



# Gilbert KABANDA closes seminar on armed conflict in the DRC

Minister Gilbert KABANDA inaugurates the new NCPIR building

NSC holds 54th Ordinary Session in Kinshasa

RCAST explores the secrets of the Podocarpus usambarensis plant



Call for publication in the  
Congoese Review of Sciences and Technology  
ISSN (Online) : 2959-202X  
ISSN (Print) 2960-2629  
DOI prefix : 10.59228/rcst  
[www.csnrdc.net](http://www.csnrdc.net)

# CONTENT

Towards research specialization in the DRC: the challenge of parcellarization.....	P3
<b>Activities of the President of the Republic</b>	
• HEM Félix-Antoine TSHISEKEDI attends the Francophonie Summit.....	4
<b>Government activity</b>	
• Judith SUMINWA participates in the Hamburg conference on sustainable development.....	5
<b>Activities of the Minister of SRTI</b>	
• Gilbert KABANDA inaugurates new NCPIR building.....	P6
• Gilbert KABANDA closes seminar on armed conflict in the DRC.....	P7
• Gilbert KABANDA advocates the peaceful use of nuclear energy.....	P8
<b>NSC Activities</b>	
• NSC holds 54th ordinary session in Kinshasa.....	P8
• NSC organizes ethics training for AEC and NCPIR.....	P9-10
<b>Echoes of Research Institutions</b>	
• AEC and IAEA hold workshop on application of IAEA safety standards.....	P10-11
• CEO NYEMBWE TSHIPUKANE visits some RIHS branches.....	P11-12
• ATSRC organizes a scientific conference for its researchers.....	P12-13
<b>Reflections of our researchers</b>	
• Mpox: vaccine dependence in Africa and ethical issues in the fight against an endemo-epidemic disease.....	P14
• Engineer Falonne ALOLI KIRINGA transforms waste into ecological coal.....	P14-15
<b>Read for you</b>	
• Gorillas preserve biodiversity in the DRC.....	P15

## ***Editorial Board of the Sciences and Technological Innovations Bulletin (STIB)***

### *Publication Director :*

Christian MAZONO MPIA (NSC)

### *Editor in chief :*

José MUSANGANA (HSRS)

General Secretary :

Jacques ASUKA MOTUNDU (NSC)

### *Editorial Secretary :*

Jeanpi KALOMBO KANYINDA  
(NCRS)

### *Deputy Editorial Secretary :*

Nathalie NKANGA (CGI)

### *Central Editor :*

Dany LUYINDULA (NSC)

Jean-Luc BALOGIJE SELENGE

(CRMD/BUNIA)

Eli MANUANA/GRC

Alain MBUYI MPOYI (WERC)

Nicole LUBUYA KANDA (GMRC)

Marcel MUENGULA

MAMYI (NIASR)

NDILU MALU (ATSRC)

LOTIME ANDANDA (CRLCA)

Freddy MADUKU MANZOMBA (NDRC/  
GEMENA)

Yves LUHEMBWE (AFRC/LUBUMBASHI)

Théodore LUMU MBINGE (AIPS)

Paulin MANDUNGU (VAC)

MBONZI NKWEDI (HSRC/BANDUNDU)

### *Marketing and Advertising :*

Mélanie MWAMINI ZUHULA (CEA)

Patrick NSILULU MIFUNDU (NSC)

### *Design and Computer Graphics :*

Patrick BHAYO (NSC)

Liévin MULUMBA KAPULU (MERC)

Josaphat MENAVUVU (NSC)

MPELO KANI. STEVENS

### *Camera :*

Jean Louis MBANDA (NCRS)

Johnny MINGANU (NSC)

### *Translator :*

Roger MBOMA KWENGE (NSC)





Professor Pius MPIANA TSHIMANKINDA  
NSC President,

## Towards research specialization research in the DRC: the challenge of parcellarization

**T**he question of research specialization is an acute one in the Congolese scientific context. While the diversity of subjects studied is a source of richness, an excessive dispersion of efforts can be detrimental to the production of significant results.

Concentrating research on specific fields enables us to deepen our knowledge, develop cutting-edge expertise and, ultimately, increase the impact of our scientific work. This specialization, which can be described as "parcellarization", is essential to avoid a dispersal of effort that could compromise the achievement of research objectives.

In the DRC, several research centers exist, but researchers often face difficulties in carrying out their work. The parcellarization of research could provide a solution to this situation, enabling researchers to focus on specific topics and develop fruitful collaborations within their areas of expertise.

It's important to emphasize, however, that specialization does not mean the compartmentalization of disciplines. On the contrary, interdisciplinary exchange is essential to enrich research and foster the emergence of new ideas. However, a solid grounding in a specific field is a prerequisite for high-quality research.

All in all, the parcellarization of research in the DRC appears to be a necessity to enhance the quality and impact of scientific work produced in the country. By concentrating on specific fields, researchers will be able to develop internationally recognized expertise and thus contribute to the development of scientific research in Africa.

*" Interdisciplinary  
are essential  
to enrich  
research and  
promote  
the emergence of  
new ideas"*



## Activities of the President of the Republic

### President Félix TSHISEKEDI attends the Francophonie Summit

**P**resident Félix TSHISEKEDI attended the Francophonie Summit at the Grand Palais in Paris, France, from October 04 to 05, 2024, devoted to the work of the Heads of State and Government.



The Summit issued a declaration and several resolutions on the political, diplomatic and economic challenges facing the French-speaking family in an unstable world, including the security and humanitarian situation in the eastern Democratic Republic of Congo (DRC).

Organized at the Centre International de Villers-Cotterêts and the Grand Palais in Paris under the theme "Créer, innover, entreprendre en français" (Create, innovate, undertake in French), in addition to promoting the French language, the summit aimed to mobilize French-speaking countries in the face of the digital revolution and the rise of artificial intelligence.

Following several resolutions, the Summit issued a declaration addressing the political, diplomatic and economic challenges facing the French-speaking community in an unstable global context. These include the worrying security and humanitarian situation in the eastern Democratic Republic of Congo.

Organized in Villers-Cotterêts and at the Grand Palais in Paris around the theme "Create, innovate, undertake in French", this summit aimed not only to promote the French language, but also to mobilize French-speaking countries in the face of the challenges of the digital revolution and artificial intelligence.

*Christian MAZONO/NSC*



DRC Prime Minister Judith SUMINWA and German Chancellor OLAF SCHOLZ at the Sustainable Development Conference in Hamburg, Germany on 07/10/2024

## Government activities

# Judith SUMINWA attends the Hamburg Sustainable Development Conference

**P**rim Minister Judith SUMINWA attended the sustainable development conference in Hamburg, Germany, to try to develop partnerships from an economic and business point of view, on October 07, 2024.

According to the Prime Minister's dispatch, the Head of Government of the DRC envisaged economic partnerships in the green energy sector. He noted that the Germans needed to strengthen their economic relations with Africa, particularly in the field of green energy.

Continuing, the Patroness of the DRC Government added that Africa also holds a number of strategic minerals such as cobalt, found in the DRC, where over 60% of it is produced. "Cobalt and lithium are widely used in the production of batteries," she stressed.

The Head of Government of the DRC added that Africa has many strategic minerals, such as cobalt, of which the DRC accounts for over 60% of global production. Cobalt and lithium are essential elements in the manufacture of batteries", she insisted. Before concluding, the Head of the Primature said that the DRC should discuss with its

peers to develop economic and commercial partnerships. It should be noted that this conference also served as a forum for reflection on the establishment of a new international financial architecture to contribute more effectively to the achievement of the Sustainable Development Goals (SDGs).

One of the highlights of the conference was the signing of the Memorandum of Understanding on forest protection, as part of the Central African Forest Initiative (CAFI). This coalition of donors and six African partners, including the Democratic Republic of Congo, aims to support on-the-ground investment while providing a platform for high-level political dialogue.

As a forest giant in the sub-Saharan region, the DRC plays a crucial role in combating deforestation and promoting environmentally-friendly sustainable development. The conference also provided a unique opportunity to reflect on the

need to build a new international financial architecture, better able to support the achievement of the Sustainable Development Goals.

One of the highlights of the event will undoubtedly be the signing of the Memorandum of Understanding on forest protection, within the framework of the Central African Forest Initiative (CAFI). This coalition of donors and six African countries, including the DRC, aims to promote investment on the ground and establish high-level political dialogue. As the green lung of sub-Saharan Africa, the DRC plays a key role in combating deforestation and promoting environmentally-friendly sustainable development.

*Radio OKAPI and Christian MAZONO/NSC*



RSIT Minister Gilbert KABANDA cuts the ribbon to inaugurate the new NCPIR building.

## Activities of the Minister of SRTI

### Minister Gilbert KABANDA inaugurates the new NCPIR building

**T**he Minister of Scientific Research and Technological Innovation, Gilbert KABANDA, inaugurated the new building of the National Committee for Protection against Ionizing Radiation (NCPIR) in Kinshasa on September 12, 2024..



The Minister of SRTI Gilbert KABANDA, the President of the NSC

TSHIMANKINDA Pius, this acquisition proves how hard the leaders of this state structure have fought to make it a pearl cultivated in the interests of the country.

He did not forget to call on the country's other structures to follow NCPIR's fine example.

For his part, the President of NCPIR, Professor NYAMOGA KABANDA, in his opening remarks, emphasized the efficient use of this jewel, acquired at the price of



NCPIR Vice-President greets the Minister of SRTI

The Minister of Scientific Research and Technological Innovation, Gilbert KABANDA, inaugurated the new building of the National Committee for Protection against Ionizing Radiation (NCPIR), on September 12, 2024 in Kinshasa.

According to NCPIR authorities, the institution can now operate without having to resort to renting, as it has just acquired a new building built to international standards.

The NCPIR's new administrative building is located at the intersection of avenues de l'aérodrome and forgeron in the commune of Limeté. The building has three floors and a ground floor.

According to the President of the National Scientific Council, Professor MPIANA



Family photo

many sacrifices. The head of NCPIR also reminded the audience that his organization would not remain for long without embarking on new initiatives, including the acquisition of a modern laboratory.

The NCPIR is a government body set up to regulate the use of ionizing radiation.

Radio OKAPI and Christian MAZONO/NSC



## Gilbert KABANDA closes seminar on armed conflict in the DRC



*The conclusions on the fundamental and ideological causes of war and conflict will be capitalized*

*on by the Government to improve the approach and strategies for fighting these conflicts”, declared the Minister of Scientific Research and Technological Innovation (SRTI) Gilbert KABANDA KURHENGA during the closing session of the training and information seminar on conflicts in the East of the Democratic Republic of Congo (DRC), on October 18, 2024 in the large hall of the Saint Clavier Industry in Gombe township.*

According to Minister Gilbert KABANDA KURHENGA, the participants formed a background, a kind of rear staff for the fight that the government will have to redirect against the war that begins in the East but extends over the national territory and all of Central Africa.

The Patron of Research expressed the hope that other seminars would be held to deepen the conclusions of the present meeting, in order to better establish peace in Central Africa and the Great Lakes region. In conclusion, the participants made the following recommendations, among others:

- the commitment to pursue, within

the framework of the ICEA, the intellectual effort to identify the distant roots of the ideological or religious postures that have led to the legitimization of the practices of humiliation and depersonalization of the peoples of the DRC. an immediate increase in military resources to fight against the M23-AFC-RDF coalition and the armed groups who daily plunge the populations of eastern Congo into mourning, while at the same time plundering its resources;

- the mobilization of more resources to provide immediate and sustained humanitarian aid for people in distress who have fled conflict zones and are living in displaced persons camps. l'intensification des efforts de paix et de stabilisation sans lequel aucun plan de développement n'est envisageable;
- The setting up of specific Congolese courts to judge criminals whose crimes have been carefully documented with reports from various sources. At the same time, we call for the effective implementation of measures to reintegrate into the nation those of our young people

who have renounced violent action against the State and civilian populations,

- a request to the government for substantial support to help ICEA perpetuate the intellectual process initiated at this seminar.

In conclusion, the participants thanked the President of the Republic for the attention and support given to the seminar. They congratulated the Minister on his achievements. Finally, they also praised his dedication and sacrifice.

The seminar was opened on October 16, 2024 by Minister Gilbert KABANDA KURHENGA, representing the President of the Republic.

*Communication Unit of the Minister of SRTI and MAZONO MPIA Christian/NSC*



The "Good defeats Evil" sculpture at UN headquarters in New York depicts St. George slaying the dragon. The dragon was created from fragments of Soviet SS-20 and American Pershing nuclear missiles.

## **Commemoration of the International Day for the Total Elimination of Nuclear Weapons** **Gilbert KABANDA advocates the peaceful use of nuclear energy**

**O**n the occasion of the 79th General Assembly of the United Nations, September 26, 2024, the international day dedicated to the total elimination of nuclear weapons, the Minister of Scientific Research and Technological Innovation, Gilbert KABANDA, reaffirmed the Democratic Republic of Congo's commitment to peaceful nuclear energy.

Minister KABANDA emphasized that the DRC is a fervent supporter of the peaceful use of nuclear energy, as evidenced by its adherence to major international treaties such as the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) and the Pelindaba Treaty. These commitments testify to our country's determination to contribute to a safer, more sustainable world.

On this day dedicated to nuclear disarmament, the Minister recalled that global security depends on renouncing the proliferation of nuclear weapons, and on concerted efforts in favor of disarmament. He welcomed the accession of new States to the Treaty on the Prohibition of Nuclear Weapons, a significant step towards a world free of these weapons of mass destruction.

As an active member of the international community, the DRC intends to pursue its efforts to promote peaceful and sus-



tainable development, relying on nuclear technologies for civilian purposes, particularly in the fields of health, agriculture and energy.

*Minister's communication unit and  
Christian MAZONO/NSC*



## NSC holds 54th ordinary session in Kinshasa

**T**he National Scientific Council (NSC) held its 54th ordinary session on Wednesday, September 11, 2024 in the Saint Valentin room of the CRGM in Gombe township.

At this meeting, NSC members examined a dense agenda, focusing on the situation of research establishments in the DRC. Professor Pius MPIANA TSHIMANKINDA, Chairman of the NSC, stressed the importance of active participation by all members at ordinary sessions, and reminded the meeting that decisions taken are binding on all research institutions.

Among the topics covered were:

- Assessment of research institution activities between two sessions: participants took stock of the progress and challenges faced by the various centers and institutes.
- Appointment and promotion files:

a large number of files were examined, covering personnel from 14 institutions, including RCMG, RCACL, WERC, RIHS, etc.

- Preparations for the scientific conference on Mpox: participants discussed the modalities of this conference, which should provide an update on the latest scientific advances concerning this disease.
- Ongoing training for researchers: the President of the NSC reiterated the importance of ongoing training, and announced that face-to-face and online training modules would be held in November 2024.

In conclusion, this 54th ordinary session of the NSC provided an opportunity to take stock of research activities in the DRC and to define future directions. Participants stressed the importance of closer collaboration between the various institutions in order to meet the challenges facing scientific research in the country.

**MAZONO Christian NSC**

## NSC trains key players in atomic energy in ethics

**T**he National Scientific Council (NSC) organized an in-depth training session on research ethics for staff from the Atomic Energy Commission (AEC) and the National Committee for Protection against Ionizing Radiation (NCPIR), on January 25 and 26, 2024 in Kinshasa.

Led by trainer MBOKOLO YONGELI Boniface, this training session addressed the fundamentals of ethics in scientific research. Participants were able to reinforce their knowledge of:

- The objectives of ethics in research:

why it is essential to respect ethical principles in science?

- The history and evolution of ethics: where do the ethical principles that guide research today come from?
- The different types of knowledge: how to distinguish between different types of knowledge and how to assess them?
- The foundations of ethics: what moral principles underpin scientific research?
- Key definitions: what is ethics, re-

search ethics, scientific research ?

The trainer also stressed the importance of setting up research ethics committees within institutions. These committees, made up of at least ten members, are responsible for drawing up codes of conduct, evaluating research projects and ensuring that they comply with current ethical standards.

### *Ethical issues in scientific research*

MBOKOLO YONGELI Boniface stressed that scientific research, while essential for progress, must always be conducted

in compliance with certain ethical rules. In particular, he highlighted the lack of ethics training for researchers, and the need to develop their skills in this area.

The trainer concluded by reminding us that researchers have a crucial role to play in society. They must not only produce new knowledge, but also act as agents of change, capable of designing relevant research projects and communicating their results responsibly.

#### *A rich training in exchanges*

The course provided an opportunity for participants to ask a wide range of questions and share their experiences. The discussions highlighted the specific challenges facing research in the field of atomic energy.

In short, this NSC initiative bears witness to the desire to strengthen ethics in scientific research in the Democratic Republic of Congo. By training key players in the field of atomic energy, it helps to ensure that research carried out in this

field respects international standards and human values.

*ZUSHI Romain/NSC*



## *Échoes of our Research Institutions*

*The AIE and AEC delegations at the Cercle Elais in Kinshasa*

### **AEC organizes expert workshop on nuclear safety**

**U**nder the aegis of the Minister of Scientific Research and Technological Innovation, Gilbert KABANDA, the Commissariat Général à l'Énergie Atomique (CGEA) and the International Atomic Energy Agency (IAEA), organized a workshop from September 9 to 13, 2024 at Cercle ELAIS in Kinshasa, focusing on the application of IAEA safety standards on Operational Radiation Protection and Radioactive Waste Management for Research Reactors.

The workshop brought together internationally renowned experts to discuss

best practices in nuclear safety, with a particular focus on operational radiation protection and the management of radioactive waste from research reactors. Participants exchanged knowledge and experience to strengthen national capacities in these areas.

A crucial issue for the DRC

Nuclear safety is a key issue for the DRC, which has nuclear facilities and wishes to develop the peaceful use of atomic energy. This workshop is part of a global approach aimed at guaranteeing the safety of these facilities and protecting

public health and the environment.

High-level personalities present

The event was attended by numerous personalities, including Minister Gilbert KABANDA, RSIT Secretary General Odon NDAMBU and the President of the National Scientific Council, Professor MPIANA TSHIMANKINDA Pius. Their participation underlined the importance attached to this theme by the Congolese authorities.

A further step towards safe and responsible nuclear energy

The workshop provided an opportunity



Family photo of the Minister with his delegation and that of the IAEA

to take stock of progress made in nuclear safety in the DRC, and to define the next steps to be taken. It testifies to the country's commitment to implementing the highest international standards in this

field.

All in all, this event marked an important stage in the development of a nuclear safety culture in the DRC. It helped

strengthen national capacities and consolidate international cooperation in this field.

*Mélanie MWAMINI/AEC*



## CEO NYEMBWE TSHIPUKANE visits some RIHS branches

**O**n a private mission to several provinces of the Democratic Republic of Congo, the Director General of the Research Institute for Health Sciences (RIHS), Dr Dieudonné NYEMBWE TSHIPUKANE, took the opportunity to visit some of the research institute's branches, to see how they were operating.

According to Professor NYEMBWE TSHIPUKANE, General Director of RIHS, the overall picture is bitter. In Lubumbashi, for example, the branch run by Doctor Paul BOMA MUTEBA, who suffered a stroke, opened in collaboration with Belgium's Masselt University to monitor sickle-cell patients, is operational within the Gécamines hospital, a situation that does not allow the various services to be

deployed.

In Boma, the branch faces a number of difficulties, including a lack of material infrastructure and the non-mechanization of a large part of the team. The Kisantu Antenna, headed by Doctor Nathan BUNDUTIDI, is not budgeted for optimal operation, and staff do not receive institutional bonuses.



It is under-housed by the Artemesia house in Kisantu and lacks appropriate equipment for research and proper care of sickle cell patients.

The same difficulties are encountered in various other branches throughout the Republic. The RIHS General Manager is therefore sounding the alarm to the relevant authorities, inviting them to become personally involved in overcoming these difficulties, since research is also a pillar of development, and one of the priorities of the Head of State, His Excellency Felix-Antoine TSHISEKEDI TSHILOMBO.

Please note that the Research Institute for Health Sciences (RIHS) is a public scientific and technical establishment listed in Ordinance-Law no. 82-7040 of November 5, 1982 on the Organization of Scientific and Technical Research in the DRC.

*Patricia BASUA/RIHS*

## RCAST explores the secrets of the *Podocarpus usambarensis*



**T**he Research Center for Applied Sciences and Technologies (RCAST) organized a scientific conference devoted to an in-depth study of *Podocarpus usambarensis*, an endemic plant of the Kahuzi-Biega National Park, on July 19, 2024 in Kinshasa.

The conference was moderated by researcher KAZADI MINZANGI from RCAST's Department of Biotechnology and Natural Substances (DBNS).

### **Podocarpus oil: a rich nutritional source**

He presented the results of his work on the fatty acid and tocopherol composition of this plant's seeds. In particular, he highlighted the influence of plant age and harvesting season on the content of these compounds.

### **In-depth analysis**

To carry out this study, the researcher analyzed seed samples taken at different times of the year and from plants of various ages. The analyses, carried out in

collaboration with laboratories in Uganda and Germany, enabled the precise composition of the oils extracted from the seeds to be determined.

### **Promising results**

The results show that *Podocarpus usambarensis* oil is rich in monounsaturated and polyunsaturated fatty acids, essential for human health. However, the distribution of these fatty acids varies according to the age of the plant and the harvesting season. Young plants cultivated in the rainy season are particularly rich in monounsaturated acids, while wild plants in the dry season contain more polyunsaturated acids.

### **Promising prospects**

This research opens up new prospects for the use of *Podocarpus usambarensis* oil. Thanks to its richness in essential fatty acids, this oil could find applications in various fields, notably in the cosmetics and pharmaceutical industries.

### **Next steps**

Researcher KAZADI MINZANGI stressed the importance of continuing this work in order to better understand the mechanisms governing the biosynthesis of fatty acids and tocopherols in this plant. New analyses are underway to deepen this knowledge and identify potential industrial applications.

In conclusion, this study highlights the potential of Congolese biodiversity and the importance of scientific research to enhance the country's natural resources.

**Dieudonné ATITUNGU SANGOL/ RCAST**

## Reflections of our researchers

### Mpox: vaccine dependence in Africa and ethical issues in the fight against an endemo-epidemic disease.

**M**px (formerly monkeypox) is a viral zoonosis caused by an orthopoxvirus. Since its discovery in 1958 in laboratory monkeys, human epidemics have been documented, mainly in Africa. In 2022, an international outbreak was observed, with over 87,000 cases reported in 110 countries, particularly in Europe and North America, where the disease was historically rare.

The World Health Organization (WHO) declared this epidemic a public health emergency in July 2022. The global mortality rate varies, with lethality estimated at 1-10% depending on the strain, but is generally higher in resource-limited areas.

Mpox is endemic in several African countries, notably in Central Africa (clade 1) and West Africa (clade 2). The largest epidemics have been observed in Nigeria, the Central African Republic and the Democratic Republic of Congo (DRC). Africa remains the most affected continent in terms of local transmission, with factors favoring propagation such as proximity to wild animals, low vaccination coverage, and fragile health infrastructures. The virus' animal reservoir is suspected to be mainly rodents, and human transmission occurs via direct contact with infected body fluids.

The Democratic Republic of Congo (DRC) is one of the countries most severely affected by Mpox. Since the first epidemics recorded in the 1970s, the country has reported thousands of cases every year, mainly in the eastern and northern provinces. In 2023, the DRC recorded around 2,000 confirmed

cases, with a relatively high case-fatality rate compared with non-endemic regions. In 2024, the situation is more than chaotic, suggesting biological and/or economic warfare. Response to the disease remains complicated by armed conflict, lack of available vaccines and poor diagnostic capabilities.

Available vaccines against Mpox, notably Jynneos (or Imvanex in Europe), have proven effective against Mpox due to the similarity of the viruses. Jynneos is a third-generation vaccine, based on live attenuated virus and approved for high-risk populations, including healthcare workers and people exposed to confirmed cases of Mpox.

The ACAM2000 smallpox vaccine is also effective, but carries a higher risk of serious side effects. Although these vaccines are available in Europe and America, access to them remains very limited in Africa, particularly in countries such as the DRC.

However, it should be noted that Africa's vaccine dependence on Mpox is increasingly decried in intellectual circles. Indeed, the current situation, where Africa is forced to rely on European vaccines to combat endemic diseases such as Mpox, highlights a worrying dependence. This phenomenon reflects the collective failure of African governments, researchers and institutions to invest in the development of local medical solutions. While diseases such as Mpox predominantly affect African countries, it is paradoxical that the vaccines needed come from Europe or other regions, high-

lighting a scientific imbalance.

This dependence is due to a lack of investment in infrastructure, biotechnology and research, preventing local researchers from producing suitable vaccines.

On the other hand, the introduction of vaccines in Africa raises ethical questions, particularly with regard to compliance with the Helsinki protocol, which stipulates that the populations concerned must be fully informed and involved in the vaccination process. Imposing vaccines developed elsewhere without the informed consent of local populations raises doubts about the ethics of such interventions. So, while vaccines are a necessary short-term solution, they must not be seen as a foregone conclusion. It is crucial that African countries invest more in local scientific research to ensure greater health autonomy and avoid this persistent dependence on foreign medical solutions.

*Professor NGBOLUA KOTO-TE-NYIWA/NSC*

## At the tune of innovation

### Falonne engineer ALOLI KIRINGA turns waste into eco-friendly coal

**O**ne of the commitments made by an environmental engineer, Falonne Aloi Kiringa, was to transform waste into ecological coal (solid fuel produced from certain materials...) to combat insalubrity in the city

of Kinshasa, in the Democratic Republic of Congo (DRC).

"In Kinshasa's neighbourhoods, where pollution and shortages of firewood are daily realities, a solution is emerging to transform garbage into clean energy," said Falonne

Aloi Kiringa.

"I came up with the idea of transforming waste into ecological charcoal by observing the environmental problems we face in Kinshasa. Air pollution, deforestation, the difficulty of obtaining firewood and so many

other things prompted me to look for alternatives," she revealed.

"The process of transforming waste into eco-friendly charcoal is still artisanal. I collect the waste myself, mainly organic waste such as fruit peels, leaves and kitchen scraps. Then I dry them, grind them by hand, then put them in rudimentary ovens to carbonize them."

Obstacles to his work.

On the other hand, Falonne Aloli Kiringa noted that many obstacles stand in the way of his work to transform waste into ecological coal, considered a solid fuel produced from biodegradable, carbon-rich agricultural and household residues.

"There are many difficulties. I'm exposed to disease because of the lack of protective clothing. I don't have the necessary equip-

ment to produce on a large scale. There's a lack of machines to grind waste, no large containers for carbonization, and no means of transport to collect waste in large quantities. What's more, popularizing my products is a real challenge", she noted.

The engineer expressed her motivation to contribute to a cleaner, healthier future for the city of Kinshasa.

"I want to show that it's possible to transform waste into a valuable resource. What's more, this activity allows me to create local employment", she added.

She took the opportunity to call on people of good will to help her develop her business.

"I need partners to help me acquire equipment, train me and make myself known. I'm ready to work with anyone who shares my

vision of a 'cleaner, more sustainable Kinshasa'", added Falonne Alilo.

Falonne Alilo Kiringa's story is that of a woman who innovates to find sustainable solutions to many challenges. Her project to transform waste into coal is a source of inspiration for all those who wish to contribute to a better future for our planet.

PCA



Read for you

## Gorillas preserve biodiversity in the DRC.

**A**ccording to the British ecologist, considered to be the "gardeners of natural forests", gorillas play a vital role in maintaining biodiversity, an essential element in the fight against climate change and environmental degradation.

Gorillas, particularly those in the equatorial forests of the DRC, play an active role in seed dispersal through their movements in the forest and their diet.

"Gorillas are, in a way, the gardeners of natural forests. The conservation of lowland gorillas in the east is essential not only for the protection of the species itself, but also for the preservation of the forests of the Kahuzi-Biega Park (PNKB) in South Kivu, eastern DRC, on which much of the world's biodiversity depends", explains British biologist and ecologist, Lan Redmond.

Without their presence, Congolese forests risk losing their regeneration capacity, seriously impacting the balance of ecosystems.

Protecting gorillas is therefore inextricably linked with efforts to safeguard tropical forests, often referred to as the "lungs of the planet". In the DRC, where a significant proportion of lowland and mountain gorilla populations live, deforestation and poaching are major threats to this protected species.

Yet their conservation is essential to preserve not only natural habitats but also the diversity of plant and animal species that coexist there.

This scientist emphasized the essential role played by lowland gorillas in the survival of tropical forests.

"They disperse the seeds from the fruit

they eat through their droppings, and when they move through the forest, they cut tree branches and uproot certain plants, allowing sunlight to reach the ground and encourage the growth of new plants," he hammered.

This world day was an opportunity to recall the importance of this emblematic species for forest health, and the need for concerted action to protect it.

[versvert-infos.com/](https://www.versvert-infos.com/) Bertin Al-bashir/  
STIB editorial team

## PUBLIC-SECTOR RESEARCH CENTERS AND INSTITUTES IN THE D.R. CONGO

<p><b>RIHS (Research Institute in Health Science)</b>  <i>Objective: To improve the state of health of the population through research in the following fields: pharmaceutical, medical, anthropological, psychological or socio-cultural.</i>                      Address: 9, Av. Lukusa C/Gombe; E-mail: dnyembo@gmail.com; Tel: 0824580211</p>	<p><b>SSRC (Social Science Research Center / Bandunduville)</b>  <i>Objective: to carry out practical scientific research into major socio-economic and cultural issues.</i>                      To promote sustainable aquatic development.                      Address: 29, Av. de la mission, Q/Salongo, C/Basoko. BANDUNDUVILLE, BP. 223; E-mail: akuzituka@gmail.com; Tel: 0815898971</p>
<p><b>ATSRC (Applied and Technologic Sciences Research Center)</b>  <i>Objectif: Mettre au point des matériaux, des appareils, des méthodes ou procédés</i>  <i>Objective: To develop materials, equipment, methods or processes with a view to finding solutions to the population's urgent problems in various fields: housing, rural development and the modernization of the society.</i>                      Address: 106, Blvd du 30 Juin, C/Gombe; E-mail: Jeannoel.mputu@gmail.com; Tel: 0821138261</p>	<p><b>FERC (Forest Ecology Research Center /Mabali)</b>  <i>Objective: Scientific research on plants, aquatic species and animal species.</i>                      Address: D.S/MBANDAKA D.S/MBANDAKA/PROVINCE OF ECUADOR; E-mail: bosomboependi2@gmail.com; Tel: 0825241704</p>
<p><b>RCHS (Research Center in Human Sciences)</b>  <i>Objective: To ensure the human development of the Congolese people through the study of its social, economic and political dimensions with a view to identifying the factors that have a positive or negative influence on its development.</i>                      Address: 33, Av. comité urbain C/ Gombe; E-mail: mingashang@yahoo.fr; Tel: 0819377821</p>	<p><b>NDRC (Nutritional Diseases Research Center/Gemena)</b>  <i>Objective: Research into diseases linked to malnutrition, such as related diseases by isolating certain molecules, such as SYZYSIUM GUINESIE to combat amoebic yeasts and diarrhea in South Ubangi.</i>                      Address: Mobutu n° 220/A. GEMENA/ SOUTH UBANGI PROVINCE; E-mail: cherusangi@yahoo.fr; 0992416091</p>
<p><b>RCMT (Research Center in Mathematics Teaching)</b>  <i>Objective: To carry out research in the field of mathematics teaching with a view to improving quality.</i>                      Address: 84, Av. des Ambassadeurs C/ Gombe; E-mail: mabelamatendorostin@gmail.com; Tel: 0815031877</p>	<p><b>NSRC (Natural Sciences Research Center /Lwiro)</b>  <i>Objective: To carry out, promote and coordinate research in the fields of science, technology and industry throughout the DRC.</i>                      Address: LWIRO LWIRO , TERRITORY OF KABARE/SUD KIVU; E-mail: robert.kasisi@umontreal.com; Tel: 0996806699.</p>
<p><b>GRC (Geophysical Research Center)</b>  <i>Objective: To provide the country with a national geophysical observation network, for the global study of the internal behavior of the earth in the DRC.</i>                      Address: 44, Av. de la démocratie, C/ Gombe( within GMRC); E-mail:tondozi@gmail.com; Tel: 0854426228</p>	<p><b>MDRC (Multidisciplinary Development Research Center /Bunia)</b>  <i>Objective: To carry out operational research in the north-east of the DRC in the fields of applied linguistics, African cultures and applied sciences.</i>                      Study of nature, fauna, flora and protection of endangered species.                      Address: BUNIA/ITURI; E-mail: Kermwathomas@gmail.com; Tel: 0997717070</p>
<p><b>AIPS (African Institute of Prospective Studies)</b>  <i>Objective: To carry out forward-looking studies in order to propose solutions to crises and problems linked to the evolution of African societies.</i>                      Address: Av. Cardinal Malula, C/ Lemba; E-mail: mgrtarcibangu@yahoo.fr; Tel: 0996658741</p>	<p><b>HRC (Hydrobiology Research Center in Uvira)</b>  <i>Objective: To program, coordinate and monitor research activities in hydrobiology, limnology and hydrology.</i>                      hydrobiology, limnology and fisheries in all ecosystems.                      Address: 115, AV. du Congo, Q/Kimanga, C/Kalundu, UVIRA / SUD KIVU; E-mail: bida-kamuhoza@gmail.com; Tel: 0997716307.</p>
<p><b>MDRC (Multidisciplinary Development Research Center/Matadi)</b>  <i>Objective: To carry out operational research in central Congo in the field of applied linguistics of African cultures and applied sciences</i>                      Address: Hôtel de la porte Matadi; E-mail: Mwanzanicolas5@gmail.com; Tel: 0815037949</p>	<p><b>CoE/CBRNEC (Chemical, Biological, Radiological and Nuclear Excellence Center)</b>  <i>Objective: To contribute to the mitigation of chemical, biological, radiological and nuclear risks.</i>                      Address: 106, Blvd du 30 Juin, C/Gombe; E-mail: Odette.kabena@gmail.com; Tel: 0816904370.</p>
<p><b>NCPIR (National Committee for the Protection of ionizing Radiation)</b>  <i>Objective: - Regulatory authority for protection against the dangers of ionizing radiation in the DRC management of radioactive sources of radioactive materials such as uranium.</i>                      Address: 4675, Av. Colonel Ebeya, Immeuble Quitus 2ème niveau; Email: Flory1963@gmail.com; Tel: 0816684665</p>	<p><b>GVO (Goma Volcanological Observatory)</b>  <i>Objective: Prevention of volcanic risks by monitoring volcanoes and Lake Kivu.</i>                      Kivu; Management of natural risks; scientific research.                      Address: 142, Avenue Du Rond Point ; Quartier Les Volcans ; Commune de Goma ; Ville Goma; North-Kivu; E-mail: mavotulu@gmail.com; Tel: 0998584734</p>
<p><b>AEC (French Atomic Energy Commission)</b>  <i>Objective: To carry out, promote and coordinate scientific and technical research in various fields of science and industry, concerning the use of atomic energy and space research.</i>                      Address: UNIKIN building; E-mail: Steve.muanza.kamunga@gmail.com; Tel: 0808643248</p>	<p><b>WERC (Water and Environment Research Center)</b>  <i>Objective: To serve as a training and research center focusing on water and environmental management.</i>                      To propose solutions to problems that could arise around water. Create a national network of Congolese scientists and researchers to analyze and disseminate information on the impact of climate change in the DRC. Promote education and the right to the environment.                      Address: 44, Comité Urbain C/ GOMBE; E-mail: ngelipatience@gmail.com; Tel: 0818105625.</p>
<p><b>CGI (Congo Geographic Institute)</b>  <i>Objective: Production of the base map of the DRC at a scale of 1/50,000 and its derivatives.</i>                      Address: 106, Blvd du 30 Juin, C/Gombe; E-mail: Fidele.balibuno@unikin.ac.cd; Tel: 0974449240</p>	<p><b>RCSARP (Research Center for the Selection and Adaptation of Ruminants and Pigs)</b>  <i>Objective: To carry out studies and research in the field of ruminant and pig breeding</i>                      Address: 45, Av. Lumumba, Q/de la gare, LUPUTA/ KASAI-ORIENTAL; E-mail: tshamalagabriel@gmail.com; Tel: 0851817370</p>
<p><b>GMRC (Geologic and Mining Research Center)</b>  <i>Objective: To carry out studies and analyses to improve knowledge of the soil and subsoil of the national territory.</i>                      Address: 44, Av. de la démocratie, C/ Gombe; E-mail: rolandkakule@gmail.com; Tel: 0851506161</p>	<p><b>NCRS (National Center for Remote Sensing)</b>  <i>Objective: Research in remote sensing.</i>                      Address: PLACE ROYAL IMMEUBLE PLACE ROYAL IMMEUBLE KASAI; E-mail: davidngindub@gmail.com; Tel: 0815103502.</p>
<p><b>NIASR (National Institute for Agronomic Study and Research)</b>  <i>Objective: To promote the development of agriculture in the Congo. To maintain varieties, multi-local trials, and its farmers, management and conservation of germplasm. Set up a program to monitor and evaluate research activities.</i>                      To disseminate new varieties. Give the emerging technical department its reason for being, with a view to producing basic and pre-basic seed.                      Resume publication of the agricultural magazine to disseminate research results.                      Address: 13, Av. des Cliniques, BP :2037 KINSHASA , C/Gombe; E-mail: domikankonde@yahoo.fr; Tel: 0818248620</p>	<p><b>NCROS (National Center for Research in Oral Science)</b>  <i>Objective: To carry out studies and research in the field of oral health.</i>                      Address: 13, 10ème Rue, Industriel Quarter, C/Limete; E-mail: Cnrsbd.rdc@gmail.com; Tel: 0822244152; 0811835159; 0840922982</p>
<p><b>RCALC (Research Center into African Language and Culture)</b>  <i>Objective: To coordinate and carry out all research projects concerning African languages and cultures.</i>                      Address: 53 C, Av. Makiso, blvd du 30 juin, Kisangani/ Tshopo. Tel: 0851934320</p>	<p><b>CAS (Congolèse Academy of Sciences)</b>  <i>Objective: Promotion and dissemination of science, technology, arts and letters. Support for inventive initiatives.</i>                      Address: Sciences Faculty/ UNIKIN local 28; E-mail: jlmuyembet@gmail.com; Tel: 0813330242</p>
<p><b>AFRC (Agro-Food Research Centre/Lubumbashi)</b>  <i>Objective: To identify processes for processing and preserving basic local agricultural products. To improve the quality of imported or locally produced foodstuffs by applying approved standards and quality control.</i>                      Help the technological development of the existing agro-industry by providing them with technical assistance wherever possible.                      Address: 1, Av. Président LÉO, Q/CRAA, C/Lubumbashi; E-mail: Julesnkulu@gmail.com; Tel: 0997131002</p>	<p><b>MIPRC (Matadi Interdisciplinary Pedagogical Research Center)</b>  <i>Objective:--Information science.</i>                      Address: The buildings of the Matadi Higher Pedagogical Institute; Tel: 0896501462</p>



**CONGOLESE REVIEW  
OF SCIENCES AND  
TECHNOLOGIES**

Published by the National Scientific  
Council Ministry of Scientific Research  
and Technological Innovation  
Democratic Republic of Congo

ISSN (Online): 2959-202X ISSN Print) :2960-2629 DOI: 10.59228 rcst  
[www.csnrdc.net](http://www.csnrdc.net)

Our review is indexed in the following platforms::

**The National Scientific Council (NSC) is the sole supervisory and decision-making body for all research centers and institutes in the DR Congo**

Subscription conditions

Ordinary: \$15  
Support: \$30  
Honor : \$ 50

In accordance with article 24 of Ordinance-Law n°82-040 of 5 November 1982 on the organization of scientific and technical research, the National Scientific Council is responsible for:

1. to deliberate on the guidelines and priorities of the scientific and technological research plans and programs to be carried out in the country ;
2. to deliberate on the allocation of resources from the State budget to scientific and technological activities;
3. supervising the financial management of research centers and institutes
4. approving the budgets of the Research Institutes and Centers and submitting them to the Minister for Scientific Research for approval
5. approving the organic regulations of the Research Institutes and Centers;
6. . proposing to the Minister for Scientific Research the appointment and promotion of scientific and administrative personnel.

For advertisements and partnerships contact us

Printed on 01 November 2024