



# SPIU

## SINGLE PROJECT IMPLEMENTATION UNIT

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**The tales of success**

**Silvopastoralism approach's contribution to milk production increase in Gishwati rangelands**

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## Farmers Commend Silvopastoralism at Gishwati-Mukura National Park Settings

Milk production has increased since silvopastoralism approach was introduced in Gishwati rangelands



A couple of decades ago, it was not that easy to find a single tree in the rangelands around Gishwati-Mukura National Park. This was not only a problem to farmers in the area, but also a big threat to the park which they were invading in search of ethno drugs of their livestock.

Since 2015, the Government of Rwanda and partners including World Bank and Global Environment Facility launched the Landscape Approach to Forests Restoration and Conservation (LAFREC) Project which is being implemented by Rwanda Environment Management Authority (REMA).



The project aiming at demonstrating a landscape management for enhanced environmental services and climate resilience in one priority landscape of Gishwati and Mukura, resulted in a major advance in the restoration of the highly degraded Gishwati-Mukura landscape, en-

hancing both productive and environmental values.

Introducing silvopastoralism approaches was among the project's components to improve livelihoods of beneficiaries around Gishwati-Mukura National Park.

"Silvopastoralism has been an answer to the serious problems we had. First, LAFREC Project supported by providing livestock to farmers around the park. The project also made paddock for us and we now have control over grazing. You can also see trees around the rangelands, some of them will provide shelter for our livestock in dry season, while some other species (mainly *Cystisus proliferus*, *Sesbania sesban* and *Leucaena leucocephala*) are fodder for our livestock" says Kalinijabo Gatarama, a farmer in Nyabihu district.

Silvopasture is a tree-based livestock production system, where trees, shrubs and other vegetation planted on pasturelands provide fodder as well as other multiple benefits.

"Milk production has increased since these paddocks were made by LAFREC Project. Most importantly the project brought water in the rangelands. Our livestock no longer travel a long distance looking for water, this contributed a lot to the increase of milk production and welfare of our livestock" added Kalinijabo Gatarama.

Local authorities also reaffirm that

milk production has increased ever since silvopastoralism approach was introduced in Gishwati rangelands.

"I do not have exact statistics right away, but there is an increase in milk production considering the quantity of milk farmers send to Mukamira dairy. They could only send around 8,000 liters of milk to the dairy per day, but now they send between 18,000 and 20,000 liters to the dairy on a daily basis" says Antoinette Mukandayisenga, Mayor of Nyabihu District.

"We are thankful to the Government of Rwanda which brought LAFREC Project to us. Communities around the Park were suffering from lack of fresh water, but now they are benefiting from water brought to the rangelands around Gishwati-Mukura National Park" she adds

According to several research reports, Silvopastoral systems are more adapted to changing climate and weather, as foliage production from trees and shrubs is less affected by such changes than grasses.



Moreover, unlike conventional grass-based pastures, which contribute to greenhouse gas emissions through land conversions and increased enteric methane production from livestock, silvopastoral systems contribute towards mitigation of greenhouse gases through direct sequestration of atmospheric carbon and reduction of enteric methane production.

Similarly, trees and shrubs in silvopastoral systems contribute to general ecological integrity through improvement of soil fertility, soil and water conservation and farm and pastureland productivities.

Design: Cyprien Ngendahimana

## Beneficiaries of REMA's Green Amayaga Project receive improved cookstoves to promote energy efficiency

In 20 years those cookstoves will reduce 15 Million GHG emissions compared to the air pollutants we currently have in Rwanda



goal of restoring the natural forests in its intervention zones, due to the cookstoves efficiency to save energy comparing to 3 stones stoves, the traditional way of cooking.”

These cookstoves will also contribute to socio-economic development of beneficiaries, since due to their efficiency to save energy and time, beneficiaries will get the opportunity to do other income generating activities.

Green Amayaga Project is a ground-breaking six-year initiative that will afforest the degraded ecosystem and restore the natural forests of four districts in Rwanda's Southern Province. It also aims at building resilience of Amayaga region community to climate change.

**R**wanda Environment Management Authority through the Forest Landscape Restoration in the Amayaga Region (Green Amayaga) Project is distributing improved cookstoves to beneficiaries of the project in Kamonyi district.

These cookstoves are being distributed to promote energy efficiency as one of the project components.

From Tuesday, 23rd February 2021 to Friday 26th February 2021, four thousand (4,000) cook stoves were distributed to beneficiaries of the Project in Mugina sector in Kamonyi district to help them improve human health and contribute to deforestation and climate change mitigation.

In total, 11,000 improved cookstoves will be distributed in Kamonyi four sectors of Kamonyi district in financial year 2020/2021. Four thousands (4,000) cookstoves will be distributed in Mugina sector, 4,000 in Nyamiyaga sector, 1,500 in Nyarubaka sector, and 1,500 in Rugarika sector.

Other districts (Gisagara, Nyanza and Ruhango) will start receiving the same cookstoves next financial year 2021/2022.

In all districts covered by the project,

60,000 improved cookstoves will be distributed over the six years of the project, which will reduce about 5 Million tons of GHG emissions in 6 years and this means that, as REMA explains, in 20 years those cookstoves will reduce 15 Million GHG emissions compared to the air pollutants we currently have in Rwanda.

The cookstoves' thermal efficiency is above 30 and save firewood more than 50% comparing to traditional 3



stones stoves, which make them contribute to deforestation mitigation.

According to Philbert Nkurunziza, Green Amayaga Project Coordinator, “the distributed cookstoves will also contribute to achieving the project's

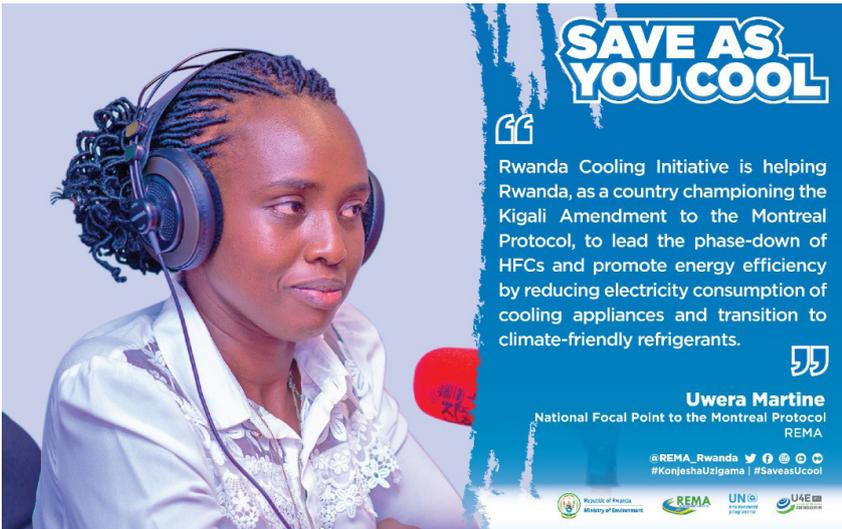
Beneficiaries of Green Amayaga Project commend the project's interventions, as distributed cookstoves will greatly contribute to gender equality.

According to Jeannette Nyiramana, a resident of Nteko cell, Mugina sector in Kamonyi district, “women who are mostly involved in family responsibilities, will also get the opportunity to do other income generating activities due to the cookstove's efficiency to save energy and time”

Green Amayaga Project under REMA's implementation is funded by the Global Environment Facility (GEF) through the United Nations Development Programme (UNDP). Its intervention areas are Kamonyi, Nyanza, Ruhango and Gisagara districts.

Design: Cyprien Ngendahimana

REMA and UNEP's U4E Launch Efficient Cooling Awareness Campaign



**T**he Rwanda Environment Management Authority (REMA) in partnership with the United Nations Environment Programme’s United for Efficiency launches today a campaign to increase awareness on the benefits of embracing efficient cooling solutions.

This campaign focuses on encouraging the public to opt for refrigerators and air conditioners that save energy and money while at the same time protecting the environment.

The campaign is part of the Rwanda Cooling Initiative (RCOOL) which is implementing a National Cooling Strategy (NCS) on how to cost-effectively switch to sustainable cooling solutions that are consistent with the country’s sustainable development ambi-

tions and its obligations to the Kigali Amendment to the Montreal Protocol and the Paris Agreement.

Juliet Kabera, Director-General of REMA emphasises the role of development partners and the private sector in the process of phasing out potent greenhouse gasses, Hydrofluorocarbons, as well as cooling solutions that consume excessive amounts of electricity.

RCOOL provides pathways that enable citizens to buy the latest cooling solutions with less impact on the planet. “Enhancing thermal comfort and refrigerated conditions for food and medicines are critical for the health, well-being, and economic development of the country,” Kabera says.

“Owning a refrigerator that helps you to keep

groceries fresh and pay little for electricity as well as using air conditioners that are energy-saving is a two-fold benefit: you save money and protect the environment”, She adds

Kabera also challenges people who may wish to buy brand-new cooling items to always check their energy consumption and whether they are free of Hydrofluorocarbons (HFCs) gases. “This is to make sure you also contribute to the protection of the environment.” She concludes.

The multi-month campaign targets users of air conditioners and refrigerators from different settings including homes, offices, grocery stores, bars, hotels, supermarkets among others that can realize significant benefits of more energy-saving and eco-friendly cooling.

**Why is the Campaign Important?**

Recent studies indicate that there are 87,512 refrigerators in Rwanda, of which an estimated 64,505 are classified as old, this wastes electricity worth approximately 4 billion Rwandan francs annually, which is an excess of 2.4 billion.

In 2016, Rwanda successfully led almost 200 nations and states in a historic agreement that sought to avoid up to 0.5°C of global warming by the end of the century: The Kigali Amendment to the Montreal Protocol. Rwanda was the 39th Country to ratify the Amendment.

In order to implement the Kigali Amendment, Rwanda enacted the National Cooling Strategy (NCS) in 2019 with the objective of optimizing the growing needs for space conditioning and refrigeration (jointly referred to as “cooling”), in keeping with Rwanda’s green growth pathway.

The NCS helps roll out standards for cooling technologies. According to REMA, the country has currently reduced ozone-depleting substances by 54 per cent in an effort to fully implement the Montreal protocols by 2030. However, the journey is still long and more efforts are needed.

Rwanda has started restricting imports of air pollutant gases used by fridges and air conditioners in the country to encourage the adoption of non-polluting cooling technologies.



Design: Cyprien Ngendafahimana

## LAFREC distributes agroforestry and fruits tree seedlings to beneficiaries in Rutsiro and Ngororero Districts



**R**wanda Environment Management Authority (REMA) through the Landscape Approach to Forest Restoration and Conservation (LAFREC) Project is distributing agroforestry and fruit tree seedlings to beneficiaries in the Districts of Rutsiro and Ngororero.

The tree seedlings are being distributed to beneficiaries to not only fight malnutrition, but also to contribute to the Government's climate change mitigation strategies.

Around 434,515 agroforestry tree seedlings and 39,970 grafted avocados will be distributed in 63 cells of Rutsiro District, while 74,056 will be distributed in 4 cells of Ngororero District.



"We are thankful to LAFREC Project which brought these seedlings to us. Once trees are grown up, they will help us to fight malnutrition among ourselves and our children, as we were told that avocado is among fruits which is very important to people's lives" said Nyiragasagure Marie Gorrette, a resident in Murambi Cell, Ruhango Sector in Rutsiro District.



Another resident, Nyirasafari Clementine from Rutsiro district says that apart from malnutrition thanks to distributed fruit trees, they are grateful to LAFREC Project as the agroforestry tree seedlings they acquired will contribute to their development.

"These trees will help us contribute to climate change mitigation and adaptation, as they will be sequestering greenhouse gases emissions which contribute to the global warming" she adds.

LAFREC Project is a ground-breaking five-year project that uses a landscape approach to bring the forest ecosystems into better management and one of its major components is to enhance sustainable land management in the agricultural lands.

The tree seedlings are being distributed in line with the Memorandum of Understanding (MoU) to rehabilitate Gishwati-Mukura Landscape through LAFREC Project, signed between REMA and the districts which implements LAFREC Project in collaboration with REMA.

Amariza Vivine, the Ag. Project Coordinator says that the tree seedlings are being distributed under the sub-component of Forest restoration and land husbandry in the Gishwati landscape, which aims at planting trees for the sustainable land management in the agricultural lands.



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## Air Quality Monitoring: Rwanda on the Right Track

An Air Quality Monitoring system that provides data on the quality of the air in twenty-three sites across the country



Since 2017, the Ministry of Education (MINEDUC) and Rwanda Environment Management Authority (REMA) have been implementing the Air Quality and Climate Change Monitoring Project.

The Project's objectives were to establish an air quality monitoring network system in the country to continuously monitor and report air quality index around the country, to enhance the existing climate observatory in order to improve the understanding of local emissions related to climate change, to build capacity of Rwandan scientists and partner institutions staffs to answer air quality and climate related issues in Rwanda, as well as to regularly produce reports and scientific publications and policy guidance related to air quality and greenhouse gases to support national sustainable development.



Air Quality and Climate Change Monitoring Project established an Air Quality Monitoring system that provides data on the quality of the air in twenty-three sites across the country. The system provides real-time Air Quality Index for each station in both numerical and color code format. The system highlights the dominant air pollutant which is responsible for air quality degradation during the reported period for each station.

The data are accessible on "Rwanda AQI" App for Android users, and is yet to be accessible for iOS users. The system will help Rwanda to compare ground observations data with satellite data through remote sensing technology to verify their accuracy, according to REMA officials.

"We are all responsible for the quality of the air we breathe. Rwanda's new air quality monitoring system gives us the information we need to address air pollution, and provides information to citizens about the status of the air where they live and work" said Juliet Kabera, Director General, Rwanda Environment Management Authority.

"This new tool will help us to measure and boost the impact of the interventions we have introduced to reduce air pollution and ensure blue skies for all" She added.

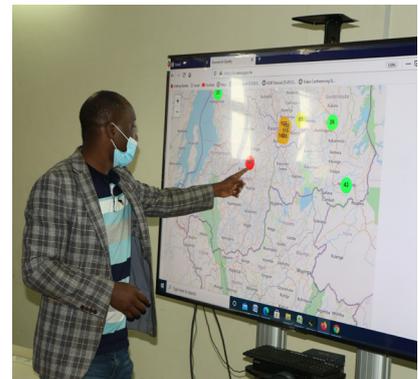
The system also strengthens Rwanda's existing field installed air quality

monitoring network by providing on-line access to pollution readings from each station as well as data management including data sharing mechanisms.

While visiting the infrastructures installed to run the Air Quality Monitoring System, the permanent secretary of MINEDUC, Mr Samuel Mulindwa said that Rwanda is on good track in terms of Air Quality and Climate Change Monitoring.

"It is obvious that we are on good track in terms of Air Quality and Climate change monitoring. Let us keep this momentum and position ourselves as a center of excellence in Air Quality monitoring in this region. We have infrastructures and everything required to achieve this" said Samuel Mulindwa, Permanent Secretary, Ministry of Education.

According to the results of a recent study, Rwanda is being affected by all major pollutants. The research shows that vehicle emissions are the leading source of air pollution in Kigali.



Other contributors to poor air quality in Rwanda include the industrial sector, charcoal cookstoves and agricultural waste burning.

Rwanda has a long-term goal to be a carbon neutral nation as articulated in its Vision 2050. In the short term, Rwanda aims to reduce emissions by 38% compared to business as usual by 2030 and electric vehicles are estimated to represent 9% of potential energy-related emissions mitigated under the country's climate action plan (NDC).

Design: Cyprien Ngendahimana

# Pictorial

## Air Quality and Climate Change Monitoring Project Steering Committee meeting



## Our Partners



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