailed technical studies, the environmental and social impact assessment (ESIA) and the environmental and social management plan (ESMP).
- Acquisition of land and compensation for affected persons (resettlement action plan – RAP), where applicable.

- Supply and installation of electrical equipment.
- Carrying out civil engineering and foundation works.
- Construction, fitting out and extension of associated substations.
- Validation of technical and design studies.
- Supervision and monitoring of the works.
- Training for REGIDESO teams and other stakeholders in the energy sector in the operation and maintenance of power lines and substations.
- Project management.
- Project monitoring and evaluation.
- Implementation of environmental and social measures.

Project maturity

Progress: Feasibility studies and detailed technical studies are underway, funded by the World Bank; the environmental and social safeguard documents (EIES/PGES) are yet to be finalised.

Next steps: Finalisation of the studies and mobilisation of funding for the works (National Energy Pact 'COMPACT' / Mission 300), followed by the launch of international tenders for construction.

9 PROJECT TO DEVELOP A NETWORK OF PROTECTED AREAS FOR ECOSYSTEM RESTORATION, BIODIVERSITY CONSERVATION AND RESTORATION, AND THE STRENGTHENING OF BURUNDI'S CLIMATE RESILIENCE









Lead Ministry: Ministry of the Environment, Agriculture and Livestock **Location**

- Provinces: All five provinces of Burundi: Bujumbura, Burunga, Buhumuza and Gitega
- Communes: All rural communes in Burundi
- Collines: All rural Collines in Burundi
- Sub-hills: All rural sub-hills in Burundi.

Project status

This project is an initiative currently at the design stage, aimed at promoting biodiversity conservation, ecosystem restoration and strengthening the climate resilience of the Burundian landscape. It envisages the gradual creation of a network of protected areas at the sub-hill, hill, zonal and commune levels, based on ecological, climatic, land tenure and socio-economic criteria.

The project aims to contribute to the protection of natural habitats, the conservation of native species, the preservation of water resources, the fight against soil erosion and the restoration of degraded areas. It will prioritise a participatory approach involving local communities, administrative authorities and institutions responsible for biodiversity conservation and environmental management.

Its implementation will be contingent upon the completion of preliminary studies, the identification and validation of priority sites, the clarification of land tenure arrangements, the obtaining of the necessary authorisations and the mobilisation of the required financial resources.

The project will be developed in line with Burundi's national policies and strategies on biodiversity conservation, sustainable natural resource management and adaptation to climate change, in particular the National Strategy for the Conservation of Protected Areas in Burundi for the period 2022–2032.

Project duration: Five (05) years

Total estimated cost: 12.08 million USD

Source of funding: to be secured

Consistency and alignment of the project with national, regional, continental and international policies, strategies and commitments

1. Alignment with Burundi's national policies and strategies

The project to establish protected areas at the sub-hill, hill, zonal and communal levels is in line with Burundi's national guidelines on biodiversity conservation, environmental protection, ecosystem restoration and strengthening climate resilience.

It will help to translate national strategic guidelines into concrete local actions, by aligning conservation objectives with the ecological, land-use and socio-economic realities of local communities.

A. National Strategy for the Conservation of Protected Areas 2022–2032

This strategy is one of the national frameworks most directly relevant to the project. It aims to expand and improve the conservation and sustainable management of protected areas in Burundi and provides a framework for advocacy and the mobilisation of funding for conservation.

The project will contribute to this strategy by:

- Identifying new priority areas for conservation.
- Strengthening the protection of natural habitats and threatened ecosystems.
- Improving site management and monitoring mechanisms.
- Involving local communities in biodiversity conservation.
- Mobilising financial and technical resources for the sustainable management of protected areas.

Expected outcome: to strengthen Burundi's conservation network in conjunction with existing protected areas and to improve the management of areas of ecological importance.

B. National Biodiversity Strategy and Action Plan 2021–2030

This strategy provides an essential framework for the conservation and sustainable use of biodiversity. Its update aims, in particular, to align national objectives with the Kunming–Montreal Global Biodiversity Framework.

The project will contribute to its implementation by:

- Conserving natural habitats and native species.
- Restoring degraded ecosystems.
- Improving ecological connectivity between sites.
- Integrating biodiversity objectives into spatial planning.
- Strengthening community participation in natural resource management.

Expected contribution: to contribute to national biodiversity conservation and restoration targets by 2030.

C. Vision: Burundi as an emerging country by 2040 and a developed country by 2060

The National Vision recognises environmental protection and building resilience to climate change as strategic priorities. It also includes an objective relating to the safeguarding and promotion of cultural and natural heritage.

The project will contribute to these objectives by:

- Preserving the country's natural capital.
- Strengthening the protection of ecosystems and water resources.
- Reducing land degradation.
- Improving the ecological resilience of local areas.
- Promoting community participation in sustainable development.

Expected contribution: to integrate biodiversity conservation and climate resilience into the sustainable transformation of Burundian regions.

. Revised National Development Plan 2018–2027 and Priority Action Plan 2023–2027

The Burundian Government has undertaken a review of the National Development Plan to align it with Vision 2040–2060 and strengthen the coherence of national planning.

The project could contribute to the relevant policy directions of these instruments by:

- Integrating environmental considerations into territorial development.
- Restoring degraded land.
- Protecting natural resources essential to economic activities.
- Reducing communities' vulnerability to climate-related risks.
- Strengthening the capacity of local institutions and stakeholders.

Expected contribution: to promote sustainable territorial development based on the conservation of natural resources and the reduction of climate vulnerability.

E. Burundi's Nationally Determined Contribution (NDC) under the Paris Agreement

The official register of the United Nations Framework Convention on Climate Change lists Burundi's updated contribution, submitted on 5 October 2021.

The project could contribute to the country's climate commitments through: the conservation of natural ecosystems.

- Restoring native vegetation.
- Protecting catchment areas and wetlands.
- Reducing land degradation.
- Strengthening ecosystem-based adaptation.

Expected contribution: to strengthen the adaptive capacity of the Burundian landscape and, where interventions allow, to contribute to the conservation and enhancement of carbon stocks.

F. National legal framework relating to the environment and protected areas

The implementation of the project must also comply with Burundian laws and regulations relating to environmental protection, biodiversity, land tenure, spatial planning and natural resource management.

The specific legislation applicable to the various categories of sites will need to be verified with the relevant national institutions, in particular the Environmental Authority and the relevant government departments, before finalising the classification system.

This verification is important because the sub-hill, hill, zonal and communal levels constitute the territorial scales proposed by the project and do not necessarily, as such, correspond to official legal categories of protected areas.

Expected contribution: to ensure the legality of the establishment procedures, secure land tenure for the sites and the compliance of conservation and restoration activities.

2. Alignment with regional, continental and international commitments

A. Convention on Biological Diversity (CBD)

The Convention on Biological Diversity is the main international framework for the conservation of biodiversity, the sustainable use of its components and the fair and equitable sharing of the benefits arising from the use of genetic resources.

The project will contribute to the relevant objectives of the Convention through the protection of natural habitats, the conservation of native species, the restoration of degraded ecosystems and the improvement of the management of conservation areas.

B. Kunming–Montreal Global Biodiversity Framework

Adopted in December 2022, this global framework sets out long-term goals for 2050 and action targets to be achieved by 2030.

The targets most relevant to the project are:

- **Target 1:** spatial planning that integrates biodiversity.
- **Target 2:** Restoration of degraded ecosystems.
- **Target 3:** effective conservation of terrestrial areas and inland waters.
- **Target 8:** reducing the impacts of climate change on biodiversity and building resilience.
- **Target 11:** maintaining and restoring ecosystem services.
- **Target 14:** Integrating biodiversity into policies and planning.

The project will contribute to these objectives by combining the conservation of natural areas, ecological restoration and community participation.

C. Paris Agreement on Climate Change

The Paris Agreement aims, in particular, to strengthen the global response to climate change and improve adaptive capacity.

Burundi ratified this agreement on 17 January 2018.

The project will contribute to this commitment by conserving ecosystems that play a role in hydrological regulation, soil protection and carbon storage.

Climate benefits will be assessed using indicators tailored to the characteristics of the sites, without automatically attributing a measurable effect on mitigation or adaptation to every protected area.

D. United Nations Sustainable Development Goals

The project makes a direct or indirect contribution to several SDGs:

- SDG 6**:** Clean water and sanitation, through the protection of water resources and associated ecosystems.
- SDG 13**:** Climate action, by strengthening adaptation and resilience.
- SDG 15**:** Life on Land, through the conservation of biodiversity and the restoration of ecosystems.
- SDG 17**:** Partnerships for the Goals, through collaboration between institutions, communities and financial partners.

E. African Union Agenda 2063

Agenda 2063 supports a sustainable development pathway based, in particular, on the responsible management of natural resources and greater resilience within African societies.

The project will contribute to these objectives by strengthening the protection of Burundi's natural heritage and promoting land-use management that combines conservation, ecological restoration and local development.

F. Regional frameworks of the East African Community

The project is also consistent with the East African Community's (EAC) guidelines on the sustainable management of natural resources and the fight against climate change.

It will facilitate the sharing of experiences, the dissemination of best practice and the preservation of ecological corridors where sites are of cross-border interest.

Strategic conclusion

The strategic coherence analysis shows that the project to establish protected areas at the sub-hill, hill, zonal and communal levels has significant potential to contribute to Burundi's priorities regarding biodiversity conservation, ecosystem restoration and the strengthening of climate resilience.

Its progressive territorial approach links local conservation initiatives to a broader vision of sustainable landscape management. It thus promotes complementarity between the protection of small natural habitats, the conservation of ecological areas of hill range significance, zonal coordination and the creation of larger communal protected areas.

At regional and continental levels, the project aligns with the policies of the East African Community and the African Union in support of sustainable natural resource management and climate resilience. At the international level, it contributes to the ambitions of the Kunming–Montreal Global Biodiversity Framework, the Paris Agreement on Climate Change and the Sustainable Development Goals, in particular SDGs 6, 13 and 15.

However, putting this alignment into practice will require an explicit link between the project's objectives and officially adopted national priorities, as well as verification that the interventions comply with Burundi's legal framework governing protected areas, land tenure and spatial planning.

Ultimately, the project presents an opportunity to strengthen biodiversity conservation at the local level whilst contributing to a more integrated strategy for climate resilience across the Burundian landscape. Its added value will lie in its ability to translate strategic commitments into concrete, measurable and sustainable actions at the local level, based on reliable ecological data, participatory governance and sustainable financing mechanisms.

- This framework offers the potential to strengthen connectivity

Sector

The project falls primarily within the environment and biodiversity conservation sector, with a specific focus on ecosystem restoration and strengthening the climate resilience of the Burundian landscape.

It forms part of an integrated approach to the sustainable management of natural resources, aimed at preserving natural habitats, restoring degraded areas, protecting water resources and soils, and strengthening the capacity of ecosystems and local communities to cope with the effects of climate change.

The project covers the following sub-sectors and areas of intervention:

1. Biodiversity conservation**:** the creation, protection and management of protected areas at the sub-hill, hill, zonal and communal levels, with a view to preserving

native species, natural habitats and ecosystems of ecological importance.

2. Ecological restoration and sustainable land management**:** restoration of degraded ecosystems, assisted natural regeneration, control of soil erosion and rehabilitation of ecologically sensitive areas.
3. Adaptation to climate change**:** strengthening the resilience of ecosystems and landscapes to droughts, heavy rainfall, floods and other climate-related risks.
4. Sustainable water resource management**:** protection of springs, riverbanks, wetlands and catchment areas to preserve the hydrological functions of ecosystems.
5. Environmental governance and community-based management of natural resources **:** involvement of local communities, administrative authorities and relevant institutions in the establishment, management and monitoring of protected areas.
6. Climate change mitigation**:** conservation of existing carbon stocks and contribution to their sustainable increase through the protection and restoration of ecosystems, where ecological conditions permit.

Main sector**:** Environment and biodiversity conservation.

Cross-cutting sectors**:** Climate change adaptation, land restoration, water resource management, land-use planning and sustainable community development.

7. Priority area of intervention**:** Establishment and participatory management of a network of local protected areas contributing to biodiversity conservation, ecosystem restoration and the strengthening of the Burundian landscape's climate resilience.

Overall objective

To contribute to strengthening the climate resilience of the Burundian landscape through the creation and sustainable management of a network of protected areas at the sub-hill, hill, zonal and communal levels, with a view to conserving biodiversity, restoring degraded ecosystems and sustainably preserving natural resources for the benefit of future generations
present and future.

Specific objectives

The project has five specific objectives:

O.S.1 : To identify, establish or secure legal recognition for protected areas at various territorial scales, based on ecological characteristics and land tenure possibilities.

O.S.2 : To strengthen the effective conservation of biodiversity and improve ecological connectivity, thereby enhancing climate resilience.

O.S.3 : To protect water resources and improve soil stability.

S.O.5: Strengthen community participation and local governance of protected areas.

Project context and rationale

Burundi possesses a natural heritage comprising diverse ecosystems, including in particular natural forests, savannahs, wetlands, mountain ecosystems, watercourses and agroecological areas. These ecosystems play a vital role in conserving biodiversity, regulating the water cycle, protecting soils, storing carbon and sustaining people's livelihoods.

The conservation of this natural heritage is a major challenge for the country's sustainable development, as a large proportion of the population depends directly on natural resources for agriculture, livestock farming, water supply, domestic energy and various economic activities.

However, Burundi's ecosystems are under increasing pressure, linked in particular to population growth, the fragmentation of natural habitats, the expansion of agricultural land, the unsustainable exploitation of forest resources, wildfires, soil erosion and the degradation of wetlands. These pressures may compromise the ecosystems' ability to sustainably provide the goods and services that are essential to communities.

Furthermore, climate change is exacerbating the environmental challenges facing the country. Variability in rainfall, episodes of heavy rain, flooding, localised droughts and an increased risk of erosion can affect agricultural productivity, infrastructure, water resources and people's living conditions. The consequences of these phenomena are of particular concern in areas where soils are highly susceptible to runoff and where natural vegetation cover has been degraded.

In this context, the conservation and restoration of ecosystems are key drivers for strengthening the climate resilience of the Burundian landscape. Natural and restored ecosystems can help to limit erosion, regulate water flow, preserve habitats, maintain soil fertility and support local economic activities.

The establishment of a network of protected areas at various territorial scales therefore appears to be a relevant approach to strengthening biodiversity conservation whilst integrating climate, ecological and socio-economic considerations into land management.

Despite Burundi's efforts in the areas of biodiversity conservation and environmental protection, the degradation of certain ecosystems remains a major concern. Small natural areas, remnant forests, water sources, riverbanks and other ecologically sensitive habitats can be particularly vulnerable when they do not benefit from appropriate

appropriate protection and management measures.

At local level, conservation initiatives may lack coordination between different territorial units. Areas of major ecological importance may therefore remain inadequately protected, whilst restoration work may be carried out without taking into account the conservation needs of neighbouring areas.

The fragmentation of natural habitats can also reduce species' ability to move, compromise certain ecological processes and diminish ecosystems' capacity to adapt to environmental changes.

Furthermore, pressure on land and natural resources can exacerbate conflicts of use between conservation needs, agricultural activities, access to forest resources and other means of livelihood for local communities.

These challenges highlight the need to develop an integrated territorial approach that enables the identification of priority areas for conservation, the organisation of their protection, the restoration of degraded habitats and the involvement of local communities in their management.

The central issue of the project can therefore be formulated as follows:

How can a network of protected areas be established and managed sustainably at the sub-hill, hill, zonal and communal levels in order to preserve biodiversity, restore degraded ecosystems and strengthen the climate resilience of the Burundian landscape, whilst taking into account the socio-economic needs of local communities?

The project aims to address this issue through a gradual, participatory approach based on ecological, climatic, land-use and socio-economic criteria.

The creation of protected areas at different territorial scales is justified, first and foremost, by the need to preserve the natural habitats and species that contribute to Burundi's biological richness.

Small natural areas can harbour native plant species, pollinators, birds, small mammals and other organisms that play an important role in the functioning of ecosystems. When well-located and effectively managed, these areas can complement larger conservation areas and help maintain certain ecological continuities.

At the hill and zonal levels, linking sites into a network will enable greater complementarity between habitats to be sought, taking into account their ecological quality, their proximity and the potential for species movement.

At the local authority level, the creation of larger protected areas may promote the conservation of more extensive ecosystems and the restoration of areas of particular importance for biodiversity and the ecological functioning of the landscape.

The project will prioritise the conservation of natural ecosystems that are still functioning. Ecological restoration will take place, in particular, in degraded sites where rehabilitation is justified by conservation objectives.

This approach will help to limit habitat fragmentation, preserve native species and maintain the ecological functions necessary for the sustainability of the landscape.

Strengthening climate resilience is one of the project's main objectives.

Natural ecosystems contribute to hydrological regulation, soil protection, carbon storage and the mitigation of certain consequences of extreme weather events. Their degradation can reduce these functions and increase the vulnerability of communities and infrastructure.

In mountainous areas and on exposed slopes, the loss of vegetation cover can lead to increased runoff and erosion. In catchment areas, the degradation of soils and vegetation can affect water flow and increase sediment transport. In wetlands and riparian areas, habitat disturbance can compromise important ecological functions.

The creation and management of protected areas will help to preserve the ecosystems that help to limit these phenomena. Restoration measures may include assisted natural regeneration, the restoration of native vegetation, the protection of riverbanks, the rehabilitation of springs and the biological stabilisation of areas susceptible to erosion.

These interventions fall specifically within the scope of ecosystem-based adaptation, which involves using biodiversity and ecosystem services to help communities adapt to the effects of climate change.

The project may also contribute to climate change mitigation through the conservation of carbon stocks in ecosystems and their replenishment in restored sites, subject to appropriate monitoring.

However, these benefits will depend on the nature of the ecosystems concerned, the quality of the interventions, the permanence of protective measures and the effectiveness of site management.

The conservation of natural resources is closely linked to the well-being of Burundian rural communities.

People depend directly or indirectly on ecosystems for water supply, agricultural production, access to certain forest products and the protection of cultivated land against erosion.

Ecosystem degradation can lead to a reduction in the services provided by nature, an increase in the costs of restoring land and infrastructure, as well

an increase in households' vulnerability to climate-related hazards.

The project aims to contribute to the preservation of these services by involving local communities in the identification, demarcation, management and monitoring of protected areas.

Community participation will ensure that existing land uses, land rights, the needs of local people and opportunities to develop activities compatible with conservation objectives are taken into account.

Environmental awareness-raising, capacity-building and the promotion of sustainable practices may accompany the establishment of protected areas.

Where ecologically and legally appropriate, the project may also support economic activities compatible with conservation, including the production of seedlings of native species, community-led land restoration, beekeeping in authorised areas and other local initiatives that respect conservation objectives.

Taking socio-economic needs into account will help to strengthen local support, reduce the risk of conflicts over land use and improve the sustainability of conservation measures.

The creation of protected areas at the sub-hill, hill, zonal and communal levels offers an opportunity to strengthen the participation of local stakeholders in the conservation of natural resources.

This approach will ensure that conservation actions are better aligned with on-the-ground realities and will promote better coordination between communities, administrative authorities, technical services and relevant environmental institutions.

At the sub-hill level, interventions may focus on local areas of particular ecological interest. At the hill level, they may be integrated into local priorities for natural resource management. At the zonal level, coordination may promote complementarity between several sites. At the municipal level, planning will help ensure coherence between protected areas, ecological corridors and other spaces necessary for the functioning of the landscape.

The implementation of this framework must, however, comply with Burundi's legal framework relating to protected areas, land tenure, spatial planning and the remit of the relevant institutions.

The sub-hill, hill and zonal levels should be regarded as operational scales for project planning and management, without assuming that they automatically correspond to legal categories for the classification of protected areas.

Preliminary studies will be required to determine the appropriate status of each site, the arrangements for securing land tenure, the management rules and the mechanisms for involving the communities concerned.

The project's originality lies in its aim to organise biodiversity conservation according to a progressive territorial framework, ranging from small natural areas to larger protected areas.

The proposed reference areas are as follows:

- Sub-hill level**:** at least 2 hectares per protected area.
- Hill level**:** at least 5 hectares per protected area.
- Zonal level**:** three protected areas totalling at least 10 hectares.
- Communal level**:** at least one protected area of 100 hectares.

These areas constitute the project's planning objectives. They must be adapted to the ecological characteristics of the sites, land availability, community needs and applicable regulatory requirements.

The proposed approach aims to establish complementarity between local conservation areas and larger sites, rather than treating each protected area as an isolated unit.

Smaller areas can help to preserve specific habitats, water sources or remnants of native vegetation. Hilltop and zonal areas can facilitate the coordination of several local initiatives. Communal areas, for their part, can enable the conservation of more extensive ecosystems and the restoration of areas that are strategic for the landscape's resilience.

The total area of the network, its final number of sites and its geographical distribution will be determined once priority areas have been identified and technical studies have been carried out.

The project offers several strategic advantages:

Firstly, it promotes a decentralised approach to biodiversity conservation, enabling communities and local authorities to be involved in the protection of natural resources.

Secondly, it establishes an explicit link between ecosystem conservation and the strengthening of climate resilience, prioritising sites and interventions likely to yield sustainable ecological benefits.

Thirdly, it provides a framework for better integrating biodiversity conservation, land restoration, water resource protection and spatial planning.

Fourthly, it can help to raise environmental awareness, strengthen local management capacities and mobilise technical and financial partners.

Finally, its phased implementation will enable the testing of site establishment and management approaches in pilot areas before considering a larger-scale roll-out.

Given the pressures on ecosystems, the vulnerability of territories to climate-related hazards and the importance of natural resources to people's livelihoods, the creation of a network of protected areas at the sub-hill, hill, zonal and communal levels is a relevant intervention for Burundi.

The project will help to strengthen biodiversity conservation, protect natural habitats, restore degraded ecosystems and preserve the ecological functions essential to the resilience of landscapes.

Its integrated territorial approach will foster complementarity between local conservation initiatives and larger-scale interventions, whilst encouraging community participation and coordination amongst institutional stakeholders.

The project's success will depend in particular on the rigorous selection of sites, the securing of land tenure, compliance with legal provisions, community buy-in, the availability of financial resources and the establishment of an effective ecological and climate monitoring system.

The project therefore aims to make the conservation and restoration of ecosystems concrete tools for strengthening climate resilience, preserving natural capital and ensuring the sustainable development of the Burundian landscape.

Post-project situation

Following the implementation of the project to establish protected areas at the sub-hill, hill, zonal and communal levels, the Burundian landscape will have a structured network of areas dedicated to conservation and ecological restoration, contributing to the preservation of biodiversity, the sustainable management of natural resources and the strengthening of the territories' climate resilience.

The protected areas created will be identified, demarcated and equipped with management mechanisms tailored to their ecological characteristics, their legal status and the socio-economic realities of the surrounding communities. Their management will be based on a participatory approach involving administrative authorities, the relevant technical services, local communities and other stakeholders.

Natural habitats of ecological importance will benefit from enhanced protection. Native plant species and other components of biodiversity will be better preserved through the reduction of pressures on sites and the improvement of management practices.

The networking of protected areas will, where ecological conditions permit, promote the maintenance or restoration of connectivity between natural habitats and help to limit their fragmentation.

Priority sites that have been degraded will have benefited from appropriate restoration measures, including assisted natural regeneration, the restoration of native vegetation, the

protection of riverbanks and water sources, and the biological stabilisation of areas susceptible to erosion.

These interventions will help to improve the ecological status of the sites concerned and to preserve the essential functions of ecosystems.

The conserved and restored ecosystems will help to strengthen the regions' capacity to cope with the effects of climate change.

Protecting vegetation cover, improving soil stability and preserving wetlands and catchment areas will, in particular, help to limit certain forms of runoff and erosion, maintain the hydrological functions of ecosystems and reduce the vulnerability of certain sensitive areas.

Maintaining or improving carbon storage may also contribute to climate change mitigation efforts, depending on the characteristics of the ecosystems and the results actually achieved.

Water sources, riverbanks, wetlands and priority slopes will benefit from protection and sustainable management measures.

Conservation actions will help to reduce land degradation, limit sediment transport into watercourses and preserve the ecological functions necessary for maintaining the quality of natural resources.

Local communities, administrative authorities and technical services will have enhanced capacity in the areas of biodiversity conservation, ecological restoration and the management of protected areas.

Local management and monitoring structures will be operational at the sites concerned, in accordance with the applicable institutional and legal frameworks. The responsibilities of the various stakeholders will be defined to ensure the coordinated, transparent and sustainable management of protected areas.

Local communities will be more closely involved in decision-making and the management of natural resources. Awareness-raising and capacity-building activities will promote a better understanding of the importance of ecosystems and the benefits associated with their conservation.

Where appropriate, economic activities compatible with conservation objectives may be encouraged in order to support local livelihoods and reduce pressure on natural resources.

Land rights, legitimate uses and the needs of communities will have been taken into account in the planning and management of sites, in accordance with the applicable legal framework.

Protected areas will have monitoring mechanisms in place to assess their ecological status, changes in environmental pressures and progress made in restoration and climate resilience.

Planning tools, tailored management plans, performance indicators and resource mobilisation mechanisms will be put in place to ensure the continuity of interventions after the project's completion.

On completion of the project, Burundi will have a strengthened foundation for decentralised biodiversity conservation, thanks to a network of protected areas established and managed progressively at the sub-hill, hill, zonal and communal levels.

This network will contribute to the preservation of natural capital, the restoration of degraded ecosystems, the protection of water resources and soils, and the strengthening of the climate resilience of landscapes and local communities.

The sustainability of the results will be ensured through community ownership, institutional coordination, compliance with legal provisions, ecological monitoring and the mobilisation of financial resources for the long-term management of the sites.

Project components

Component 1: Studies and establishment of protected areas

Total budget: 3.93 million USD (32.5 per cent of the total estimated budget of 12.08 million USD)

Component 2: Ecological restoration and sustainable governance of protected areas (6.04 million USD)

This component aims to restore degraded land in buffer zones and corridors through a community-led, high value-added approach. It prioritises forest species of particular interest, notably medicinal plants, species of high economic value and endangered species. The restoration is led by village committees and non-timber forest product (NTFP) processing units. It is made sustainable through the development of ethnobotanical ecotourism (trails featuring medicinal plants, giant trees and endangered species), which generates income for the community.

The territorial objectives are as follows:

- Sub-hill level**:** a protected area of at least 2 hectares per sub-hill.
- Hill level**:** a protected area of at least 5 hectares per hill.
- Zone level**:** three protected areas totalling at least 10 hectares per zone.
- Communal level**:** a protected area of at least 100 hectares in each of the 42 communes, totalling a minimum of 4,200 hectares at the communal level.

Activities

A2.1. Inventory and seed bank of target tree species A2.2.

Establishment of community nurseries

A.2.3. Active restoration of 5,000 ha of degraded land through enriched reforestation, Assisted Natural Regeneration (ANR) and agroforestry

A.2.4. Community organisation

A.2.5. Sustainable utilisation of tree species

A.2.6. Development of specialised ecotourism products

A.2.7. Installation of light infrastructure

A.2.8. Marketing and partnerships

Expected Results

R 2.1. Degraded ecosystems are restored using high-value tree species R 2.2.
Community governance is strengthened and equitable

R 2.3. Community-based ecotourism centred on high-value biodiversity is developed.

Component 3: Coordination, monitoring, evaluation and

sustainability Total budget: USD 2.11 million (17.5 per cent of the overall budget)

This component ensures overall coordination, quality control, physical and financial monitoring, evaluations and the preparation of measures to ensure the continuity of interventions after the project's completion.

Activities

A3.1. Establishment of the Coordination Unit and management tools

A3.2. Project operations and coordination

A3.3. Establishment of the monitoring and evaluation

system A3.4. Collection and analysis of performance

data A3.5. Independent mid-term evaluation

A3.6. Independent final evaluation

A3.7. Development of the sustainable financing

plan A3.8. Financial audit and compliance checks

A3.9. Preparation of site sustainability plans

Expected outcomes

R3.1. A national mechanism for coordinating and steering the project is operational
R3.2. A national system for monitoring and evaluating the project's outputs and outcomes is operational
R3.3. A national geographic information and protected areas monitoring system is operational
R3.4. Financial management, procurement and project accountability are strengthened
R3.5. The institutional and technical capacities of project stakeholders have been strengthened R3.6. The mobilisation of additional and climate finance has been strengthened R3.7. A sustainable mechanism for the financing and management of protected areas has been established

R3.8. The project's achievements are capitalised upon, disseminated and integrated into national policies and programmes

Key performance indicators

1. Key performance indicators at the level of the overall objective:

I 1.1. Total number of protected areas established or officially recognised under the project
I1.2. Number of sub-hills with a protected area of at least 2 ha I1.3. Number of hills with a protected area of at least 5 ha
I1.4. Number of zones with three protected areas totalling at least 10 ha
I1.5. Number of municipalities with a protected area of at least 100 ha
I1.6. Total unique geographical area benefiting from effective legal protection I1.7. Area of degraded ecosystems that have been effectively restored
I1.8. Proportion of protected areas with an operational management plan I1.9. Proportion of protected areas subject to regular ecological monitoring
I1.10. Proportion of protected areas with projected funding for their management after the project ends.

Component 1: Studies and establishment of Protected Areas

Expected results

R 1.1.: Through studies, inventories, identification and demarcation**,** potential sites are identified, documented, georeferenced and assessed from ecological, land tenure, legal and socio-economic perspectives.

Indicators

I 1.1: Proportion of targeted territorial units where an inventory of potential sites has been carried out
I 1.2: Number of potential sites identified and georeferenced
I 1.3. Number of sites that have undergone an ecological assessment
I 1.4. Number of sites that have undergone a land tenure and socio-economic study I 1.5. Inventory of selected sites whose boundaries and areas have been verified
I 1.6 Number of sites that have been the subject of documented community consultations I 1.7 Existence of a national database of potential sites
I 1.8. Existence of a validated national portfolio of priority sites

R.1.2. With regard to their establishment, protection and management**,** protected areas are officially recognised, demarcated, protected and equipped with operational management mechanisms.

Indicators

I 2.1. Number of protected areas officially established or recognised

I 2.2. Total area of protected areas with verifiable legal status I 2.3. Proportion of protected areas with demarcated boundaries I 2.4. Proportion of protected areas with an approved management plan I 2.5. Proportion of protected areas with a designated manager or management structure

I 2.6. Proportion of protected areas with an operational monitoring system I 2.7. Proportion of functional local governance or management structures I 2.8. Proportion of protected areas with a complaints-handling mechanism

I 2.9. Proportion of protected areas whose geographical data are recorded in the national database responsible or a designated management structure I 2.6. Proportion of protected areas with an operational monitoring system I 2.7. Proportion of functional local governance or management structures I 2.8. Proportion of protected areas with a complaints-handling mechanism

I 2.9. Proportion of protected areas whose geographical data are recorded in the national database

Component 2: Ecological restoration and sustainable community governance

Expected outcomes

O 2.1.: In relation to ecological restoration and the strengthening of climate resilience, priority ecosystems are restored or placed on a path towards ecological regeneration, and their capacity to provide ecosystem services that promote climate resilience

is strengthened.

Indicators

I 2.1.1. Area of degraded ecosystems that have undergone restoration work I 2.2.2. Area of ecosystems benefiting from assisted regeneration measures
I 2.2.4. Survival rate of seedlings after a defined period
I 2.2.5. Area of riverbanks, springs and wetlands benefiting from protection or restoration measures
I 2.2.6. Area of land benefiting from erosion control measures
I 2.2.7. Proportion of restored sites showing verified ecological improvement
I 2.2.8. Number of priority sites where ecological and climatic indicators are monitored

R2.2: In relation to community governance, awareness-raising and the development of economic activities compatible with conservation, communities participate in the management of protected areas, understand conservation objectives and, where appropriate, have opportunities for economic development compatible with the protection of ecosystems.

Indicators
I 2.2.1. Number of people made aware of conservation and climate resilience
I 2.2.2. Number of people trained in sustainable natural resource management practices I 2.2.3. Number of community organisations involved in the management of protected areas
I 2.2.4. Proportion of sites covered by a community consultation mechanism I 2.2.5. Number of economic initiatives compatible with sustained conservation
I 2.2.6. Number of complaints recorded and dealt with in accordance with established procedures
I 2.2.7. Proportion of beneficiaries of supported economic activities whose economic outcomes are monitored
I 2.2.8. Proportion of women and young people amongst the beneficiaries of training and supported activities.
Component 3: Coordination, monitoring, evaluation and sustainability
This component aims to ensure effective implementation, transparent management and the continuity of results after the project's completion.

Expected outcome

The project has a functional system for coordination, monitoring and evaluation, accountability and sustainable financing.

6.04 million USD Indicators

I 3.1. Existence of an operational national coordination mechanism
I 3.2. Proportion of monitoring and evaluation reports produced on time
I 3.3. Proportion of report indicators with verified baseline data I 3.4. Annual implementation rate
I 3.5. Proportion of planned audits carried out on time
I 3.6. Amount of national and climate finance mobilised
I 3.7. Proportion of protected areas with a post-project funding plan I 3.8. Proportion of priority recommendations implemented

I 3.9. Existence of a final report summarising lessons learnt

I 3.10. Proportion of protected areas with a clearly defined management structure and responsibilities following the project.

Burundi is the third most vulnerable country to climate change in Africa (ND-GAIN Index 2023), with a landscape in ecological collapse characterised by extreme climate vulnerability, a biodiversity crisis and socio-economic vulnerability.
Without intervention, Burundi's landscape will reach a point of no return by 2035. This project reverses the traditional 'top-down' approach to national parks and proposes the creation of a national network of community-based protected areas at the Sous-Colline level.

Component 1: Studies, establishment and management of protected areas, is responsible for the participatory scientific identification of sites, their legal establishment, the setting up of hill-level management committees, the development of simple management plans and participatory demarcation.

Component 2: High-value ecological restoration and community governance provides, on the one hand, for the restoration of community-managed protected areas using priority tree species, species of high economic value and the propagation of threatened species; on the other hand, for ethnobotanical ecotourism; and finally, for the promotion of non-timber forest products (NTFPs).
Climate resilience remains the landscape's greatest added value. Indeed, the project constitutes Burundi's largest climate resilience infrastructure, encompassing water resilience, soil resilience, agricultural resilience, disaster resilience and a climate corridor.
Conservation and development offer a triple dividend through biodiversity conservation, economic development and cultural enrichment.
In short, through this project we are protecting the whole of Burundi from climate change, whilst creating a national pharmacy and a national botanical heritage.