

Establishment of a Category 2 Centre in Rwanda under the auspices of UNESCO

Feasibility Study conducted on behalf of UNESCO



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List of Abbreviations

ARCOS	Albertine Rift Conservation Society
AU	African Union
CBD	Convention on Biological Diversity
CGIS	Center for Geographic Information System and Remote Sensing
CNRU	Rwanda National Commission for UNESCO
CoE	Centre of Excellence
CoEB	Center of Excellence in Biodiversity and Natural Resources Management
DFGFI	Dian Fossey Gorilla Fund International
DG	Director General
EAI FR	East African Institute for Fundamental Research
EDPRS	Economic Development and Poverty Reduction Strategy
ENR SSP	Environment and Natural Resources Sector Strategic Plan
FONERWA	Fonds pour l'Environnement au Rwanda
GGCRS	Green Growth and Climate Resilience Strategy
GOR	Government of Rwanda
GVTC	Greater Virunga Transboundary Collaboration
HE	His Excellency
HEC	Higher Education Center
ICIPE	International Centre of Insect Physiology and Ecology
IFMIS	Integrated Financial Management System
IGCP	International Gorilla Conservation Program
INES	Institut d'Enseignement Supérieur
IRST	Institute of Science and Technological Research
ISAE	Higher Institute of Agriculture and Animal Husbandry
ISAR	Rwanda Agricultural Sciences Institute
IUCN	International Union for Conservation of Nature
KCCEM	Kitabi College of Conservation and Environment Management
KIE	Kigali Institute of Education
KIST	Kigali Institute of Science and Technology
KRC	Karisoke Research Center
M & E	Monitoring & Evaluation
MGVP	Mountain Gorilla Veterinary Project
MINAGRI	Ministry of Agriculture and Animal Resources
MINALOC	Ministry of Local Government
MINECOFIN	Ministry of Finance and Economic Planning
MINEDUC	Ministry of Education
MINEFOM	Ministry of Forestry and Mines
MINELA	Ministry of Environment and Lands
MOE	Ministry of Environment
NBSAP	National Biodiversity Strategy and Action Plan
NCST	National Council for Science and Technology
NDC	National Determined Contributions
NGO	Non-Government Organization
NHR	National Herbarium of Rwanda
NIRDA	National Industrial Research and Development Agency
NRM	Natural Resources Management

NST	National Strategy for Transformation
NUR	National University of Rwanda
PIASS	Protestant Institute for Arts and Social Studies
PMU	Project Management Unit
RAB	Rwanda Agricultural Board
RDB	Rwanda Development Board
REMA	Rwanda Environmental Management Authority
RSB	Rwanda Standard Board
SACOLA	Sabyinyo Community Livelihood Association
SG	Secretary General
SPIU	Single Project Implementation Unit
STI	Science, Technology and Innovation
STR	Science, Technology and Research
TAC	Technical Advisory Committee
UN	United Nations
UNCT	United Nations Country Team
UNDP	United Nations Development Program
UNECA	United Nations Economic Commission for Africa
UNEP	United Nations Environment Program
UNESCO	United Nations Education, Scientific and Cultural Organization
UR	University of Rwanda
UR-CAVM	University of Rwanda - College of Agriculture and Veterinary Medicine
UR-CE	University of Rwanda - College of Education
UR-CST	University of Rwanda - College of Science and Technology
UR-MPH	College of Medicine and Public Health
VNP	Virunga National Park
WCS	Wildlife Conservation Society

1 Background

On 30 June 2020, the Secretary-General of Rwanda National Commission for UNESCO forwarded to UNESCO the proposal, endorsed by the Minister of Education and the Minister of Environment, to establish the "Center of Excellence in Biodiversity and Natural Resource Management" as a UNESCO Category 2 Centre (C2C) in the application of the Comprehensive Strategy for Category 2 Institutes and Centers under the auspices of UNESCO¹.

Together with the Minister of Education's additional information on the Center's legal personality, the Intersectoral Review Committee for Category 2 Institutes and Centers (IRC) stated² that the proposal meets all the eligibility criteria. Therefore, this feasibility study report allows the application process to proceed to its next step according to the 2019 strategy on C2 centers.

The initiative of creating a "Centre of Excellence for Biodiversity in Rwanda" followed HE Pres. Paul Kagame's statement at the 1st International Research Conference on Biodiversity and Sustainable Management of Natural Resources held in Kigali, 23 July 2007, requesting

"...effective and efficient institutions, with the appropriate human and physical infrastructure....Another key imperative is the scientific and research capacities to continuously monitor, create new knowledge, as well as generate innovative solutions."³

The Centre of Excellence in Biodiversity and Natural Resource Management (CoEB) was officially established in February 2017 as a Research Centre housed within the University of Rwanda in Huye.

The CoEB is organized as a consortium with a hub office located at the University of Rwanda (UR), and institutions that are nodes of the Center. It functions as a consortium of governmental and non-governmental institutions, bringing together expertise and skills to drive research and produce first-hand knowledge, and play a catalytic and coordinating role to ensure sharing of scientific knowledge, skills and expertise for evidence-based decisions on biodiversity conservation natural resource management and climate resilience.

Consortium Nodes of the Centre of Excellence on Biodiversity & NRM

- College of Education, College of Science and Technology, College of Arts & Social Sciences, College of Agriculture, Animal Sciences & Vet Medicine at University of Rwanda
- Karisoke Research Centre/Dian Fossey Gorilla Fund International
- National Industrial Research & Development Agency (NIRDA)
- IPRC Kitabi
- International Gorilla Conservation Program (IGCP)
- Rwanda Agriculture Board (RAB)
- Rwanda Water and Forestry Authority
- Institute of National Museums of Rwanda

¹ "Strategy for Category 2 Institutes and Centres under the auspices of UNESCO", also referred to as the "2019 Strategy" (document 40 C/79), <https://unesdoc.unesco.org/ark:/48223/pf0000371433>

² In its 2nd meeting on 19 February 2021

³ With the exception of this quote from HE Pres. Kagame, quotes in this report are drawn from the questionnaire held among the participants of the online inception meeting. A summary of the survey report is attached in annex 6

These institutions were selected on the basis of their existing competencies, institutional programs, tangible and intangible assets at the time of a gap analysis made in 2011⁴.

Local partner NGOs include civil society organizations ARCOS, WCS, ICRAF, Rwanda Wildlife Conservation Association, and the Mountain Gorilla Veterinary Program.

The CoEB was established to coordinate and reinforce the capacity for scientific research and linkage of science to policy for the environment, biodiversity, climate change, and sustainable use of natural resources in the Albertine Rift and Great Lakes region, a biodiversity hotspot.



The main objectives of the Centre are:

- Generating knowledge through research and monitoring of biodiversity and natural resources, with a view to reduce the loss of biodiversity, improve the livelihoods of local communities and enhance social, economic and cultural conditions.
- Enhancing education and raising awareness for biodiversity conservation and sustainable natural resource management in the ARR region,
- Promoting science-policy linkages, and improved knowledge management and information sharing mechanisms to facilitate global exchange of knowledge in accordance with UNESCO's Open Access Policy

The specific objectives of the CoEB are to:

- Develop transdisciplinary biodiversity science & its application in policy for sustainable natural resource management in the region.
- Provide learning and capacity development services for students & professionals
- Strengthen regional networks and develop tools and mechanisms for knowledge and information sharing including real-time links with other COEs.
- Increase public awareness on sustainable natural resources management and use, provide technical support in the area of media communication on this subject.
- Contribute to the valorization of biodiversity from genes to ecosystems for sustainable development and human wellbeing in the region through bioprospecting initiatives.

A particular feature of this request to create a Category 2 center that is highlighted in the timeline below, is UNESCO's long-standing involvement in the establishment of the Center, dating back to 2007.

⁴ Report on the Institutional Gap analysis to establish the Centre of Excellence in Biodiversity and Natural Resources in Rwanda, Gestarce Inc. January 2011

Timeline of the CoEB

PERIOD	EVENT IN LINE WITH ESTABLISHMENT OF CoEB
2007	<p>The initiative of creating a "Centre of Excellence for Biodiversity and Natural resources management in Rwanda". HE President Paul Kagame made a statement at the 1st Int'l Research Conference on Biodiversity and Sustainable Management of Natural Resources held in Kigali, 23 July 2007 requesting ".... effective and efficient institutions, with the appropriate human and physical infrastructure.... Another key imperative is the scientific and research capacities to continuously monitor, create new knowledge, as well as generate innovative solutions."</p> <p>The Development Partners mainly UNESCO, UNDP and UNECA have contributed to the conceptualization of the CoEB</p>
2009	<ul style="list-style-type: none"> - The "Centre of Excellence for Biodiversity and Natural resources management in Rwanda" conceptualized as organization that will be linked to other institutions related to management and research on biodiversity. - UNESCO contributed to the consultation process for establishment of the "Centre of Excellence for Biodiversity and Natural resources management in Rwanda"
2010	<ul style="list-style-type: none"> - The concept for the Centre of Excellence for Biodiversity and Natural resources management in Rwanda validated. - UNESCO initiated the consultation meeting with the GoR for the establishment of the Center - The steering committee for the CoEB was put in place by the Government of Rwanda.
2011	<p>UNESCO conducted consultation with the Government of Rwanda for the establishment of the CoEB</p> <p>High level meeting on the National Centre of Excellence for Biodiversity and Natural resources management in Rwanda</p>
2014	<ul style="list-style-type: none"> - UNESCO supported funding the Consultancy for evaluation of legal status & strategic plan development - Law proposal replaced by decision to establish CoEB within the UR - CoEB office equipment funded by UNESCO - 2013/2014 Three workshops/ training on biodiversity capacity among UR staff were organized - Validation Workshop for the Centre of Excellence for Biodiversity and Natural resources management in Rwanda
2017	<ul style="list-style-type: none"> - The UR Board Meeting has officially approved the establishment of the Centre of Excellence for Biodiversity and Natural resources management in Rwanda - The Director and deputy Director have been appointed
2018 – 2021	<p>The Centre of Excellence for Biodiversity and Natural resources management in Rwanda implementing its programs and providing technical assistance. Areas including but not limited to: Research, Community outreach, improved knowledge in climate change management with ecosystem-based adaptation and biodiversity conservation.</p> <p>The Government of Rwanda made an application for C2 status</p> <p>The IRC has cleared the application and gave a go ahead for Feasibility Study for the C2 status</p>

In accordance with the Comprehensive Strategy, the current report is developed based on the findings of a feasibility study, led by a national and an international independent consultants and funded by the Government of Rwanda, to assess the relevance of the proposed Centre for the work of UNESCO and its capacity to support the programs of the Organization.

The current feasibility study hereafter presents the programmatic component, the governance and managerial component, and the sustainability component of the Center. It concludes by making a recommendation to UNESCO on the feasibility of establishing such a center. The study of the two consultants also offered an opportunity to analyze and reflect on the development of the Center over recent years. The consultants made a document analysis, site visit, administered a small-scale survey and interviews among stakeholders and facilitated several focus group discussions. These interactions provided a useful insight in the Center, reflected in a SWOT analysis that is presented in annex 2.

2 Programmatic component

The Comprehensive Strategy for Category 2 Institutes and Centers under the Auspices of UNESCO states that "the activities of Category 2 Centers must be global, regional, subregional or interregional in scope". In addition, Category 2 Centers "shall contribute to the achievement of UNESCO's strategic program objectives and global priorities of the Organization, as well as sectoral or intersectoral program priorities and themes, defined in the C/5 document".

This section of the feasibility report thus analyses each of these dimensions, based on the existing CoEB programs, work, and the planned development of the proposed Category 2 center.

2.1.1 *Relevance of the programs and activities of the Centre to UNESCO's Strategic Objectives*

The relevance of the proposed Cat. 2 center vis à vis UNESCO's strategic objectives has been analyzed according to the three following points:

- The high-level strategic objectives of UNESCO, according to its institutional mandate and Medium- Term Strategy, including global priorities
- The thematic focus of the proposed Cat 2. Centre, in light of the global priorities of UNESCO and the Center's obligation to act on a global, regional, subregional, or interregional basis
- The links between the proposed Cat. 2 center's ambition and objectives and the Sustainable Development Goals as defined in the global 2030 Agenda for Sustainable Development as well as the A.U. Agenda 2063.

2.1.2 *High-strategic objectives and mandate*

UNESCO's 2022-2029 Draft Medium-Term Strategy (41 C/4)⁵ sets out four overarching strategic objectives. In the context of CoEB's application, the strategic objective of most direct relevance is no two: "Work towards sustainable societies and protecting the environment through the promotion of science, technology, innovation, and natural heritage". UNESCO also has two global priorities: Africa and Gender Equality. The needs and aspirations of youth are additional concerns central to the UNESCO⁶ strategy.

⁵ UNESCO DRAFT MEDIUM-TERM STRATEGY FOR 2022-2029 (41 C/4) Paris March 2021

⁶ As emphasised in 37 C/4 and in UNESCO's Operational Strategy on Youth

UNESCO sees access to reliable information about climate change and related environmental, ethical and social issues essential for citizens to understand and respond to these challenges. UNESCO will foster interdisciplinary and multi-stakeholder discussions to promote reliable information in response to environmental challenges by bringing together policymakers, scientists, journalists, civil society organizations, and citizens. The development and implementation of transdisciplinary science frameworks will constitute an essential driver of

Strategic Objective 2: Work towards sustainable societies and protecting the environment through the promotion of science, technology, innovation and the natural heritage		41 C/4 (2022-2029)
Outcome 3: Enhance knowledge for climate action, biodiversity, water and ocean management, and disaster risk reduction	Outcome 4: Advance international cooperation in science, technology and innovation	41 C/5 (2022-2025) and, where applicable, 43 C/5 (2026-2029)

knowledge in order to achieve inclusive and environmentally sustainable development. Supporting the transition to open science in this context will make it possible for scientific information, data, and outputs to be more accessible, effective, democratic, and transparent. It will serve to bridge the science, technology, and innovation gaps between and within countries.

Within the framework of this strategic objective, UNESCO aims to support the achievement of two outcomes that should enable systemic transformations regarding the relationship between individuals and nature and their physical environment. The first aims to reverse the natural environment's deterioration by reinforcing the knowledge that enables concerted action on climate-related issues. The second aims to strengthen the interdisciplinary knowledge base at the science-policy interface through international cooperation in science, technology, and innovation.

"In a recent UNESCO survey among 15,000 people on what they saw as the biggest threats to peace, two-thirds of respondents said biodiversity and climate change were their greatest concern"⁷.

There is a clear and robust relevance of the programs and activities of the CoEB to UNESCO's strategy as mentioned above, in particular:

- The Center's focus on reinforcing the capacity for scientific research and linkage of science to policy for the environment, biodiversity, climate change, and sustainable use of natural resources in the Albertine Rift and Great Lakes region is entirely in line with this strategic objective⁸.
- The programs seek to ensure that research associates, fellows, and partner institutions

⁷ quote from a Nature editorial on the need for reforms in UNESCO: <https://www.nature.com/articles/d41586-020-03311-3>

⁸ Several stakeholders referred to the growing momentum for the important role of evidence based approaches in promoting responsible development in Africa. This critique on the mainstream neo-liberal market driven development models question the negative multiplier consequences of economic practices that destroy ecosystems, appropriate land and water, and reduce cultural and ecological diversity. Calling for social and ecological justice and recognizing environmental destruction as an ecological crime, and a crime against peace, this movement is calling on science to contribute to human security, well-being, and peace. (See also : Folke, C., R. Biggs, A. V. Norström, B. Reyers, and J. Rockström. 2016. Social-ecological resilience and biosphere-based sustainability science. Ecology and Society 21(3):41. <http://dx.doi.org/10.5751/ES-08748-210341>)

contribute towards more evidence-based and inclusive sustainable development at organizational, institutional, national, and sub-national levels in the UNESCO Member States.

- UNESCO also has the mandate to provide education and capacity building to reach its global ambitions. Hands-on capacity building is conducted throughout the Organization and by a number of its entities such as its Category 1 institutes and TWAS – The World Academy of Sciences to advance science in developing countries. CoEB strengthens individual, organizational and institutional capacities, both in Rwanda and in the region. To this extent, the capacity-building dimension of the Center is entirely in line with UNESCO activities.
- Through its capacity-building activities for professionals, the Center's internships and field research assignments are entirely in line with UNESCO's vision to harness the potential of youth as change agents for peace and development.
- The CoEB's 2014-2018 strategy paper and programs make specific references to ensure a gender balance will be respected in all decisions, organs, and staff development of the CoE at all levels. Two examples illustrate this. For example, the steering committee composition will respect the national policy regarding gender equity and gender balance. Also, special attention is given to gender balance considerations in bioprospecting activities since women possess most traditional knowledge.



2.1.3 Geographic focus

While the Center prioritized a national focus in its infancy for pragmatic reasons, a growing network of fellows, visiting scholars, and regional projects demonstrates its ambition and growth potential. Growing recognition of this regional reach is shown in center staff participation in regional policy initiatives such as the working group on developing an East African biodiversity strategy and action plan. CoEB's application for recognition as a C2 Centre under UNESCO is also seen as a benchmark and building stone to increase its recognition in Rwanda and the ARR region.

The regional ambitions are justified not only for the strategic position of Rwanda at the Center of the ARR region as a biodiversity hotspot. Rwanda's central position does offer the potential to become a connector between anglophone eastern and southern Africa and francophone west and central Africa. To illustrate, the Center developed a leadership role in restoring the National Herbarium and digitalization of its historical collections. Together with establishing an open-source portal for Rwanda's Biodiversity Information System, it offers inspiration and an example for similar national institutions in the region. While these initiatives are still relatively young, they provide a solid base and tremendous potential in building a network of collaborative partners in Rwanda and the region. The Center's geographic focus is also in line with the geographic priorities of UNESCO interventions, particularly as regards the Africa region.

Just to emphasize the strategic location of the CoEB in terms of its mission: 1) it is located in one of the regions of the highest biodiversity importance (if not the most) in Africa - the Albertine Rift; 2) it is located on the edge of the vast Congo rainforest belt whose integrity and biodiversity are under increasing threat; and 3) and perhaps most importantly, it is situated in a country

which prioritizes science for informing policy and executive action (witness Rwanda's response to Covid)

3 Links to the 2030 Sustainable Development Agenda

To the extent that the Center will be working under the auspices of UNESCO, it is expected that the Center contributes to UNESCO's efforts to reach the Sustainable Development Goals (SDGs).

Although not yet spelled out explicitly in reports or publications, CoEB does contribute to the achievement of Rwanda's 2030 Global development agenda on developing a knowledge-based society. The Center has the potential to contribute to the entire set of SDGs with a particular focus on SDG 4 (education), SDG 5 (gender equality), SDG 6 (water), SDG 9 (innovation), SDG 13 (climate change), SDG 15 (biodiversity) and SDG 17 (partnerships). In addition, the high-profile [SDG Centre for Africa](#) in Rwanda offers the CoEB and UNESCO opportunities to partner, support, and profile its work.



While the 17 SDGs are indivisible and interdependent, UNESCO emphasizes those where the Organization has a strategic contribution to make, and in fields where its unique comparative advantages are recognized: SDGs 4 (quality education), 5 (gender equality), 6 (clean water and sanitation), 11 (sustainable cities and communities), 13 (action to combat climate change), 14 (life below water), 15 (life on land), 16 (peace, justice and strong institutions), 17 (partnerships for the goals).

Through research, capacity-building, information-sharing, and international collaboration, CoEB will contribute to UNESCO programs predominantly relating to SDGs 5, 6, 13, 14, and 15. It will also indirectly touch upon several other SDGs, as outlined in the table below.

Table 1 Direct and indirect (potential) influence of the Proposed Center's programs on the SDG agenda⁹.

		Focus Areas of the CoEB				
		Research	Monitoring	Education	Bioprospecting	Outreach
1	No poverty	(✓)		(✓)	(✓)	✓
2	Zero hunger	✓			✓	
3	Good health and well-being	(✓)	(✓)		✓	
4	Quality education	✓	(✓)	✓		✓
5	Gender equality	✓		✓	✓	✓
6	Clean water and sanitation	✓	✓			✓
7	Affordable and clean energy	✓		✓		

⁹ NB this table is based on a global appreciation of current and envisaged research, education and outreach priorities of the Centre

		Focus Areas of the CoEB				
		Research	Monitoring	Education	Bioprospecting	Outreach
8	Decent work and economic growth	(✓)			✓	
9	Industry, innovation and infrastructure	(✓)			✓	
10	Reduced inequalities			✓		
11	Sustainable cities and communities	✓		✓		✓
12	Responsible consumption & production			✓		✓
13	Climate action	✓	✓	✓		✓
14	Life below water	✓	✓			✓
15	Life on land	✓	✓	✓		✓
16	Peace, justice and strong institutions	✓	(✓)	✓		
17	Partnership for the goals	✓	(✓)	✓	✓	✓

Legend: ✓ Direct influence; (✓) Indirect Influence

3.1 Programmatic linkages between the activities of the Proposed Centre and UNESCO's programs

Given UNESCO's strategic objective 5, "promoting international scientific cooperation on critical challenges to sustainable development," and CoEB's mission, one can hardly miss the obvious potential for linkages and partnership. Apart from UNESCO's involvement in establishing the CoEB, a series of joint initiatives have been organized including biodiversity capacity building trainings, training in bryophyte biology and field techniques training.

It has been made clear during the feasibility study and field visit that both parties see high potential in further strengthening the many existing links between CoEB's programs and the work conducted by UNESCO. In particular, UNESCO and CoEB staff see opportunities to exchange skills and expertise, leverage resources based on each party's networks and presence, and increased mutual visibility given the reputation and track record both parties currently have in their respective fields of action.

For UNESCO, the CoEB offers a unique opportunity to partner with a young innovative and dynamic Centre of Excellence that has demonstrated quality and the potential to develop into a leading center in the region, if not the continent. The CoEB is illustrating and part of a rapidly growing movement in science-based development approaches on social and ecological justice. A partnership with the CoEB offers UNESCO, as some stakeholder indicated,

"a key anchor point in a wider development on the African continent linking theory and practice towards responsible development processes based on social and ecological justice."

The UNESCO MAB program offers the most obvious scope for linkages between the Centre and UNESCO programs. In fact, as we have seen earlier, the CoEB developed over more than a decade with generous support from the UNESCO/ MAB program. The logic for this support is

easily explained as the Center fits so well within the mission and mandate of the MAB program as specified in its current strategic plan¹⁰ (see box 1).

For the CoEB, the promotion to a UNESCO Category 2 Center, and the further association and partnership with UNESCO/ MAB will help accomplish key areas of its activities.

Box 1 Priority areas for the MAB strategy 2015-2025.

The 2015-2025 MAB Strategy foresees that, in the coming 10 years, the MAB Programme will concentrate its support to Member States and stakeholders in **conserving biodiversity, restoring and enhancing ecosystem services, and fostering the sustainable use of natural resources.**

The MAB Programme will harness lessons learned through sustainability science and education and use modern, open and transparent ways to communicate and share information.

Four areas of action:

- *Strategic Action Area A.* The World Network of Biosphere Reserves consisting of effectively functioning models for sustainable development
- *Strategic Action Area B.* Inclusive, dynamic and result-oriented collaboration and networking within the MAB Programme and the World Network of Biosphere Reserves
- *Strategic Action Area C.* Effective external partnerships and sufficient and sustainable funding for the MAB Programme and the World Network of Biosphere Reserves
- *Strategic Action Area D.* Comprehensive, modern, open, and transparent communication, information and data sharing

Specifically, CoEB will contribute to public awareness-raising through conferences, seminars, training, exhibitions. In this regard, the CoEB will contribute to knowledge sharing and networking with other institutions working in education, culture, and biodiversity conservation.

UNESCO/MAB has been working with the CoEB to deliver workshops that build capacity in sciences, biodiversity, conservation, and taxonomy skills, and CoEB seeks to take this cooperation to the next level. Specifically:

- Regional cooperation in research, capacity training in Science Technology and Innovation (STI), and science to policy linkages
- International cooperation on areas such as MAB, STI, and capacity training opportunities
- Collaborations on research projects directly addressing needs in the region related to natural resource management, water management, biodiversity conservation and other pressing problems and transboundary issues
- Cooperation and partnerships in the production of knowledge products such as reports, policy briefs, white papers, posters and community outreach materials related to the thematic areas in which the Center works
- Cooperation to deliver policy advice regionally and internationally based on research outputs.

This said, the degree of programmatic compatibility between the CoEB programs and UNESCO MAB program needs further analysis and clarifications. There is still a need to fully articulate the

¹⁰ The Lima Action Plan for UNESCO's Man and the Biosphere (MAB) Programme and its World Network of Biosphere Reserves (2016-2025)

expected contributions the Center will be making to different sector activities and strategies. In sum:

- Encouraging efforts have been made to identify areas of potential linkages between the Centre and UNESCO programs.
- Overall, these linkages appear promising, concrete, and realistic, suggesting a mutually-beneficial collaboration between the two parties.

3.2 Scope of the activities capacity to meet objectives

The CoEB¹¹ purpose or mission is to encourage, enable and support stakeholders to generate and apply knowledge on biodiversity and natural resources for sustainable development. Research, monitoring, bioprospecting, education and information sharing are mentioned as the center's core functions¹².

Furthermore, the Center aims to:

- Facilitate networking and fruitful cooperation among fellows and institutional partners;
- Conduct applied research and support nodes & partners in creating, sharing and disseminating new knowledge;
- Create innovative learning platforms, including communities of practice;
- Develop and deliver short courses in partnership with UNESCO, local, and/or international organizations;
- Facilitate the active involvement of former fellows and other partners in topical national, regional, international, and UNESCO workshops and conferences;
- Strengthen the infrastructure of organizations, institutions, and universities in partner countries through the development of joint plans for capacity development and research;
- Provide advisory services to partner organizations at the national and international level.

As mentioned, stakeholders expressed broad appreciation for the CoEB and how it has performed its role over recent years. This is reflected in a 7,5 out of 9 score on overall appreciation in the stakeholder survey. What is noticeable is that the CoEB has concentrated its limited staff resources in building networks, around concrete research projects and consulting, training and community outreach, seminars and student support. This has resulted in excellent research network in Rwanda, the region and beyond. Despite the existing and strong network, the institutionalization of the consortium, and its governance have lagged behind. However, based on its track record and achievements, and as confirmed by several respondents during the interviews, the CoEB has demonstrated a high degree of effectiveness in fund sourcing, program development, and rallying support over recent years.

"I consider the Center's most significant achievement is its role in enhancing information sharing in biodiversity and natural resources in Rwanda. It has established a platform allowing

¹¹ In this document, the Centre of Excellence in Biodiversity and Natural Resources Management (CoEB) refers to the consortium composed by the hub and the nodes.

¹² CENTER OF EXCELLENCE IN BIODIVERSITY AND NATURAL RESOURCES MANAGEMENT Strategic Plan for the period of 2014-2018 Huye, March 2014 (unpublished)

researchers/scientists/students to share findings of research and in general, update each other on biodiversity-related work happening, have a conversation about priority areas for research on biodiversity in Rwanda as well as the implementation of recommendations from research projects"

There appears to be a high degree of certainty among the stakeholders that the CoEB, and in particular the hub at the University of Rwanda will be in a position to fulfil its role.

3.3 Complementarity and redundancy of the Center with other C2 Centers

What is the Center’s complementarity or redundancy with other Category 2 Centers or other similar institutions created or operated by United Nations organizations?

In Africa, there is one other C2 Center with a closely related mandate in the field of natural sciences. [The “Ecole régionale post-universitaire d’aménagement et de gestion intégrés des forêts et territoires tropicaux”](#) in Kinshasa, Democratic Republic of the Congo is a Post-Graduate Regional School of Integrated Management of Tropical Forests and Territories (ERAIFT). The School’s pedagogical and conceptual basis lies in its intersectoral and interdisciplinary approach, participatory, global and integrated, i.e. a systemic approach in its post-graduate training and education. While this may overlap with some of the CoEB partners and nodes in theory, the risk of redundancies is minimal as its focus is forest exploitation and sustainable management, particularly in francophone central and West Africa.

Instead, complementarities can be explored with several UNESCO C2 centres. (see table 2)

African C2 Centers under UNESCO's MAB program	Potential for synergies and collaboration
International Centre for Capacity Development: Sustainable Use of Natural Resources and Societal Change; Reykjavik, Iceland	<ul style="list-style-type: none"> • Short course training programs aiming for international mid career professionals including on-line courses
African Regional Centre for Ecohydrology (ARCE) Addis Ababa, Ethiopia	<ul style="list-style-type: none"> • Joint research programs • Knowledge sharing network • Water resources management
The Ecole régionale post-universitaire d’aménagement et de gestion intégrés des forêts et territoires tropicaux (ERAIFT) in Kinshasa, Democratic Republic of the Congo	<ul style="list-style-type: none"> • Management of forests • Landscape restoration • Students exchange programs

The Center will complement UNESCO Chairs in biodiversity, natural resources management, and bioprospecting, since they have a different mission and function: the Center has a strong applied science orientation, while Chairs have a more academic orientation. The Center will thus be able to benefit from the research findings of UNESCO Chairs, but also contribute to their work by, among other things, feeding them with insights, experiences and needs from the field, and by assisting them in rolling out and translating their research findings to a broader audience of policymakers and practitioners.

- The institution's activities complement UNESCO's programs and activities and do not overlap with those of other category 2 institutes or centers or similar institutions created and operated by other United Nations system organizations.

3.4 Recommendations

The Center should be mindful of its regional growth strategy. Given the divergent priorities in strengthening sustainable natural resources management in the surrounding countries, the Center will have to work with coalitions to build networks and partnerships with relevant institutions in the region. Practical collaboration, focusing on its strengths in shared research projects, data sharing (RBIS), and role modeling, showing transparent knowledge sharing and co-creation, will help build a reputation. Increasingly, trust and continuity will become the Center's 'social capital' in its regional growth strategy.

In sum, the CoEB will be able to capitalize on its broad partnership base and established track record in Rwanda and partner countries to consolidate past achievements and strengthen its visibility, legitimacy, and authority. However, further work must be conducted to improve the exact role and responsibilities of the 'umbrella structure' of the CoEB, covering the existing program on research, education and bioprospecting; what its added value will consist of and how the governance structure will be aligned to allow regional partners to engage at an institutional level.

Furthermore, additional thought must be given to operationalize the Center's hub structure to institutionalize the collaboration and realize the potential synergies by strengthening CoEB visibility, streamlining content, and ensuring compatibility with existing UNESCO initiatives.

4 Governance and managerial component

The Comprehensive Strategy for Category 2 Institutes and Centers under the auspices of UNESCO (40C/Resolution 99) states that a Category 2 Centre:

- Enjoys the autonomy to execute its activities and legal capacity to contract, institute legal proceedings, and acquire and dispose of movable and immovable property.
- It is governed by a Governing Board or comparable body whose composition, together with its existing human resources, allows for effective and efficient management of the institution.
- Must include UNESCO as a full member in its governing body.

It is essential to highlight that given that the Center was officially created in 2017, most governance-related documentation originates from 2008-2014. During this period, a series of intense stakeholder discussions, assessments, and preparatory studies were undertaken, led by the Ministry of Education and the Ministry of Environment and REMA and supported by UNESCO/MAB. Thus, evaluating the criteria mentioned above is based mainly on the workshop reports from this period.

"The CoEB has made incredible progress over the five past years and will be certain that the momentum will keep increasing when we consider the expertise and professionalism of the Management and academic staff, but most importantly, the political willingness and administrative effort to conduct the CoEB to the highest level of excellence as a research center at national level (in the University of Rwanda) and the regional level (in Albertine Rift Region)."
(Stakeholder response, inception questionnaire)

Furthermore, most of the information about the CoEB's governance was transmitted orally to the feasibility study team, in the framework of the interviews conducted for this purpose¹³;

In this context, it is worth mentioning that the Government of Rwanda and the University of Rwanda have expressed a high level of assurance that it intends to follow the criteria outlined in UNESCO's comprehensive strategy for Cat. 2 Institutes and Centers.

4.1 Legal status and governance structure

The Centre of Excellence in Biodiversity and Natural Resources Management was established through a decision by the University of Rwanda's Board on 7 March 2017. The CoEB was established as a Research Centre under the University of Rwanda¹⁴. It should be noted that the Center already has the following:

- The Center has a Steering Committee with representation from the the Ministry of Education (Chair), the Ministry of Environment, the Ministry of Agriculture, Rwanda National Commission for UNESCO, UNDP, UNEP, University of Rwanda, Chair of the Technical Advisory Committee, Rwanda Environment Management Authority, Rwanda Development Board, Rwanda Private Sector Federation, National Council for Science and Technology (NCST), Rwanda Civil Society.
- The UNESCO connection of the CoEB as full member of the Steering Committee is reflected and it is well stated in the resolutions of the high-level meeting of 26 April 2011.

The Steering Committee's role and mandate to oversee and to guide the establishment of CoEB has been stipulated in the high-level meeting. This applies to the technical advisory committee as well. The steering committee was retained as transitional

¹³ With the exception of one document entitled "Centre of Excellence on Biodiversity and NRM, Strategic Plan for the period of 2014-2018", dated March 2014. The status of this document is unclear as it was never formally endorsed by the steering committee, the Ministry or the University

¹⁴ This was possible as the University of Rwanda operates under Law N° 71/2013 of 10/09/2013 "Law establishing the University of Rwanda (UR) and determining its mission, powers, organisation and functioning"

until a board of directors is put in place.

Since 2017, the steering committee has been conducting its regular meetings. However, since 2019¹⁵ it did not continue with the same momentum due to a transfer of its chairperson as part of a restructuring process at the ministerial level and more recently as a result of the Covid-19 pandemic. This is remarkable, especially after a period in which active guidance was provided to the newly established CoEB in 2014-2017. As part of the discussions on the upgrade towards a research institute, the steering committee is being reactivated, and a new chair appointed. The revival of the steering committee will also be instrumental in addressing the required update of the CoEB's strategic plan. As the outdated 2014-2018 plan was based on strategic planning workshops in the period 2010-2014, the CoEB has effectively been guided by the strategic priorities and operational guidance of the University of Rwanda¹⁶.

Centers of Excellence at University of Rwanda

The University of Rwanda, established in 2013 as a merger of 6 former institutes of higher education, consists of six colleges. In 2017 the UR adopted a strategy of establishing Centres of Excellence to address societal challenges and support the Rwanda Government led transition as expressed in its vision 2020 and renewed under SDG 2030 goals towards a knowledge based society. The CoEB was the first of these Centers of Excellence, in the meantime six more centers have been established and one (on environment) is under preparation

- [Center of Excellence in Biodiversity and Natural Resources Management based in the College of Science and Technology \(CoEB\) :](#)
- [The Regional Centre of Excellence in Biomedical Engineering and eHealth \(CEBE\) \(with African Development Bank support\):](#)
- [Regional Centre of Excellence for Vaccines, Immunisation and Health Supply Chain Management \(RCESCM\) based in the College of Medicine and Health Sciences \(with KWF funding\):](#)

Four CoE under the World Bank funded African Centers of Excellence (ACE) initiative:

- The African Centre of Excellence in Data Science In Association With World Data Science Initiative
- African Center of Excellence in Internet of Things(ACEIoT)
- the Africa Center Excellence of Energy for sustainable development
- African Centre of Excellence for Innovative Teaching and Learning Mathematics and Science (ACEITLMS)
- East African Institute for Fundamental Research (EAIFR) (the C2 ICTP)

Steering committees were established for the first three CoE and one steering committee for the four centers under the ACE initiative.

The Comprehensive Strategy stipulates that the C2 Centre should enjoy within its territory the autonomy necessary for the execution of its activities and legal capacity to contract, institute legal proceedings, and to acquire and dispose of movable and immovable property.

CoEB's current status as a Centre of Excellence under the College of Science and Technology allows the Center to act through the college principal under the legal status of the University of Rwanda. This implies that plans, budgets, appointments, contracts, and partnerships require the College/ University endorsement. In return, the Center benefits from being embedded in the University ecosystem and from a limited but steady annual budget, allocated from Government (through the UR).

¹⁵ The position of steering committee chair person is vacant since 2019, when the chair person, as part of a ministerial re-structuring, transferred to become director of the newly established Higher Education Council. The directorate for science, technology and innovation continued as the chair of the Steering Committee. This left a vacuum which, partly due to the Covid pandemic, has not been resolved yet. The Deputy Vice Chancellor informed us that the the process to revive the steering committee of the CoEB is underway and expected to be finalized before the end of June 2021.

¹⁶ University of Rwanda, strategic plan 2018-2025

Apart from academic staff contribution to CoEB projects, and operational costs of the CoEB hub, this includes the financial and administrative support in procurement, legal affairs, M&E, and reporting for externally funded projects through the SPIU (Single Project Implementation Unit), which partners appreciate for being capable and reliable.

As part of the CoEB's application for C2 center status, the Minister of Education, together with the management of UR have a plan to grant the CoEB the autonomy within the University of Rwanda's legal framework. This will confer to the Center the required elements of autonomy such as:

- It would have its own account and cost center.
- It would be able to sign agreements and MoUs with external partners.
- It would manage staff hiring with approval by the Steering Committee within the Government of Rwanda and UR Framework.

The regulation establishing the Center as a C2 center stipulates a governing body and decision-making mechanism, which shall meet annually. UNESCO is to be represented¹⁷ as a full member of the governing body. It is also foreseen that the governing body shall be able to make decisions following Article 7 of the Model Agreement.

4.2 Staffing

The daily activities of the CoEB are managed by the Director and the Deputy Director, who are full time academic staff appointed by the University of Rwanda. The CoEB has 23 Research Associates who are academic staff appointed by the UR originating from a wide range of colleges and departments of the University of Rwanda. They fulfill the research component of their workload through research teams with the CoEB. On average, it is estimated, they allocate 30% of their time to research for the CoEB. The CoEB also appoints Research Fellows who are not academic staff. The Research Fellows collaborate with Research Associates on CoEB activities.

The Center's hub works with a number of interns who are from various Schools and Departments of UR and from other institutions in Rwanda and internationally (e.g. Africa Leadership University, Protestant Institute of Arts and Social Sciences); these interns contribute by working on projects at the CoEB.

A further 17 research fellows from other institutions are associated and involved in CoEB activities, while twelve international researchers, mainly from US, Australia, UK and the Netherlands, have been temporarily affiliated over the last four years.



¹⁷ The Director General of UNESCO, or its representative is to delegate the UNESCO representation

The majority of the Center's staff will continue to be employed by relevant departments within UR, the nodes, and partners.

4.3 Premises

The consortium set up of the CoEB, and the use of networks in research projects, allows for a minimal footprint in terms of premises and infrastructure. The center is based in UR office facilities at its Huye campus. Projects are currently located within separate premises, at UR Huye and Kigali Campuses. A number of them include fieldwork and visits outside of Huye/Kigali. As part of this arrangement, the CoEB hub is equipped with dedicated rooms for administrative purposes. The CoEB hub benefits from services that the University of Rwanda provides, such as IT, communication, and procurement. The CoEB manages a library of conservation science resources where students and staff may borrow or read books. It also operates a small field research equipment room with different equipment, including tents, sleeping bags, traps for small mammals, and GPS devices. The Center is also in possession of the properties inherited from NIRDA (the former IRST) including the buildings and other immovable equipment¹⁸.

It has been proposed that the new Center's office requirements will be kept to a minimum, in line with the efficiency considerations outlined above (see staffing section).

4.4 Recommendations

Revival of the steering committee can address some important and urgent issues to strengthen and institutionalize the CoEB:

- Formalize the structures of governance such as the steering committee with transparent working procedures, rules of representation of the nodes and partners, including regional nodes yet to be identified.
- Clarify, establish and maintain institutional linkages with the nodes to strengthen coordination and synergy in joint projects and increasingly in strategic priorities. Seeking complementarity and facilitating transdisciplinary.
- Strengthen the hub's operational capacities through dedicated staff and adequate premises reflecting the scale and ambitions of the CoEB as a regional network organization.

¹⁸ A picture gallery on the CoEB's premises is available at <https://coebiodiversity.wordpress.com/photos/>

5 Sustainability component

5.1 Financial sustainability

The annual budget allocated to the CoEB from the Ministry of Finance and Economic Planning through the University of Rwanda is received under a form of salary of the Director and Deputy Director. The Center does not get an annual budget allocation. Among others, the CoEB hub plans to broaden its funding source by creating a post graduate training program.

The node institutions have been a source of co-financing (in-kind and monetary) for the CoEB hub. Given their current level of involvement and commitment to the CoEB and its various programs, this support is likely to be sustained in the near future. All node institutions interviewed as part of the feasibility study are keen to continue supporting their respective programs and engage in this new phase of collaboration as part of a potential UNESCO Cat. 2 Centre.

The Center will remain independent, owned by the stakeholders, and true to its original mission as a tool for the development of the country. It has also been pointed out that, compared to the other centers of excellence at UR, the CoEB stands out in its fund sourcing successes. As the only Center of Excellence on campus without external core funding for its operations, the management and research associates have actively, and quite successfully, applied for research grants and consulting contracts. Between 2018 and 2020 the CoEB raised over 1,677,758 USD in externally funded research and biodiversity conservation projects involving CoEB Research Associates (UR academic staff), Honorary Research Fellows, students, nodes and partners of the CoEB. The overhead from all of these projects is estimated to be 157,651 USD. Most projects have an interdisciplinary aspect and contribute to Rwanda's national strategy for transformation goals, policies and SDG targets. The major success cases in grant writing and fund sourcing are summarized in annex 5.

Despite some variations in the levels of financing, the Ministry of Education has shown the commitment to supporting the CoEB. All evidence shows a firm commitment to the issues of biodiversity conservation, sustainable NRM and climate resilience within Rwanda. This political will is likely to ensure sustained financing for the CoEB in the foreseeable future. It is also important to mention that the UR payment management system and the Government Integrated Financial Management System (Smart IFMIS) are parts of the strengths and can guarantee future independence in managing the CoEB's financial resources when it will be upgraded to C2 status.

5.2 Sustainability of operations

The close collaboration and support that the CoEB receives from its network of partners and network of researchers enhance the ability and capacity of the Centre to meet its objectives. The strength of the center over the past years has been to create a conducive and vibrant ecosystem for collaboration, data exchange and networks with access to a range of resources from which staff, students and researchers can benefit. Furthermore, the project based partnerships that CoEB has established with organizations in partner countries have proved advantageous as an entry point into their respective sectors and ensure the sustainability of the capacity gained by the fellows within their respective workplaces.

Being part of the UR with its academic environment, shared services and campus infrastructure, together with the other financial and in kind et support the CoEB hub receives from the Government of Rwanda are critical factors beneficial for the smooth administration of the

research & training programs.

The planned autonomy to the UR's Colleges and Research Centers will boost the CoEB in recognition in country as well as it will support its regional network development. The upgrade also requires considerable efforts to develop the organizational capacities and infrastructure to sustain the vibrant mix of education, outreach, research and consultancy. The challenge being to create a lean, and flexible organization to accommodate the various programs with their fluctuating requirements, while upholding and maintaining the necessary accountability and transparency standards.

The UNESCO partnership would help ensuring the sustainability of the Center's operations by enhancing the visibility and recognition of the Center's activities.

5.3 Recommendations

The upgrade of the CoEB to become an institute under the University of Rwanda will increase the functional autonomy in decision making and financial management. This comes together with increased responsibilities and certain operations, currently provided by the University, will become the responsibility of the Institute's management. These changes in roles and functions will require modifications in budget allocations and staff capacities. Scaling up might be required and the management of the CoEB would benefit from a director of operations with a strong background in fund sourcing and project and program management. This will allow the academic staff to focus more on developing the thought leadership role of the CoEB.

6 Recommendations

The Center of Excellence in Biodiversity and Natural Resources Management developed over the past decade from an innovative concept into a highly appreciated reality. All stakeholders consulted for this study showed a high level of commitment, loyalty and perseverance to make the CoEB not just happen, they want it to be a recognized success in Rwanda and the ARR region.

UNESCO's functions as stated in the draft medium strategy 2022-2029 (41 C/4)

1. Laboratory of ideas: Serving as a laboratory of ideas, generating innovative proposals and policy advice in its fields of competence
2. Clearing house: Developing and reinforcing the global agenda in its fields of competence through policy analysis, monitoring and benchmarking and the development and analysis of benchmark data and statistics
3. Standard-setter: Setting norms and standards in its fields of competence and supporting their implementation
4. Catalyst and motor for international cooperation: strengthening international and regional cooperation in its fields of competence, and fostering alliances, intellectual, financial and technical cooperation, knowledge-sharing, mobilizing resources and operational partnerships
5. Capacity-builder: providing advice for policy development and implementation, and developing institutional and human capacities

The Center may still be young and small scale, yet its innovative set-up and potential as a consortium and network of governmental and non governmental institutions is recognized. Over recent years it delivered a proof of concept in demonstrating quality research and training capability, creating the conditions for knowledge sharing networks to develop, and delivering applied research in a dynamic policy environment. The current vibrant community of practice in supporting science based decision making on biodiversity conservation and NRM may require

considerable effort to formalize. as an institute. The study team considers this promising and challenging journey for the CoEB an additional argument in support of the requested C2 Center status and the related partnership with UNESCO. As a long time partner in establishing the CoEB, and given its core mandate and strategic priority in developing science and technology applications to support sustainable development, UNESCO should consider this partnership an opportunity to establish, as one of the respondents stated “a key anchor point in a continental development stimulating science informed responsible development reflecting social and ecological justice”.

The creation of a Category 2 Centre under the auspices of UNESCO, based on the existing research, capacity building and outreach programs supported by the Government of Rwanda, is largely seen as a win-win opportunity by both parties. The CoEB expects to benefit from the UNESCO brand and visibility to continue attracting consulting contracts, research grants, fellows and talent, and use the UNESCO network and infrastructure to further its international research networks as well as international recognition. The partnership with UNESCO will be vital in ensuring that the CoEB continues to benefit from the recognition and international reputation they have managed to build.

From the UNESCO perspective, the creation of the Category 2 Centre represents a unique opportunity to expand and diversify the organization’s activities in the field of sciences (social and natural), and education. Furthermore, this collaboration is also viewed as a chance to develop a hands-on approach to developing the capacity building in critical areas (MAB) and regions (ARR) of UNESCO's mandate and strategy. However, most importantly, UNESCO has the possibility to continue and further a partnership with an innovative community of practice that is part of a broader movement in Africa using science and knowledge management for social and economic justice in responsible development.

Based on the findings of the feasibility study, the proposal to establish a UNESCO Category 2 Centre of Excellence in Biodiversity and natural resources management in Rwanda, fulfills and complies with the guidelines and criteria stipulated in the Comprehensive Strategy for Category 2 Institutes and Centers under the auspices of UNESCO, adopted by the General Conference at its 40th session (40C/Resolution 97). **The establishment of the Center is therefore recommended.**

Notwithstanding, and in accordance with the findings of the feasibility study, the following points should also be considered:

- An in-depth and collaborative reflection should accompany the launching of the Centre's C2 status on the mutual commitments of both parties, including the type of reporting and performance indicators that will be used to measure the level of success of the partnership.
- As part of the C2 center application, the University of Rwanda will recognize and upgrade the CoEB as a research institute under the University of Rwanda which will further enhance its functional autonomy. The related capacity strengthening to take responsibility for its operations will require support as well as revision of current staffing and financing arrangements. Core funding¹⁹ of the newly established institute by the Government of Rwanda is envisaged for the foreseeable future. Yet, business development, contract research and consulting services may grow in importance, requiring clear, transparent,

¹⁹ An indicative minimal budget for the running cost of the center was estimated at 53,700,000 RwF (54,100 US \$) per year (letter CoEB to the Vice Chancellor, 31st May 2021)

documented procedures and relations between the hub and nodes.

- As a C2 Center and research institute, an updated strategic plan will become an urgent requirement to offer guidance priorities and direction for the CoEB.
- The identity and visual recognition of the CoEB are still very much linked to projects. Therefore, an additional investment will have to be made to increase transparency in planning, reporting and communication of the CoEB. Such processes of planning, monitoring/reflection and reporting, if done in a participatory fashion involving nodes and partners, will strengthen the identity of CoEB, assist in building coherence, and reduce overlap in mandates.

This report was validated by the stakeholder meeting, chaired by the UR Deputy Vice Chancellor on Friday 2 July 2021.



Appendix 1: List of meetings/people interviewed

LIST OF INTERVIEWED PERSONS (AND THOSE WHO ATTENDED THE INCEPTION MEETING)

#	NAME	ORGANIZATION	CONTACTS EMAIL
1.	Laetitia BUSOKEYE	REMA / Research and Information specialist	ibusokeye@rema.gov.rw mlbusokeye@gmail.com
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12.	Sylvia KAWERA	FONERWA/ Project Analysis Specialist	sylviek44@gmail.com
13.	Charles KAYIJAMAHE	IGCP / Monitoring Evaluation and Learning Lead	ckayijamahe@igcp.org
14.	Noeline RAKOTOASOA	UNESCO/ Chef of Section MAB Networking: Biosphere Reserves and Capacity Building (NBC); Division of Ecological	n.raondry@unesco.org

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Appendix 2 SWOT analysis of CoEB

<p>Strengths</p> <ul style="list-style-type: none"> • Quality and innovation of RBIS offers potential for data sharing • Engaging youth in linking theory with practice: • Strong network in seminars and able to draw in relevant and capable capacity in governance and delivery of projects • Coordination, inspiration and leadership add value over existing institutions • Enthusiasm, commitment and perseverance of staff and hard working team • Regional and international network established and capable to contribute and build reputation • Proven research capacity at high quality levels (see UKKI competitive grant award ARUA) • Being part of the UR offers the Center a trustworthy, reputable institutional basis with campuses in Kigali and Huye • Active drive, and success in securing donor funded research grants, which is supportive of the CoEB's sustainability • Enabling policy and strategy, leadership and political will 	<p>Weaknesses</p> <ul style="list-style-type: none"> • The Center is under resourced in terms of staff and is over dependent on students, interns and international fellows • The CoEB interaction with the nodes at organizational level is low • Fund sourcing capacity and experience is concentrated in a few people and is weak among research associates, only a few people are successful • The CoEB does not have laboratories (except Herbarium) • External communication of Centre achievements, although improving is still weak (reporting, website) • Strategic planning and reporting are under developed or outdated which risks ad hoc decision making and is a missed opportunity in building the support base and ownership among the network of partners & nodes • Governance structures are under developed and under utilized for strategic guidance and creating ownership and support base.
<p>Opportunities</p> <ul style="list-style-type: none"> • The UR management supportive of CoEB • ARUA membership offers possibilities for financial support capacity strengthening and strategy update CoEB • Related C2 Centre in DRC French post-graduate training center in DRC with forestry focus • Excellent network, including other CoE in the region, to draw lessons for center development & institutionalization. • C2 UNESCO center status will contribute to the recognition of role CoEB as a national and regional partner • High level of political support from GoR to the CoE, steady support base and govt. funding • National institutions are very enthusiastic about being part of the CoE or partner with it • The policy agenda is broadening from strict conservation into new topics such as climate finance, green economy, and partnerships with the private sector—this increased demand for research-driven policy support and consultancy services from the CoEB. • The CoE is working in region rich in biodiversity and natural resources • Managing the National herbarium and its digitalization process opens regional network opportunities with other Herbaria on collaboration, data & knowledge sharing • The policy arena on NRM and sustainable management of resources is evolving rapidly, with a wider scope, international frameworks, increasing complexity through intersectoral and stakeholders. Requiring more science-based transdisciplinary knowledge & information • The regional network of Herbaria and others have shown a keen interest in the innovative data & information collection, sharing (RBIS) and digitizing (Herbarium), which offers possibilities for scaling up 	<p>Threats</p> <ul style="list-style-type: none"> • The Center has limited fund allocation • The Center has no permanent external core funder for its development • The low ownership among different nodes • The Center has few permanent staff

Appendix 3: List of main documents consulted

- UNESCO (2014) 37 C/4 Medium-Term Strategy, 2014-2021.
- UNESCO (2014). UNESCO Operational Strategy on Youth 2014-2021.
- UNESCO (2016). Lima Action Plan for UNESCO's Man and the Biosphere (MAB) Program and its World Network of Biosphere Reserves (2016-2025).
- UNESCO (2019), The 2019 Strategy for Category 2 Institutes and Centers under the Auspices of UNESCO
- UNESCO (2021), DRAFT MEDIUM-TERM STRATEGY FOR 2022-2029 (41 C/4)
- UNESCO (2021), DRAFT PROGRAMME AND BUDGET FOR 2022-2025 (41 C/5)
- UN (2017), the 2030 Agenda
- University of Rwanda, strategic plan 2018-2025
- A.U. (2015), Agenda 2063
- CoEB (2019), Research Report
- CoEB (2018-2021), Contracts and Agreements on Sponsored Research Projects between UR and Partners
- CoEB (2021), List of Research Associates and Fellows
- CoEB (2021), Training and Workshop Reports
- CoEB (2021), Annual Report (2019-2020)
- CoEB (2021), Action Plan (2021-2022)
- GoR (2017), National Strategy for Transformation (NST1, 2017-2024)
- GoR (2011), Rwanda Green Growth and Climate Resilience Strategy
- GoR (2020), Rwanda National Determined Contributions (NDCs)
- GoR (2020), National Biodiversity Strategy and Action Plan
- GoR (2017), ENR Sector Strategic Plan (2017-2022)
- GoR (2018), Rwanda Education Sector Strategic plan (2018-2024)
- GoR (2018), U.R. Strategic Plan (2018-2025)

Appendix 4 Mission Report to CoEB, Huye 14 & 15 June 2021

Name of reporting person and title	Mr. Emmanuel KABERA, the National Consultant working in close collaboration with Mr. Wouter Hijweege, the International Consultant.
Dates of the mission	14 th - 15 th June 2021
Venue of the mission	CoEB, University of Rwanda, Huye District, Southern Province
Purpose of the mission and expected results with respect to the feasibility study for the category 2 CoEB and requirements of the ToRs	<ul style="list-style-type: none"> - Meeting held with the Rwanda Biodiversity Information System (RBIS) data management team; - The RBIS data management System observed and its function well understood; - The National Herbarium visited and observed; - The CoEB's programmes and governance relevance well understood; - Meeting held with Research Associates, Research Fellows, Students and Interns of the Center; - Recommendations on the case visited formulated
Introduction on the CoEB, governance, affiliation and managed activities	<ul style="list-style-type: none"> - <u>Introduction on the CoEB:</u> - The CoEB is a clearing house for data and information on biodiversity and natural resources for Rwanda and the region, and a hub for capacity building and knowledge generation on biodiversity conservation and natural resources management. It operates as a consortium of governmental and non-governmental institutions called nodes, coordinated by the central hub office housed in University of Rwanda, the College of Science and Technology. The CoEB is organized into three departments: Research and Monitoring (including biodiversity informatics), Education and Awareness Raising and Bioprospecting. - <u>CoEB governance, affiliation and partnerships:</u> <p>The daily activities of the CoEB are managed by the Director and the Deputy Director, who are academic staff appointed by the University of Rwanda. The Center has Research Associates who are academic staff appointed by the UR, and they fulfill the research component of their workload through research teams with the CoEB. The Center also appoints Research Fellows who are not academic staff. The Research Fellows collaborate with Research Associates on CoEB activities. The Center works with a number of interns who are from various Schools and Departments of UR and from other institutions in Rwanda and internationally (e.g. Africa Leadership University, Protestant Institute of Arts and Social Sciences); the interns contribute by working on projects in the Center. The Center is governed by a Steering Committee and a Technical Advisory Committee. It has also the nodes, the international and national</p>

partners.

- **Research Activities in the CoEB**

The CoEB mainly focuses on conducting scientific research in relation to biodiversity conservation and natural resources management in Rwanda and the region. Data from research are used for preparing reports, policy briefs for managers and policy makers based on scientific evidence.

The CoEB also focuses on capacity building to promote effective research and publishing of research outputs for evidence-based decision making. Research and monitoring mainly focus on Biodiversity research, Biodiversity information system and others.

- **Rwanda Biodiversity Information System (RBIS), data management system:**

The biodiversity information system takes biodiversity observation records that are stored in a variety of sources and formats and puts them into a standardized format on a viewing platform to enable stakeholders to access and use the information.

Biodiversity data are organized in the following occurrence Records:

Avians, Odolate adults, amphibians, invertebrates and fish.

The RBIS is operated by a team comprising Information Technology and data management specialists.

[\(https://rbis.ur.ac.rw/\)](https://rbis.ur.ac.rw/)

- **National Herbarium of Rwanda:**

The National Herbarium of Rwanda is located in the NIRDA (the former IRST). It contains over 17,000 specimens dating from the 1930s.

The National Herbarium of Rwanda was officially transferred to University of Rwanda in August 2018 and it is now managed by the CoEB at College of Science and Technology (CST) where it fits well within its mission to make information and research available for evidence-based decision making.

The National Herbarium has received funding from IRD/SEP2D to upgrade and digitize the herbarium, and make it into a well-used and renowned botanical research and educational institution for Rwanda and the region. This project involves various partners, both local and international. It is in process of growing, with data from Rwanda and the region.

- **Bioprospecting :**

The CoEB works in the domain of bioprospecting, which is the systematic search for useful products derived from biological resources such as plants, microorganisms, and animals. The Center collaborates with REMA through the the *Nagoya Protocol on Access*

	to Genetic Resources and the Fair and Equitable <i>Sharing of Benefits</i> Arising from their Utilization (ABS), working to sensitize stakeholders about ABS protocol and promoting research on genetic resources associated with traditional knowledge.
Other resources and facilities managed at the CoEB	<ul style="list-style-type: none"> - The CoEB manages a library of conservation science resources where students and staff may borrow or read books in the library. - The CoEB also manages a small field research equipment room with different field equipment including tents, sleeping bags, traps for small mammals and GPS devices.
Projects managed by the CoEB	Since 2019, the CoEB has made remarkable achievements by managing the projects in the following sectors : ICT, Energy, Agriculture, Manufacturing, Health, Environment and climate change.
Conclusion and recommendation	<p>The purpose of this field visit was supplementary to our assessment and part of our methodology for having further understanding on the programmes and the governance of the CoEB. Our intention was to trace the changes made, how they were achieved and therefore with which resources and facilities. From the meetings held, feedback received and direct observation, we can conclude the following:</p> <ul style="list-style-type: none"> - The management team and all staff are committed and they are aware of the core mission of the Center - The Center is being housed within UR, and it is using some services and facilities availed by the UR. Most of the persons that we met see it as good start and the opportunity for growing and potential source of multidisciplinary capacities. The services and knowledge generated by the Center will benefit to the community development and are compatible with UNESCO's programmes as described in the strategic document. - More investment from the government allocated budget is highly recommended to strengthen the existing fund secured by the Center

Appendix 5 Track record on grant writing and fundraising

Between 2018 to 2020 the CoEB raised over 1,677,758 USD in externally funded research and biodiversity conservation projects involving CoEB Research Associates (UR academic staff), Honorary Research Fellows, students, nodes and partners of the CoEB. The overhead from all of these projects is estimated to be 157,651.27 USD. Most projects have an interdisciplinary aspect and contribute to Rwanda's economic transformation goals, policies, strategies, and SDG targets.

GRANTS SECURED FROM 2018 UP TO DATE

1) African Biodiversity Challenge Project: Integrating Freshwater Biodiversity Information to Guide Informed Decision-Making in Rwanda

This project funded by South African National Biodiversity Institute (SANBI) through a grant from JRS Biodiversity Foundation aims to establish and implement a long-term strategy for freshwater biodiversity data mobilization, sharing, processing and reporting in Rwanda.

2) National Herbarium of Rwanda Upgrading and Digitizing Project

This grant from Sud Expert Plantes/ Développement Durable (SEP2D), a French organization dedicated to promoting scientific research on plant biodiversity in southern countries, started in 2018.

3) LAFREC funded research grants at the University of Rwanda

A collaborative agreement between REMA and UR for sponsored research under the project entitled: "Research project to improve management knowledge of the Gishwati-Mukura landscape" enables the offering of research grants in line with the objectives of the Landscape Approach to Forest Restoration and Conservation (LAFREC) project at REMA.

5) Ecosystem-based Adaptation for Climate Resiliency (EbA)

This project is part of REMA's project 'Building resilience of communities living in degraded forests, savannas and wetlands of Rwanda through an ecosystem-based adaptation approach. This project provided research grants to eight masters students from different programs in CAVM and CST.

6) Rwanda Biodiversity Information System (RBIS) for sustainable development and climate change adaptation in Rwanda

The CoEB received a JRS Biodiversity Foundation grant to collaborate with REMA and ARCOS to develop a national biodiversity information platform for Rwanda starting with Mukungwa catchment. The ultimate objective of the project is to develop an open access biodiversity information system in the form of a dynamic Biodiversity Atlas to inform policy and be actively used by conservation biologists and other interested stakeholders.

7) Postdoctoral student with the CoEB, Dr. Elaine Hsiao

r. Elaine Hsiao is a Global Challenge Fellow at the Sheffield Institute for International Development (SIID) and an Honorary Research Fellow with the CoEB at the University of Rwanda (UR). Her research is primarily socio-legal, integrating peace and conflict studies with transboundary conservation and protected areas, indigenous and community conservation, human rights and rights of nature, and environment governance/sovereignty.

8) Development of Environment and Natural Resource Management Framework: A Wetland and Catchment Management Framework Study

This project was for Rwanda Environment Management Authority and the CoEB conducted a study to develop a wetland and Establishment of a Category 2 Centre in Rwanda under the auspices of UNESCO

catchment management framework that will be used for upscaling of wetland ecosystems restoration activities under the LDCF II Project.

9) Volkswagen Foundation grant for capacity building in zoological collection

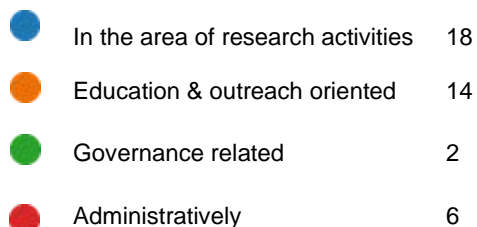
The CoEB received the Volkswagen Foundation grant for field schools and training in developing zoological collections capacity.

10) Biodiversity, Natural Resource Management and Water Food Nexus, Funded by the African Research Universities Alliance (ARUA).

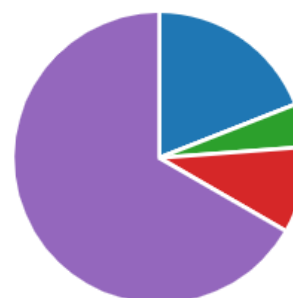
As a node of African Research Universities Alliance (ARUA) Institute of Water Resources Management (ARUA IWRM), the CoEB won a grant for research on Biodiversity, Natural Resource Management and Water-Food Nexus. This is part of the bigger project entitled, "Unlocking Resilient Benefits from African Water Resources" where eight universities across Africa are working on a specific subproject.

Appendix 6 Summary report survey findings

1. How would you describe your engagement with the Centre of Excellence on Biodiversity &NRM? (more than one option possible)



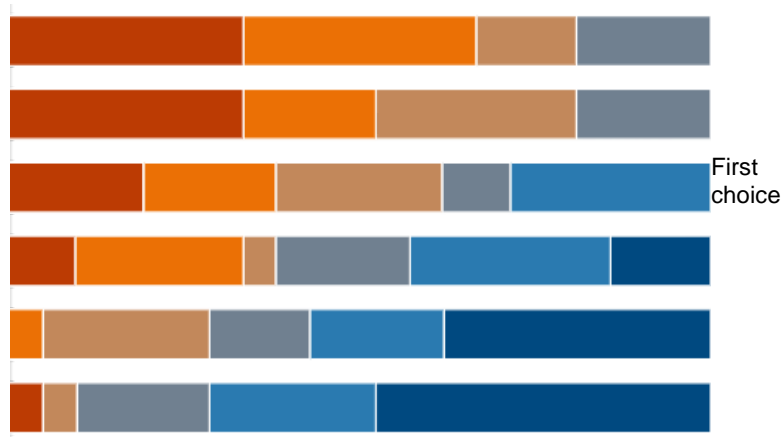
2. Are you working in



3. What drives you in your interaction/ engagement with the Center? Rank the options from high(top) to low (bottom)

Rank Options

- 1 Being part of a network, shari...
- 2 Realizing (professional) objecti...
- 3 Interesting and high quality w...
- 4 Representing my organization
- 5 Career opportunities
- 6 Being part of the CoEB will bo...



4. What do you consider the most important achievement of the CoEB to date? can you briefly explain why you consider this so?

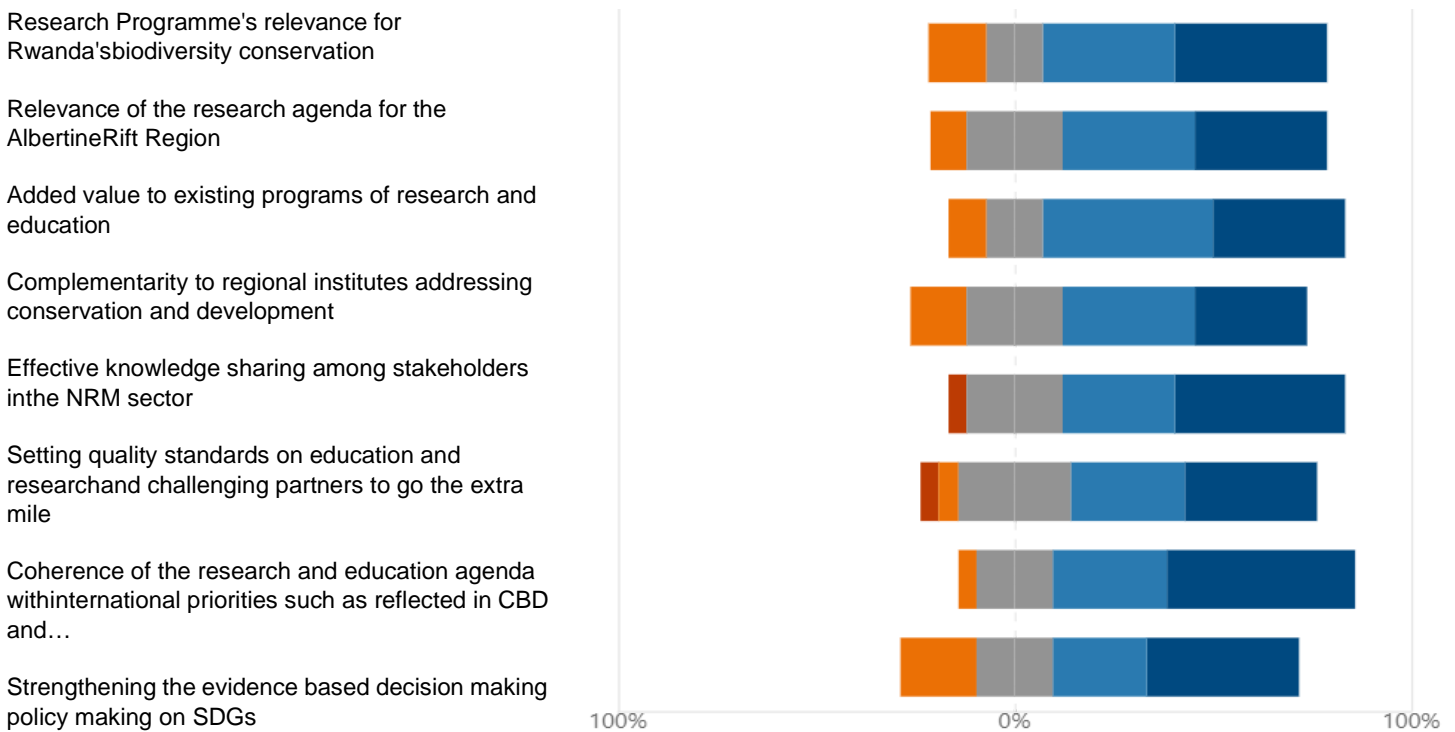
21
Responses

Latest Responses

"Contribution of the CoEB to Rwanda governmental projects regarding... "Establishment of the National Biodiversity Information System. This s..."What I consider the most important achievement of the Center is its r...

5. Can you indicate the strengths and weaknesses of the CoEB?

Very Weak Weak Good Strong Very strong



6. Can you comment on the strongest and the weakest scores? What makes you give these scores?

16 Responses

Latest Responses

"No weakness"
"Strongest: The CoEB is advanced in research output and engagement ..."

7. Given the CoEB' ambition and mission, how do you rate the Center's performance as a network organization (1 star is poor, 9 stars is excellent)

21



Responses

7.48 Average Rating

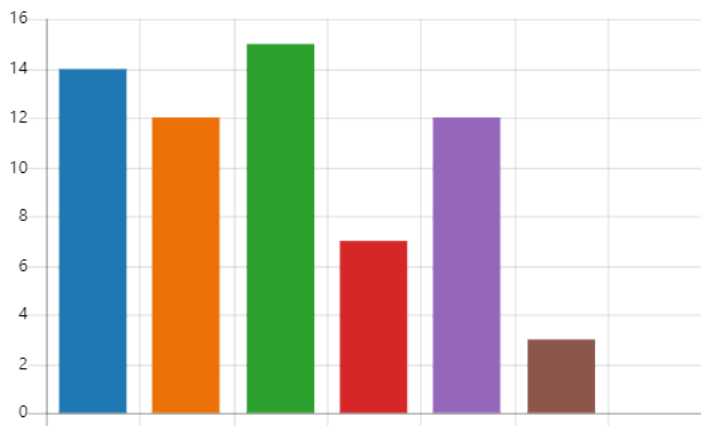
8. Can you comment on your score? 14 Responses

Latest Responses

"The Center of Excellence in Biodiversity and Natural Resources Mana..."
"The CoEB has a demonstrated success into executing projects that ha..."

9. What difference will the C2 status make for the Center's further development over the next five years. (max 3 options)

- to become regionally recognis... 14
- to gain recognition in researc... 12
- to increase credibility and acc... 15
- To access knowledge and exp... 7
- Gaining access to core funding 12
- Develop a social enterprise bu... 3
- Other 0



10. Final comment. Do you have any comment on the CoEB that you like to share with the review team?

13 Responses

Latest Responses

"The CoEB helps both Rwandans and foreigners to develop their skills ..."
"CoEB contributes to the young generation through offering academic ..."

