



RWANDA ENVIRONMENT MANAGEMENT AUTHORITY

Your Quarterly Newsletter

July - September 2023



Rwanda launches calibration laboratories for Meteorology, Hydrology and Air Quality Monitoring Equipment

We are pleased to share with you REMA quarterly newsletter which features key stories and photos of our work these past months. We hope you will find it interesting and informative. Follow us on social media for regular updates and contact the team at communications@rema.gov.rw for any enquiries.



Green Amayaga Football competition: Thousands gather to receive messages on project sustainability



What you did here is so impressive: UK Minister of State for Development and Africa's visit to Nyandungu Eco Park



REMA's LDCAF3 Project distributes 5,000 improved cookstoves to beneficiaries to tackle climate change

Rwanda launches calibration laboratories for Meteorology, Hydrology and Air Quality Monitoring Equipment



Minister of State for the Environment in a group photo with Director General of Meteo Rwanda, Deputy Director General of REMA, Director General of Rwanda Standards Board and other officials after the launch of calibration laboratories

Rwanda will no longer outsource calibration services for meteorology, hydrology and air quality monitoring equipment, as these services will be delivered by calibration laboratories launched on 14th September 2023.

The establishment of Calibration Laboratories for Meteorological, Hydrological, and Air Quality

Monitoring Instruments in Rwanda will offer several significant benefits. For example, meteorology sensors were used to be sent in Nairobi, Kenya to be calibrated.

“Sending meteorology sensors as well as other sensors outside Rwanda was not only posing a risk of damage to those sensors, it was also costing unnecessary ad-

ditional cost to Rwanda, as apart from calibration fees, there was a cost for transportation and insurance to each sensor sent outside Rwanda to be calibrated” said Aimable Gahigi, Director General, Rwanda Meteorology Agency.

Calibration ensures that instruments used for weather, hydrology, and air quality measurements provide accurate and reliable data, which is critical for various sectors, including agriculture, public health, disaster management, and environmental protection.

The Calibration laboratory will support Rwanda's commitment to building a resilient and environmentally sustainable future by enhancing data accuracy, improving decision-making in various sectors, promoting sustainable development, and contributing to global efforts to address climate change and environmental challenges.



“As we stand at the threshold of a future charged with environmental challenges, it is crucial that we equip the country with the tools and knowledge necessary to anticipate them effectively. This calibration center represents a giant leap forward in our ability to monitor, predict, and respond to meteorological, hydrological, and air quality phenomena” noted Minister of State for Environment, Hon Dr. Claudine Uwera.

“In an era where climate change poses an existential threat to our planet, this calibration center is our commitment to understanding and mitigating its effects. By ensuring the accuracy of our monitoring instruments, we pave the way for more precise climate models, which are essential for informed climate policymaking”, she added.

If climate projections do not adequately represent local climate conditions, potential predicted impacts could be biased, and proposed adaptation strategies would be inappropriate, which can increase losses and damages without counting the time and resources wasted in implementing ineffective measures.

By strengthening the capacity of Rwanda Standard Board for calibration of meteorological, hydrological, and air quality monitoring

instruments in line with recognized standards, “there will be improvement of data quality to inform national adaptation planning in Rwanda”

thus advancing the NAP process. Meteorology, hydrology, and air quality are inextricably linked to the health and well-being of our planet and its inhabitants.



A technician at RSB inspecting the calibration equipment

The laboratories – hosted by Rwanda Standards Board – were equipped by the Rwanda Environment Management Authority (REMA) through a project called “Building the capacity of Rwanda’s government to advance the National Adaptation Planning (NAP) process” being implemented by REMA with support from the Global Environment Facility (GEF) through the United Nations Environment Program (UNEP).

The objective of the project is to increase the capacity of the governmental authorities and local communities in Rwanda to plan, fund, implement, and monitor climate change adaptation solutions in the medium and long term,

They play pivotal roles in agriculture, industry, public health, disaster management, and policy-making.

Accurate data and precise measurements are the bedrock of informed decision-making, and this calibration center will be the cornerstone for such measurements” said Faustin Munyazikwiye, Deputy Director General, REMA.

The laboratories feature cutting-edge instruments, advanced technology, and a team of highly skilled scientists and technicians.

It will enable Rwanda to calibrate, validate, and maintain a vast network of weatherstations, hydrological sensors, and air quality monitoring devices across the nation.

The data collected will not only enhance “our understanding of weather patterns, river flows, and air quality but also improve our capacity to forecast extreme events and respond swiftly to natural disasters”.



Some of the calibration equipment installed at the Rwanda Standards Board

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communications@rema.gov.rw



World Ozone Day: REMA recognizes students and lecturers with technologies and eco-friendly cooling solutions



Vegetables or other fresh foods are placed inside the cooling room for three to five days

Rwanda has in September 2023 joined the rest of the world to mark the World Ozone Day with the theme “Montreal Protocol: Fixing the Ozone layer and mitigating Climate change”

This year’s theme emphasizes the vital role of the Montreal Protocol and its Kigali Amendment in not only protecting the Ozone layer but also mitigating climate change. World ozone day is celebrated annually on 16th September.

Rwanda celebrated Ozone Day on 18th September 2023 with students at Rwanda Polytechnic Institute of Science and Technology - Integrated Polytechnic Regional Centre (RP-IPRC) in Musanze, Northern Province, to encourage students to develop technologies and eco-friendly cooling solutions that could protect the Ozone layer from the Ozone Depleting Substances.

Students and lecturers at IPRC Musanze have developed affordable and eco-friendly cooling solutions designed to reduce food loss and mitigate climate change.

One of them is the “Zero Energy Cooling Chamber (ZECC) that

functions similarly to a conventional refrigerator in the sense that the chamber ‘pushes’ heat out.

However, it is cheaper and has a higher energy efficiency than a typical fridge, as it requires no electrical energy whatsoever, just water to maintain function. The design consists of an inner chamber, a surrounding layer of wet sand, and another wall encasing it.

Zero Energy Cool Chambers stay 10-15° C cooler than the outside temperature and main-

tain about 90 per cent relative humidity, according to the International Journal of Engineering Research & Technology.

The United Nations Environment Program (UNEP) noted that collection of human-made greenhouse gases known as ozone-depleting substances (ODSs), including chlorofluorocarbons found in industrial products like air conditioners and refrigerators, destruct the ozone layer—a layer of gas high up in the atmosphere that helps protect us from the sun’s harmful



Evergiste Niyonsenga explains how the ZECC works

ultraviolet (UV) rays—leading to skin cancer and weak immune systems, among other issues.

This makes the ZECC a better option as it does not produce or release any greenhouse gases.

Martine Uwera, the Programme Manager for Environment Mainstreaming and Biodiversity Management and National Focal Point of Montreal Protocol, said the new technology is both inexpensive and accessible to the local community.

"It is one of the green technologies that REMA recommends as alternatives, addressing environmental issues and climate change," she noted.

She mentioned that when it comes to cooling foods such as vegetables, it is an alternative option to refrigerators which are harmful to the environment.

The 'Zero Energy Cooling Chamber' was developed by RP-IPRC in Musanze, as a practical module to help students understand one of the cheapest tools to reduce food

loss and combat climate change. Evergiste Niyonsenga, an Assistant Lecturer in Crop Production at RP-IPRC, has confirmed that the 'Zero Energy Cooling Chamber' project has no ad-

covered with dried banana fibres or pieces of blankets. It should be built under a shade to prevent direct sunlight. Vegetables or other fresh foods are placed inside the cooling room for three to five days.



Students and lecturers with cooling solutions were recognised at World Ozone Day

verse impact on the ozone layer or the environment in general. "It uses local materials which are environment friendly like stones, unfired bricks, along with sand and water," he said. The room, consisting of two walls and filled with sand, should be

Governor of Northern Province, Maurice Mugabowagahunde, hailed the method, saying it can address the post-harvest challenges that local farmers are going through.

What you did here is so impressive - UK Minister of State for Development and Africa after his visit to Nyandungu Eco Park



From left to right: CEO of Rwanda Green Fund, UK Minister of State for Development and Africa, Rwanda's Minister of Environment, UK High Commissioner to Rwanda and Director General of REMA

The United Kingdom (UK) Minister of State for Development and Africa, Rt Hon Andrew Mitchell MP, commends Rwanda's efforts to protecting the Environment and restoring degraded wetlands in particular, saying that what Rwanda is doing in environment and ecosystem restoration is so impressive.

He made the statement during his visit in Nyandungu Eco-Park on September 2, 2023. Before visiting different parts of the Park, he was taken through the restoration process of the former degraded Nyandungu wetland which was turned into an ecotourism park.

Accompanied by Omar Daair, the British High Commissioner to Rwanda, Minister Mitchell was welcomed by Rwanda's Minister of Environment, Dr. Jeanne d'Arc Mujawamariya together with Juliet Kabera and Teddy Mugabo, Director General of the Rwanda Environment Management Authority (REMA) and CEO of the Rwanda Green Fund, respectively.

During their walk through the park, both Ministers discussed on strengthening the existing partnership in environmental conservation.

Nyandungu was once a highly degraded wetland in the heart of Kigali. In 2016, the Government of Rwanda through the Rwanda Environment Management Authority (REMA) embarked on its restoration with support from partners including the UK Government.

The restoration of Nyandungu wetland and creation of an eco-tourism park saw the planting of 17,000 trees made up of 55 indigenous species. The biodiversity of the park has regenerated and to date, the park is home to more than 100 bird species.

Minister Mitchell was in Rwanda for a four-day visit, and the day before his visit to Nyandungu Eco-Park he attended the 19th Kwita Izina ceremony in Musanze, where

he named a baby gorilla.

“Conservation is life. Honoured to be invited to name a gorilla at Rwanda’s Kwita Izina. This event celebrates the accomplishments of the Rwandan Government and conservation partners who have made great progress in protecting these animals” Minister Mitchell tweeted after giving a name to a baby gorilla that he called Mukundwa (Favoured) in the Kwita Izina ceremony.

REMA’s LDCF3 Project distributes 5,000 improved cookstoves to beneficiaries to tackle climate change



5,000 cookstoves were distributed to the project beneficiaries in Gakenke and Kirehe Districts

The Rwanda Environment Management Authority (REMA) distributes 5,000 improved cookstoves to beneficiaries of the Landscape Restoration Approach to Climate Proof the Rural Settlement Project, also known as LDCF3, in Kirehe and Gakenke Districts.

The cookstoves were distributed in line with the project’s long-term goal of climate proofing the rural settlements in both Districts.

The cookstoves will promote energy efficiency, as their thermal efficiency is above 30, which makes them reduce fuel consumption by up to 50 percent compared to traditional stoves, thus significantly saving CO2 emissions and lower

the pressure on forests as less firewood needs to be harvested when using a cookstove of their kind.

“It was so hard for us to harvest firewood as we no longer have enough forests. Firewood here is so expensive to the extent that 5,000 RwF is not worth firewood that can last at least one week. Women and children are the most affected because they are directly involved in firewood harvesting. This stove will definitely relieve us because of its efficiency. The time we used to spend collecting firewood will also be allocated to income generating activities,” said Claudine Mukamisha, a resident in Kirehe District. Energy efficiency and afforestation

are one of the project’s components.

In the beginning, 5,000 improved cookstoves (2,500 in Gakenke and the other 2,500 in Kirehe Districts) were distributed to 5,000 families. The cookstoves will not only promote energy efficiency, they will also help to improve human health, put an end to large scale deforestation and contribute to climate change mitigation.

“We were used to suffering from respiratory diseases associated with solid biomass fuel exposure because of using inefficient cookstoves. As we are provided with improved cookstoves, we are happy that our children and ourselves

will no longer be exposed to high indoor pollution emanating from inefficient cookstoves” said Liliane Nyiramana, a resident in Gakenke District

According to Charles Sindayigaya, LDCF3 Project Coordinator, distributing cookstoves to beneficiaries is one of many other activities the project intends to accomplish.

“We have established radical and progressive terraces and embarked on afforestation activities to improve agricultural productivity and restore degraded ecosystems.

The cookstoves we are distributing will also contribute to achieving the project’s goal of restoring the natural forests, as the cookstoves save energy compared to the traditional way of cooking.” Sindayigaya noted.

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.



Some of the LDCF3 Project in Kirehe District happy with the improved cookstoves they were provided with

LDCF3 is a five-year initiative that will climate proof the rural settlements in Gakenke and Kirehe Districts by building communities’ resilience to climate change.

Beneficiaries commend the project’s interventions, saying that the cookstoves they were provided with as well as other project interve-

ntions will greatly contribute to gender equality.

LDCF3 Project under REMA’s implementation is funded by the Global Environment Facility (GEF) through the United Nations Development Programme (UNDP). Its intervention areas are Gakenke and Kirehe Districts.

Green Amayaga Football competition: Thousands gather to receive messages regarding the project sustainability

The Rwanda Environment Management Authority (REMA) in partnership with Action pour la Protection de l’Environnement et la Promotion des Filières Agricoles (APEFA) has organized a month long football competition which served as a channel through which an awareness campaign about Green Amayaga Project was conducted.

Twenty football teams from 20 sectors where the project is being implemented in Gisagara, Kamonyi, Nyanza and Ruhango Districts competed in the tournament which started on July 13, 2023 and ended on August 18, 2023.

Green Amayaga Football competitions has been crucial for the project through the easing of access to a huge number of people gathered together at every match and receive messages from different authorities regarding the sustainable restoration of Amayaga region.



Ndora Sector in Gisagara District won Green Amayaga Football Competition

Benimana Goreth, 47, a resident of Gisagara district, attest that before the project inception, the community would struggle to make a living from the diminishing resources due to their land vulnerability to soil ero-

sion, lack of fuels for home-cooking among others.

She also mentioned that “Our knowledge and capacity towards best practices to tackle climate



Twenty teams from Kamonyi, Ruhango, Nyanza and Gisagara Districts competed in Green Amayaga Football Competition

change issue (as residents) was too low that we couldn't get any solution for a better living. We benefited a lot from this competition as we got to know the project's objectives and our involvement in the project implementation for sustainability purposes"

Three years are gone since the Green Amayaga project began to be implemented in the above-mentioned four districts of the southern province of Rwanda. Although this project is only half-way through its implementation, its interventions are bringing significant transformation mainly in its forest and landscape restoration run.

Among its key achievements include the afforestation scheme, where so far 929ha of land have been covered with woodlots, 2,534 families were provided with livestock, 21,000 families were pro-

vided with improved cookstoves, 20 LPG equipment were donated to 20 schools and the restoration of Kibirizi-Muyira natural forest on 12ha among many other achievements.

Kayitesi Alice, the Southern Province Governor, said that the province will retain these green ambitions, even after project completion, so as to keep Amayaga green and getting the community free from adverse effects of climate change.

"Today, we are witnessing positive changes brought by the project in Amayaga region compared to how it looked before. All we ask the community is to consider the project as their own and ensure a good management of what has been achieved so far by playing their role in its implementation." Said the Governor.

Juliet Kabera, the Director General of REMA, endorsed her firm confidences in a sustainable restoration of Amayaga region based on the positive feedback from the community where the project is being implemented.

She said that "The feedback we get is that the people are happy with the project. For some places where we visit, people always show their satisfaction with how their farms are producing and they ask that the project would expand to more areas. That's why we are very confident that the project's achievements will not be reversed as the people have already seen and understood that they are the primary beneficiaries."

Green Amayaga is a 6-year Forest Landscape Restoration project, started in 2020, with the aim to promote biodiversity, foster ecosystem services, increase agricultural productivity and reduce the vulnerability of people and ecosystems to the adverse effects of climate change.

It is being implemented by the Rwanda Environment Management Authority in partnership with the Rwanda Forestry Authority and the Districts of Kamonyi, Nyanza, Ruhango and Gisagara with funding from the Global Environment Facility (GEF) through the United Nations Development Programme (UNDP).



Mr. Songa Remy, Green Amayaga Project Manager explaining the Project's interventions at a match that took place in Kamonyi District

African farming communities kick start cold-chain in continent



Clean-cold technology in Africa will revolutionise farmers' business, thus improve food security and nutrition

Farmers and fishers in Rwanda are joining sustainable cooling experts to learn how clean-cold technology can revolutionise their businesses.

Farmers and community leaders from across Rwanda are joining sustainable cooling experts to begin an innovative training programme that will kick-start roll-out of clean cold-chain systems in Africa.

Over 100 fishers, community leaders and farmers worked with experts from the Africa Centre of Excellence for Sustainable Cooling and Cold-chain (ACES) in the launch of its flagship training and knowledge building programme.

ACES team members from Rwanda, Kenya, Uganda, UK and the Netherlands will travel to two different locations - Rubavu District to work with farmers and Karongi District to train fishers – as well as hosting workshops in Kigali with financiers, NGOs, policy-makers and farmers' organizations.

"Deploying the right sustainable technology can help to ensure that fresh produce reaches domestic and international consumers in its best condition, while reducing GHG emissions, preserving

natural resources, and increasing fishers' and farmers' income" Professor Toby Peters, Director, Centre for Sustainable Cooling at the University of Birmingham.

ACES is a first-of-kind centre dedicated to sustainable cooling and cold-chain for food and health - accelerating deployment of sustainable end-to-end connectivity for food and health to protect quality and safety, minimise loss, and benefit communities.

Project lead Professor Toby Peters, Director, Centre for Sustainable Cooling at the University of Birmingham, commented: "This training will enable Africa's communities to discover and unlock their economic potential and build clean cold-chain services for resilient and sustainable development.

"Deploying the right sustainable technology can help to ensure that fresh produce reaches domestic and international consumers in its best condition, while reducing GHG emissions, preserving natural resources, and increasing fishers' and farmers' income.

"We aim to give farming and fisher communities the commercial

and operational acumen to support deployment of cold-chain so they can enhance and protect their role in the local and global food value chain."

Rwanda Environment Management Authority (REMA) champions ACES and its Director General, Juliet Kabera commented: "Reducing food loss and waste is widely seen as an important way to reduce production costs, increase the food system's efficiency, improve food security and nutrition, and contribute towards environmental protection and sustainability. Food loss and waste reduction offer a suitable way of saving money and helping to feed the global community.

"We have a huge responsibility ahead of us to feed our communities not only in Rwanda but in Africa and the planet. To achieve this ambitious target, sustainable cooling, and cold chain solutions, business models around cold chain cannot be overlooked." Kabera added.

ACES is also working with medical agencies to design the efficient and clean cold-chain for resilient access to vaccines to meet the future demands.

International Day of Clean Air for Blue Skies: How Rwanda is taking bold action to beat air pollution



At this year's Clean Air for Blue Skies Exhibition, private companies showcased their solutions to air pollution in Rwanda

Rwanda has on September 7, 2023 joined the rest of the world to mark the International Day of Clean Air for Blue Skies. This year's Clean Air for Blue Skies day was celebrated under the theme Together for Clean Air, with a call for stronger partnerships, increased investment, and a shared responsibility to address air pollution.

According to the World Health Organisation, 99% of humanity breathes polluted air, making it the single greatest environmental health risk we face.

In Rwanda, a number of initiatives have been put in place to improve the quality of the air we breathe. This includes transitioning to clean cooking, promoting electric vehicles, encouraging people to use non-motorised transport, as well as promoting car-free days.

Rwanda has also developed an air quality Monitoring System that provides real-time data on air quality at 23 sites across the country, and has adopted regulatory frameworks related to air pollution control - including introducing Euro 4 fuel standards.

"Rwanda is playing its part through

a range of government-led initiatives, but we cannot overcome air pollution without strong partnerships across borders and with the private sector and civil society organisations. We are all responsible for the quality of the air we breathe. By taking simple actions in our daily lives, we address air pollution," said Juliet Kabera, Director General, Rwanda Environment Management Authority (REMA).

Despite the progress made, air pollution remains a change for Rwanda and the world at large, and there is a need for all stakeholders to work together to ensure clean air.

Working Together For Clean Air

In line with this year's theme, Rwanda is working with partners to improve the quality of the air we breathe.

Rwanda has developed a carbon market framework that will unlock financial incentives for the reduction of greenhouse gas emissions associated with traditional cooking methods. The Climate and Clean Air Coalition (CCAC), of which Rwanda is a member, also works to address climate change and air

pollution (short-lived climate pollutants) at the same time.

Rwanda has partnered with the Green Climate Fund (GCF), which finances projects that address climate change mitigation and contribute to the reduction of air pollution. The country has also established the Rwanda Green Fund that invests in a range of public and private sector initiatives that are reducing air pollution.

To mark this year's International Day of Clean Air for Blue Skies, the Rwanda Environment Management Authority has organised a number of outreach activities, including roadside vehicle emissions checks, public awareness campaigns and a national celebration event.

Air Quality Monitoring System

Discover Rwanda's real-time air quality monitoring system at the links below:

Website: www.aq.rema.gov.rw

Mobile App (Android): <https://play.google.com/store/apps/details?id=rw.gov.rema.aqi>