



GLOBAL PRIORITY AFRICA

FLAGSHIPS 2023

**AN UPDATE FROM
UNESCO REGIONAL OFFICE FOR
SOUTHERN AFRICA**

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1 BACKGROUND

Two years into the implementation of the Operational Strategy for Priority Africa 2022-2029 (OSPA), a new biennium has commenced through the Programme and Budget for 2024-2025. With a goal of achieving the Sustainable Development Goals (SDGs) of the United Nations' Agenda 2030 and the African Union's Agenda 2063 "The Africa We Want", the OSPA remains pivotal in accelerating the achievement of SDGs amidst a growing threat of regression and stagnation on some of the SDG targets. The relentless climatic changes have resulted in droughts and cyclones whose incessant rains have caused food insecurity, waterborne diseases and loss of biodiversity. Geopolitical crisis and the remnants of the impacts of COVID-19 continue to waylay the aspirations of the continent. Gender inequality, youth unemployment, education and HIV and AIDS continue to be areas for concern. Despite this plethora of challenges, Member States remain committed to Agenda 2030 and 2063 and the strong partnership existing with UNESCO and the rest of the UN system. While the OSPA is driven to address challenges in the areas of demography and sustainable development, education and knowledge, climate change, cultural renaissance, and peace and democracy these all have far-reaching consequences beyond their focus hence addressing these contributes widely to other thematic areas.

Priority Africa reinforces UNESCO's partnerships with African governing bodies such as the African Union (AU), Regional Economic Communities (RECs), Member States as well as other UN agencies. Being also aligned with the Southern African Development Community (SADC) and UNESCO's Joint Programme of Action (JPA) 2022-2025, the OSPA continues to demonstrate its relevance to the region.

2 PRIORITY AFRICA FLAGSHIP PROGRAMMES

The Regional Office for Southern Africa (ROSA) continues to implement several projects contributing to the 5 flagships of the OSPA through one or more lead programmes spearheaded by the sectors, i.e., Education, including Education for Health and Wellbeing (ED), Culture (CLT), Natural Science (SC), Social and Human Science (SHS), and Communication and Information (CI).



2.1 Flagship 1. Campus Africa: Reinforcing Higher Education in Africa

Campus Africa

Within the context of UNESCO’s Operational Strategy for Priority Africa (2022-2029), the Campus Africa (CAF) flagship programme seeks to expand access and enhance the quality of higher education to achieve sustainable development goals in Africa, by strengthening and connecting Africa’s tertiary education systems, institutions, researchers, and communities to enhance mobility and employability of higher education students to unlock individual, national and continental potential.

The programme has three main pillars and two enabling areas of action.

Table 1: Campus Africa at a glance

CAMPUS AFRICA		
Overall objective: build integrated, inclusive, and quality tertiary and vocational education systems and institutions, for the development of inclusive and equitable societies on the continent.		
Pillar 1: Research Capacities	Pillar 2: Doctoral Programmes	Pillar 3: Technical Higher Education
<i>Objective:</i> Enhancing the research capacity of African tertiary institutions and increasing research outcomes with effective networking.	<i>Objective:</i> Facilitating mobility and access to scholarships and study grants.	<i>Objective:</i> Improving relevance through youth skill development and employability
Campus Africa's <i>cross-cutting (enabling) Pillars</i>		
<i>Objective:</i> Building a robust Quality assurance systems and fair recognition of qualifications	<i>Objective:</i> Contributing to better-informed decision-making with data and statistics	

Interventions under this flagship will constitute an inventory of ongoing and completed actions with relevant results to inform education planning, and policy development, to formulate actions for the Youth Involvement Strategy of Campus Africa (CAF YOUTH), and to design the Campus Africa Digital Platform. UNESCO ROSA’s Education Sector (ED) is currently awaiting the finalization of guidelines on the implementation and coordination of Campus Africa from UNESCO Headquarters. Anchored to the Campus Africa Flagship, efforts are being made at UNESCO ROSA related to the three key pillars and the cross-cutting pillars. Under the CAF enabling pillars, UNESCO ROSA collaborates with national quality assurance agencies to foster a culture of quality assurance and to support the academic mobility of learners and teachers.

The office also supports Member States in the ratification and implementation of the Addis Convention (Revised Convention on the Recognition of Studies, Certificates, Diplomas, Degrees and Other Academic Qualifications in Higher Education in African States) and the Global Convention on the Recognition of Qualifications Concerning Higher Education. Additionally, ROSA works closely with Member States in building education management information systems (EMIS) to inform education policymaking with data and statistics. As related, through the Higher Education and STEM Women Leadership project, research is being planned to explore the barriers and means to increasing women’s participation in higher education and STEM to inform initiatives in this area.

UNESCO ROSA is supporting SADC and its Member States to implement the agenda for the development of skills and competencies for life within the framework of UNESCO's Technical Vocational Education and Training (TVET) strategy and guided by a Memorandum of Understanding between UNESCO ROSA and the SADC Secretariat. UNESCO is currently supporting the SADC Secretariat to finalize the second Strategic Framework for the Development of TVET in SADC (2018-2027). UNESCO has implemented several TVET projects in the region, including the South Korea-funded Better Education for Africa's Rise (BEAR) project in Botswana, Malawi, Namibia, and the Democratic Republic of the Congo. Significant progress has been made towards increasing the relevance of TVET to the needs of individuals and industries in the four project countries. Follow-up activities of the BEAR project focus on supporting the countries to develop and institutionalize TVET EMIS to strengthen data and evidence to inform policy initiatives.

Key Achievements

- i. Supported the development of the national TVET Policy in Eswatini and Zimbabwe, working with ILO. In Eswatini, it was adopted by cabinet on 4 May 2022 and in **Zimbabwe** it was approved by the cabinet on 29 March 2023 and will be launched in 2024.
- ii. Developed the **SADC Futures of Higher Education and Technical Vocational Education and Training (TVET) Strategic Framework**, presented at the SADC 2023 Ministerial Meeting.
- iii. In cooperation with SADC, the ED Sector **organized a regional policy dialogue to advocate for the integration of Education for Sustainable Development (ESD)** in policies, curriculum, and leadership activities in the SADC region. The ESD 2030 framework was developed within UNESCO's wider programme of Futures of Education initiative which reaffirms education as a common good and supports a transformative orientation to education as a conduit to peaceful, just, and sustainable futures.
- iv. About to launch the report, on 9 May 2024 at the STI Forum in New York, on Supporting women's participation in Higher Education and STEM in Southern Africa, which was a study on the participation of women in STEM and management in Higher Education in 9 countries in Southern Africa. The next phase of this project is a deep dive into the reason why there are so few women in STEM and Higher Education in the 16 SADC Countries.

Lessons Learnt

In achieving these milestones, UNESCO ROSA learnt that **consistent consultation and engagement of stakeholders in the preparation, implementation and monitoring of programmes augments ownership and relevance** of the interventions. **Intersectoral collaboration constitutes an effective approach to complex issues** such as social inclusion, sustainability, and health. Lastly, a **systemic method**, that includes curriculum and policy review, provision of tools such as teacher guides, and capacity development for education officials, teachers and teacher educators **strengthens the integration and delivery of ESD and Global Citizenship Education (GCED)** in Southern Africa.

Our Rights, Our Lives, Our Future (O3 PLUS)

This flagship programme led by the Education for Health and Wellbeing team under the education sector also contributes to the attainment of Flagship 1 goals. The project is funded by the governments of Switzerland (SDC), Sweden (Sida), Norway and France. The project holds an overall budget of USD 15 million over 4 years (2021-2025). In partnership with Member States, it ensures that young people in higher and tertiary education institutions (HTEIs) in the Eastern and Southern Africa (ESA) region realize positive health, education, and gender equality outcomes. Overall, the project aims to reach 431,000 students across six countries (Kenya, Tanzania, Namibia, and Uganda, Zambia and Zimbabwe).

The O3 PLUS project contributes directly to the Campus Africa flagship programme by reinforcing higher education curricula through the integration of the compulsory Comprehensive Sexuality Education (CSE)



Figure 1: Orientation Week and Access to CSE in Tanzania

module. Beyond curriculum integration, the project also empowers HTEIs to build their systems and capacity for identifying and responding to gender-based violence (GBV). This fosters a safer and more inclusive campus environment where students can thrive. Lastly, O3 PLUS encourages participating institutions to conduct research on SRH and GBV within HTEIs, fostering knowledge exchange and creating a network of institutions dedicated to promoting student health and wellbeing. This collaborative approach ultimately aims to establish a centre of excellence in Africa, where universities prioritize student health as a core value.

Key Achievements

- i. **Supported the institutionalization of Comprehensive Sexuality Education in HTEIs.** By integrating CSE content into existing curricula and developing new ones, the programme has reached 94,751 students with accurate, rights-based CSE through in-person or online formal courses in 2023. UNESCO also played a crucial role in organizing and supporting the orientation programme for first-year students to include CSE content. In 2023, 68'441 first-year students were reached during orientation week with CSE and SRH content across the six countries

implementing the O3 PLUS project. Finally, 250 lecturers were trained on the delivery of CSE contributing to its institutionalization and ensuring the provision of good, quality CSE within HTEIs.

- ii. **Increase the quality of SRHR services through capacity building and development of scorecards:** 224 health workers have undergone training to provide youth friendly SRH services across six countries. Pre- and post-training tests have demonstrated significant improvement in health workers' knowledge of CSE and SRH, equipping them with the necessary skills to effectively address the needs of young people.
- iii. **Development of a standardized anti-sexual harassment policy for all HTEIs in Zimbabwe:** With technical support from UNESCO, Zimbabwe's Ministry of Higher and Tertiary Education, Innovation, Science and Technology Development initiated the development of a standardized anti-sexual harassment policy for all HTEIs in the country. This model policy serves as a benchmark and reference point for all HTEIs, aiming to address gaps, inconsistencies and lack of comprehensiveness in existing institutional policies. This is a major milestone to ensure all HTEIs in the country have adequate policies to tackle GBV.
- iv. **Empowered students to foster safer and more inclusive campuses:** 170'146 students were sensitized on GBV, including sexual harassment, in Zambia, Zimbabwe, Kenya, Tanzania, Namibia and Uganda thus ensuring that students are aware of the GBV policies in place and can identify, and report GBV cases using the relevant reporting mechanism.
- v. **Supporting the digital transformation of data management:** The O3 PLUS Programme has made significant progress in digitalizing data management systems in HTEIs. This shift from manual processes to digital platforms fosters greater data accuracy, and reporting efficiency, and ultimately, strengthens student support services. In 2023, a collaborative effort in Zimbabwe between UNESCO and ZNFPC initiated the design of a digital data management system for campus health clinics. This system, intended to integrate seamlessly with the Ministry of Health's system, will be piloted at O3 PLUS participating institutions.

Challenges

The project's investment in training health workers and lecturers has demonstrably improved their knowledge and skills. However, ensuring the long-term sustainability of this trained workforce requires further attention. The project's efforts to move towards digital data management hold promise for improved efficiency and data accuracy. However, navigating the complexities of integrating different systems requires careful planning and collaboration.

Lessons Learnt

The project's success highlights the importance of collaboration between UNESCO, government ministries, HTEIs, Civil Society Organizations and other stakeholders. Joined activity planning is an efficient manner to ensure complementary efforts and overall effectiveness.

Recommendations

Looking forward, ROSA hopes to continue to support the **institutionalization of CSE in HTEIs in Eastern and Southern Africa (ESA)** through the inclusion of a mandatory CSE module for all first-year students as well as facilitating the training of students, college lecturers, health-care providers, and non-teaching staff on CSE, GBV, and SRHR. While reaching many students is commendable, further efforts are needed to ensure inclusivity. Partnering with local NGOs and student organizations can help bridge the gap notably to reach students living with disabilities.



2.2 Flagship 2. The General History of Africa (GHA) as a catalyst for achieving Agenda 2063 and the 2030 Agenda

Flagship 2 promotes educational systems that consolidate Africa’s history, language and cultural heritage ensuring educational and cultural transformation. The overall long-term strategic objective of this flagship program is to promote inclusive African societies which are just, democratic, and respectful of human rights and the rule of law¹.

HERstory

The Education and Social and Human Sciences sectors took part in the *HERstory* conference in Maputo July 2023. The meeting focused on the appropriation and responsibility of preserving the collective memory, including the crucial role played by women in their relentless pursuit of justice and democracy



Figure 2: HERstory conference delegates soon after the Official Opening by Mozambique’s Minister of Combatants

at par with their male counterparts. There is a need to combat entrenched racism, intolerance, and xenophobia by leveraging the power of the new generation.

Southern African Liberation Movements Heritage: Museums and Cultural Centers as Places of Learning

The Culture sector has been working with Member States, International Council of Museums, museum and cultural centre professionals, civil society organizations, artists and culture professionals to

¹ <https://www.unesco.org/en/africa-flagship-programmes>

foreground the role of museums and cultural centres as spaces of learning, inspiration and dialogue in raising public awareness on the shared common history of colonial rule and the struggle for freedom.

Key Achievements

- i. **Initiated the project “Southern African Liberation Movements Heritage: Museums and Cultural Centers as Places of Learning”**. In partnership with Member States, ICOM and Javett Art Centre at the University of Pretoria, this project aims to foreground the role of museums and cultural centres as spaces of learning, inspiration, and dialogue in raising public awareness on the shared common history of colonial rule and the struggle for freedom.
- ii. Through a multistakeholder collaboration, organised **the HERstory: Heroines in the Liberation Struggles in Southern Africa workshop**. The conference gathered more than 100 participants including high-level political leaders from eight countries in the region (Angola, Botswana, Mozambique, Namibia, Southern Africa, Tanzania, Zambia, and Zimbabwe) and young people.
- iii. SHS sector also **organised the Southern Africa Liberation History - Side event to the 42nd General Conference in Paris on 10 November 2023**. This gave the floor to Member States in support of UNESCO’s Southern African Liberation History (SALH) project implemented by UNESCO’s Regional Office for Southern Africa (ROSA) from 2018, inscribed in Flagship 2 on the General History of Africa of Priority Africa. The event witnessed a panel discussion with Hon. Torerai Moyo, Minister of Primary and Secondary Education, Zimbabwe, Hon. Mety Oreste Gondola, Secretary of State, Technical Vocational Education Mozambique and Ms Wendy Swartz, counsellor at the South African Permanent Delegation to UNESCO and was moderated by Angela Melo, Director, Division for Research, Ethics and Inclusion at the Social and Human Sciences Sector.
- iv. Under the project *“Southern African Liberation Movements Heritage: Museums and Cultural Centers as Places of Learning”*, the culture sector **organized a Regional Symposium** on 1 December 2023 in Pretoria, South Africa where 20 museum, education, and art professionals from the region, as well as 5 ICOM museum experts from around the world, convened to finalize a toolkit for museums and cultural centres to enable the elaboration of innovative and participatory educational programmes on the Liberation Movement Heritage. In this context, using the dynamic and engaging concepts of co-creation and community collecting, the first draft of the publication **“Beyond Mayibuye | Co-Creation with the Public: A Toolkit for Museums and Cultural Centers on Southern African National Liberation Movements”** was validated by museum, education, and cultural experts from the region. The toolkit is expected to be launched in September 2024.

Challenges

Although Member States have demonstrated a strong interest in the Programme, aware of the importance of the history of national liberation movements and its consequences in our contemporary societies, **additional fundraising** efforts will allow the development of its scientific content, its popularisation, and its appropriation, especially by young people. In addition, there is an **increasing need to promote awareness of the role played by female liberators and how this impacts today’s gender issues** within African communities.

The Southern Africa Liberation History Programme is confronted by the urgent need to **document the contribution of the people and institutions** who were first-hand participants in Southern Africa’s liberation struggle. This heritage is being left to fade with time since veteran activists who experienced

the liberation are passing on due to old age without **passing down their institutional knowledge** to other generations.

In view that the passing of knowledge traditionally happens orally in Southern Africa, the programme deals with linguistic challenges such as the **loss of a detailed linguistic character** when translating to and publishing in English. There is a general lack of datasets in regional languages.

Regarding knowledge preservation, **climate change has had an immense negative impact on the conservation of heritage archives**. The alteration in humidity levels due to excessive rains as well as wildfires like the one affecting the University of Cape Town have destroyed significant historical libraries. Moreover, there is a **lack of capacity amongst partners and stakeholders in preservation techniques** which must be addressed. Linguistical challenges furthermore augment the challenges.

Lessons learnt

The implementation of the National Liberation Movement Heritage programme has allowed ROSA to comprehend the extent **knowledge production and diffusion of the liberation heritage permits young people to gain a universal understanding of regional history** and how it **impacts current social cohesion issues like gender and racial tensions**. It furthermore **promotes intercultural dialogue and decreases discrimination**.

ROSA has discovered a lack of existing links between historical archives both within Africa as well as in the diaspora. There is a **need to emphasize connections between projects in Southern Africa and other African countries** like Tanzania, Ethiopia, and Egypt as well as with countries of the diaspora like Jamaica, Sweden, and Switzerland. It is important to **promote global collaboration of knowledge production and preservation** referring to Southern Africa's liberation struggle.



 **unesco**

 **SARDC**
Southern African Regional Development Community

 **SADC**
Southern African Development Community

 **APCEIU**
Association of Professional Councils in Education in Southern Africa

MAPUTO, MOZAMBIQUE
6-7 JULY 2023

**HEROINES IN THE
LIBERATION STRUGGLES
IN SOUTHERN AFRICA**

HERSTORY



2.3 Flagship 3. Fostering cultural heritage and capacity development

The overall goal of Flagship 3 is to empower local communities, and women, to protect Africa's rich cultural heritage. It is done through supporting African Member States in capacity building on World Heritage by assessing sites on the List of World Heritage in Danger. Additionally, Flagship 3 supports the Member States in the fight against illicit trafficking in cultural property under the 1970 Convention. It furthermore facilitates the restitution of cultural property under the Intergovernmental Committee for Promoting the Return of Cultural Property (ICPRCP), as well as the promotion of museums².

Capacity-building Programme for the Nomination of World Heritage Sites in the Africa Region

The project is currently supporting Eswatini in its endeavour to inscribe its first World Heritage site. This four-year project, running from 2021 to 2024, is generously supported by the Japanese Government through the J-FIT initiative. The project's primary aim is to assist member states in Southern Africa in successfully submitting dossiers to the World Heritage Committee for inscription onto the World Heritage List. Despite its rich cultural and natural heritage, the African region remains largely underrepresented on the World Heritage List. The successful execution of this project is expected to significantly increase the number of African countries with sites on the World Heritage List.

Supporting the Return and Restitution of Southern African Cultural Property

The project is being developed by the UNESCO Culture Unit in collaboration with the University of Pretoria and the AU-NEPAD. This project aims to enhance the capacities of national authorities in the Southern African region by engaging higher education institutions in the elaboration of programmes and materials to increase the number of national experts that will support the efforts of Southern African nations to recover their stolen cultural property.

Rehabilitation and Development of Great Zimbabwe World Heritage Site.

As part of the US\$3M "*Rehabilitation and Development of Great Zimbabwe World Heritage Site*" project, the UNESCO ROSA Culture Unit, in cooperation with the National Monuments and Museums of Zimbabwe (NMMZ), the United Nations Office for Project Services (UNOPS) and the French Development Agency (AFD), led activities on documentation and conservation, interpretation and visitor facilities, activation of tourism products and marketing and promotion of the destination, as well as community-based and territorial-level management solutions. In this context, the culture sector procured conservation, documentation, and maintenance equipment for the World Heritage site and developed an Integrated Site Management Plan 2024-2028 which will be presented in January 2024. UNESCO worked closely with the International Centre for the Interpretation and Presentation of World Heritage Sites (WHIPIC) and the Great Zimbabwe University (GZU) to develop an inclusive and comprehensive Interpretation and Storytelling Framework for the Great Zimbabwe World Heritage Site. Furthermore, the development of a Tourism Development and Marketing Plan for the Great Zimbabwe destination and a land use and development plan was initiated in cooperation with experts and key partners to ensure long-term enhancement, protection, and valorization of the World Heritage site.

² <https://www.unesco.org/en/africa-flagship-programmes>



Figure 3: Great Zimbabwe, National Heritage Monument.

In collaboration with the Southern African Development Community (SADC), the “**UNESCO Journeys in Southern Africa**” flagship programme has been developed to champion sustainable tourism practices in the SADC region. The programme aims to promote regional integration and build bridges between the people and communities of Southern African countries through the development of attractive and meaningful culture and heritage-based tourism routes. Efforts are ongoing to mobilise resources for the regional implementation.

World Heritage Futures Lab: Southern and Eastern Africa Region Edition

The project was implemented in collaboration with the South Africa-based non-profit company, Electric South to strengthen the capacities of 20 creative technologists and local community members in interpreting World Heritage values and developing experimental and experiential digital content and products. This innovative project supports the development of new narratives about World Heritage sites in Southern and Eastern Africa using digital technologies, including virtual and augmented reality, to sustain their Outstanding Universal Value. A three-day ideas-development Lab was conducted where the participants received training and exchanged ideas on World Heritage interpretation and the use of digital technologies. They developed and pitched detailed proposals on how they would develop new narratives and unique stories through attractive digital products to ensure an increased appreciation of their respective World Heritage sites.



Figure 4: World Heritage Futures Lab participants developing a pitch presentation during a working group session.

Key Achievements

- i. Strengthened the capacities of 20 creative technologists and local community members in the interpretation of World Heritage through digital technologies. Participants developed and pitched detailed proposals on how they would develop new narratives and unique stories through attractive digital products to ensure an increased appreciation of their respective World Heritage sites.
- ii. Initiated the development of a toolkit to promote the elaboration of innovative and participatory educational programmes on the Liberation Movement Heritage at museums and cultural centres in the region.
- iii. Mobilized stakeholders for the UNESCO Journeys in Southern Africa programme and initiated resource mobilization efforts.
- iv. Supported the Government of Zimbabwe in its efforts to enhance the conservation and sustainable development of the Great Zimbabwe World Heritage site by procuring conservation, documentation, and maintenance equipment for the Great Zimbabwe World Heritage site and undertaking consultation processes geared toward the development of the integrated management plan, the interpretation framework, the land use development plan and the tourism and marketing strategy.

Challenges

The cultural and natural heritage of Southern Africa is increasingly threatened, including by the impacts of climate change, pressures of urbanization and uncontrolled development, unsustainable tourism practices, as well as armed conflicts and civil unrest. All nine countries covered by the Regional Office are State Parties to the 1972 Convention. The Southern Africa region boasts a total of 22 sites inscribed on the World Heritage list, of which two are transboundary sites. However, one country (Eswatini) does not have any site inscribed on the World Heritage list yet and three of them (Lesotho, Mozambique and Zambia) only have one site. Furthermore, while all nine countries have tentative lists, only three of them (Namibia, South Africa and Zimbabwe) have updated them in the past ten years. The major needs include the insufficient human and institutional capacities of Southern African countries to 1) update their tentative lists; 2) prepare nomination files for inscription on the World Heritage list; 3) implement adequate site conservation and management practices; and 4) undertake sustainable tourism practices.

As regards the second priority area, the **proliferation of armed conflicts, the increasing social inequalities and insufficient coordination at both the national and international levels between law enforcement agencies and cultural practitioners in the Southern African region have led to an increase in illegal excavations of archaeological sites and illicit trade,** which has been exacerbated by the COVID-19 pandemic.

Most of the Member States covered by the Regional Office have ratified the 1970 Convention (only Malawi, Mozambique and Namibia are yet to ratify this standard-setting instrument). On its part, the 2001 Convention has only been ratified by two Member States (Namibia and South Africa). The Intergovernmental Committee for Return and Restitution remains little-known and underutilized by the Member States in the region in the context of their quest to repatriate their stolen cultural heritage. The major needs include the insufficient human and institutional capacities of Southern African countries to 1) ratify relevant standard-setting instruments in the fight against the illicit trafficking of cultural property and the pillage of underwater cultural heritage; 2) enhance regional cooperation; 3) increase overall preventive conservation measures of cultural property; 4) prepare and submit requests of return and restitution; and 5) enhance the educational and social role of museums.



2.4 Flagship 4: Harnessing new and emerging technologies for sustainable development in Africa, including through the implementation of the recommendation on the ethics of artificial intelligence Ethics of Artificial Intelligence

Aligned with UNESCO's mandate, the programme on the ethics of Artificial Intelligence aims to support Member States in strengthening their capacities to harness innovation and digital transformation, especially AI technology, to achieve the SDGs and establish a more sustainable and equal society.

In November 2021, UNESCO Member States unanimously adopted the *Recommendation on the Ethics*



*of Artificial Intelligence (AI)*³, providing the first-ever global normative instrument and a comprehensive basis to make AI systems work for the good of humanity. Building on this global consensus and the *Windhoek Statement*⁴ endorsed by the participating ministers in the Southern Africa sub-Regional Forum on Artificial Intelligence (SARFAI) in September 2022, UNESCO ROSA has started the implementation of the *Recommendation* by piloting the *Readiness Assessment Methodology* developed by UNESCO in 6 member states, namely Botswana, Malawi, Mozambique, Namibia, South Africa, and Zimbabwe.

Key Achievements

- i. A National Stakeholders Team consisting of members from various sectors of society, such as relevant Ministries representatives, academia, private sector, and civil society was established in each country through the piloting exercise.

³ <https://www.unesco.org/en/artificial-intelligence/recommendation-ethics>

⁴ <https://unesdoc.unesco.org/ark:/48223/pf0000383197?posInSet=1&queryId=bc60a510-eb95-4303-9d35-467f36c0df9d>

- ii. 1 or 2 national consultations in each of the countries have been conducted by UNESCO ROSA for the national stakeholders to share their experiences and good practices to inform the preparation of the national reports.
- iii. Based on the national consultations coordinated by UNESCO ROSA and the inputs and feedback the team filled in for the Readiness Assessment survey, a national report on the readiness of the involved countries vs the **Recommendation** has been produced for each of the countries including tailored policy recommendations. The executive summary of the national reports has been presented during the Global Forum on the Ethics of Artificial Intelligence in Slovenia.

Challenges

Recognizing the important role that AI can play in the development of Southern Africa and notably its impact on UNESCO's fields of competence, the SHS sector of ROSA with the support of CI and SC sectors making endeavours to promote the ability of individuals in Africa to take control of their data, manage it, and improve data governance. However, it can be sensitive and intractable to touch upon ethical issues such as protection of privacy, equality for the whole society and the different perspectives of bias that the data sets bring along into the AI algorithm.

Lessons learnt

In the piloting countries, the existing regulatory and policy frameworks as well as the current development and use of AI technology have been mapped out in view to assess the situation and propose a policy roadmap to apply artificial intelligence respectful of human rights. Capacity-building and strengthening of the structures of the national institutions, private sector and civil society, as well as other stakeholders should be supported as well as regular dialogue sessions, to raise public awareness on the ethics of artificial intelligence across the sectors.



VBR

Vhembe
Biosphere
Reserve

Biosphere



2.5 Flagship 5: Enhance open science, and reinforce capacity building in basic and applied sciences and scientific research to strengthen innovation and technology development and use in ocean science, climate change resilience and water resource management in Africa

This flagship programme is organized around four action areas covering natural resources, science, technology and innovation, education for sustainable development, resilient societies, and water-food-energy-ecosystems (WEFE) interaction. All interventions will be implemented by gathering evidence on innovative solutions, building capacity, and providing policy support. Activities in science, technology, and innovation (STI) will focus primarily on strengthening institutional and human resource capacities to address identified challenges, operationalize the transformation process, and drive sustainable socio-economic transformation.

9th Africa Engineering Week

The Engineering Council of South Africa (ECSA), in collaboration with the World Federation of Engineering Organizations (WFEO), the Federation of African Engineering Organizations (FAEO), and UNESCO, organized the 9th Africa Engineering Week. The program also aimed to inform and inspire the public and young people about the fascinating field of engineering. The STEM Youth Boot Camp on Robotics, AI, and



Figure 6: Students assembling robots at a STEM Boot Camp

3D printing was co-organized by UNESCO and IEEE and took place at the Innovation Hub in Pretoria concurrently with the summit. The Digital Skills Training programme was conducted in Zimbabwe and

Lesotho where both trainings were based on the outcome of demonstrating and having an appreciation of the importance, application and use of ICTs in doing business and applying the acquired digital knowledge to improve service delivery.

UNESCO funded by the Swedish International Development Cooperation Agency (SIDA) introduced the **Strengthening of STI Systems for Sustainable Development in Africa** Initiative carried out in 6 pilot countries namely Ghana, Sierra Leone, the Republic of Congo, Tanzania, Namibia, and Zimbabwe. This initiative aims to strengthen national and regional STI policies, enhance governance of STI, and promote institutions in research and innovation under the 2017 UNESCO Recommendation on Science and Scientific Researchers (RS|SR) and the African Union Agenda 2063. It is implemented in 2 phases with the first one already completed with achievements for Zimbabwe and Namibia noted below.

Key Achievements

- i. UNESCO successfully **facilitated STEM Capacity Building by hosting innovative youth STEM boot camps**: The first STEM boot camp was held on the margin of the 4th annual African Regional Science Technology and Innovation Forum Youth STEM Boot Camp was hosted from 26 February to 2 March 2023; in Niamey, Niger. The boot camp focused on providing hands-on activities to youths on how to utilise fourth industrial revolution technologies for developing sustainable development for communities. 100 students drawn from 10 schools in and around Niamey attended the boot camp.
- ii. The second boot camp took place during the engineering week held in South Africa. 135 students attended the UNESCO 9th Africa Engineering Week boot camp, taking part in the interactive discussions and experiments which were held, explaining the concepts and technologies of the Fourth Industrial Revolution (4IR). The boot camp highlighted how the youths are key to this era of accelerated technological progress. The focus was on advanced technologies such as 3D Printing Technology for rapid prototyping, Robotics as introducing the students to programming via Blockly as well as Arduino. Participants also went through entrepreneurship drills, and learnt about project management and resource mobilisation, to be able to monetise their products and services. 55% of the participants were girls.

Lessons learnt

UNESCO in the implementation of the above projects learnt of the **importance of utilising the networks within the countries**, including institutions, organizations, academies of science and institutions of engineering. This allows UNESCO to tap into already established structures, and expertise and to pool funding for ensuring the effectiveness of the activities.

Zimbabwe Joint SDG Fund Programme

UNESCO is the lead agency in the Zimbabwe Joint SDG Fund Programme: ***Catalysing Investments in Climate and Renewable Energy for productive use and the Achievement of the SDGs in Zimbabwe***. The overall purpose of the JP is to catalyze investments in climate and renewable energy (RE) projects for the achievement of the Sustainable Development Goals in Zimbabwe, namely Goals 1, 4, 5, 7, 8, 9, 13, and 17. At the national level, the JP aims to contribute towards some of the key national priorities of the Government of Zimbabwe by working towards national goals on economic development, energy access, climate change, gender equality, women's empowerment and capacity building. The planned interventions include the establishment of a **gender-responsive Climate Finance Facility (CFF) focused on renewable energy investments** through appropriate financing tools as a catalyst for economic

empowerment and sustainable development in rural Zimbabwe. The JP will provide a full-scale demonstration of the concept and create broad awareness of the transformational effects of introducing renewable energy to off-grid communities by creating local green economies, with new entrepreneurship opportunities, income, and job creation in the renewable energy space. As such, the JP has an enormous potential to substantially advance SDG achievement, particularly in rural communities in Zimbabwe, which today are the most left behind. The project was launched in December 2022 with an expected total budget of USD 45 million. USD 10 million is being provided by the UN SDG Fund, 10 million by Old Mutual Investment Group, 1 million by the Government of Zimbabwe and the balance by other potential partners.

Key Achievements

A comprehensive needs assessment study was commissioned in June 2023 and the report was completed in October 2023. The needs assessment will guide Capacity building initiatives that will be driven by participating UN agencies. The JP was presented at the Energy Transitions COP28 session at the Madagascar Pavilion in Blue Zone in December 2023. The event was a knowledge-sharing session to learn and aim for better integration of policies and action. The format was a high-level panel discussion on the experience of blended finance from 4 UN Member States (Madagascar, Uruguay, Zimbabwe, and North Macedonia) with participants from the UN Joint SDG Fund that implements programmes in these countries with the collaboration of several agencies (i.e UNIDO, UNESCO, UNDP, IOM and UNECE), the Governments of Madagascar, Uruguay Zimbabwe, and North Macedonia represented by Ministers and private banks.

Challenges

Financing for Renewable Energy projects in Zimbabwe remains limited with inadequate funding opportunities and tools, that can help underpin the bankability and commercial feasibility of projects to attract capital from investors.

The **country still requires significant focus to address critical skills gaps in the implementation and promotion of Renewable Energy technologies and projects, climate change and sustainable development.** The availability of trained human resources who can accommodate the scale-up of RE projects across the country is imperative., as set out through the JP.

Old Mutual has not yet obtained Prescribed Asset (PA) Status for the fund. The PA status would increase investment from pension funds. The term “prescribed assets” refers to a government policy that requires investors, like retirement funds, to hold a certain number of investments in government-specified assets, such as government or state-owned entities' (SOEs') bonds. However, the fund will be launched without PA status to facilitate the first transaction. PA status will still be pursued in the background. The implication of launching without PA status will be a change in the marketing angle of the fund.

Lessons learnt

Working with **established partners such as Old Mutual will ensure the sustainability of the programme objectives** after the programme completion.

Whilst most of the existing initiatives have focused on providing concessional finance to promote the inception stages of RE projects in the country, the key learning derived is that the **involvement of private sector and commercial investors is of vital importance to channel the much-needed long-term flow of capital** towards the RE sector.

Be Resilient Regional Programme

Through a regional project, Be Resilient, funded by the Government of Flanders, and implemented between April 2020 and December 2023, communities in Biosphere Reserves (BR) and other UNESCO sites were supported to co-generate resilience and adaptation strategies. This led to several national projects, and one transboundary project, outlined below. Be Resilient Regional supported the production of scientific tools such as projections of climate models for all BR, a regional landslide risk map and early warning models for several countries. The project demonstrated the potential and added value of UNESCO's MAB and IHP programmes to collaborate. Be Resilient Regional further supported a regional MAB youth forum meeting that included the participation of more than 50 youth in a side event at the 2022 World Science Forum; and supported the first Regional Be Resilient Forum, jointly with the other Be Resilient projects, with more than 100 participants from Biosphere Reserves, including practitioners and young researchers who presented their work.

Green School Quality Standard/Greening Curriculum Guidance

The BRR project also worked in tandem with the ED sector to pilot Green School Quality Standard/Greening Curriculum Guidance. This initiative was conducted in Zimbabwe, Zambia, Lesotho and Eswatini. The aim was to create the UNESCO Green School Quality Standard, which will aid Member States in preparing all schools for climate change by 2030 through a whole-school approach to ESD.



Figure 7: Zambia Bee Keeping as a Tool for Education for Sustainable Development

Furthermore, UNESCO created a UNESCO Greening Curriculum Guidance under the Greening Curriculum pillar, which outlines how curriculum elements might address sustainability issues such as climate change education. In Eswatini and Lesotho, botanical gardens were also established in schools in the Biosphere Reserves as a tool for ESD. In Zambia, support was given to the Forestry College to integrate beekeeping as an option for ESD.

BE-RESILIENT Zimbabwe Adaptation Fund Project: Strengthening local communities' adaptive capacity and resilience to climate change through sustainable groundwater utilisation in Zimbabwe UNESCO in partnership with the Government of Zimbabwe is implementing an Adaptation Fund (AF) project entitled



“Strengthening local communities’ adaptive capacity and resilience to climate change through sustainable groundwater utilisation in Zimbabwe.” The objective of the proposed project is to increase local communities’ adaptive capacity and resilience to climate change through sustainable groundwater utilisation for food security and other productive uses

in rural areas of Zimbabwe. The Ministry of Lands, Agriculture, Fisheries, Water and Rural Development is the executing partner, and the project will be implemented for 4 years from July 2023 to June 2027 with a budget of US\$5 million. It is expected that by the end of the project cycle, 2,000 out of the 8,000 households in the project areas will have access to and use groundwater for food security and increase their adaptive capacity and resilience to climate change.



During the project inception phase, field visits were conducted in Binga and Buhera. The visits provided crucial insights into the current local context, challenges, opportunities, and the potential impact of the

project in these areas. The outcomes from the field visits will guide the strategic planning, implementation, and monitoring of the project, ensuring its effectiveness and long-term impact on the communities and the environment.

The Busi-Pungwe-Save (BuPuSa) Transboundary River Basins

The project targets Early Warning Systems (EWS) for extreme environmental events in Zimbabwe and Mozambique and seeks to decrease communities' vulnerability to floods and droughts. The Austrian-funded project provides an effective flood risk assessment, monitoring and EWS, increased capacity and knowledge base, and inclusive communication strategy and action plans⁵. The BuPuSa project has continued to achieve notable milestones in enhancing flood monitoring and risk assessment over the year. A total of 28 water level sensors, comprising eight with a range of 35m and 20 with a range of 10m, along with eight gateways, were successfully procured and deployed to the two countries. This substantial investment in technology enables comprehensive data collection to monitor water levels effectively. Additionally, the project produced a detailed flood exposure mapping methodology report, outlining the systematic approach employed. The generation of flood exposure maps further solidifies the project's impact, providing valuable tools for risk assessment and emergency planning. Importantly, the project demonstrated a commitment to stakeholder engagement, as evidenced by the production socio and economic vulnerability assessment report with specific attention given to vulnerable community members. This inclusive approach ensures that the project considers and addresses the concerns and needs of all relevant parties, contributing to a more resilient and community-centric flood management strategy.

The BuPuSa Project team actively participated in both the Post and Pre-Seasonal Transboundary Workshop in Chimoio, Mozambique, in collaboration with the Global Water Partnership. This collaborative effort, aligned with the GWP project in the BuPuSa basins, focused on alleviating flood impacts by facilitating a dialogue between Mozambique and Zimbabwe. Additionally, the project team took part in the Be Resilient Forum Workshop in Cape Town, which brought together all programs falling under the Be Resilient Banner. The forum's objective was to unite implementing partners in UNESCO's landscape initiatives, promoting resilience and adaptation at the landscape level. The BuPuSa project's visibility was significantly enhanced through participation, underscored by the distribution of 300 newsletters at the forum. Furthermore, the team developed policy briefs and factsheets as part of their engagement.

As part of the Flemish-funded Climate Services for Improved Water Management (ClimWaR) project, the **Flood and Drought Monitors** that have been developed at the regional and national scale (African Flood and Drought Monitor, Cameroon, Mozambique, Zimbabwe, and Namibia) are being expanded to include two additional countries (Botswana and Zambia) and to engage local stakeholders to co-develop these systems further.

Be Resilient South Africa (BRSA)

This is a project, based on the model of the initial Regional Be Resilient project, also with funding from the Government of Flanders, that aims to strengthen biosphere reserves and their communities to identify and address climate change challenges and associated water-related hazards⁶. In the third year of the €1,500,000 Flanders-funded project, Be Resilient South Africa (BRSA) implemented several activities within the 4 target Biosphere Reserves in South Africa. All activities were part of the 3 project components, namely Climate Risk Informed Decision Analysis (CRIDA), the development of early warning

⁵ <https://en.unesco.org/bupusa>

⁶ <https://en.unesco.org/be-resilient>

systems (EWS), capacity building through citizen sciences, and the transfer of open-source tools.



Figure 8: Vhembe, South Africa, Be Resilient Youth Training

Throughout the year, the development of climate change impact analysis included the implementation of the Climate Risk Informed Decision Analysis stage II tailored for community members in one of the identified vulnerable areas within the Kruger to Canyons Biosphere Reserve, Dikwanyane Tribal area. Community members assessed various climate risks within their landscapes and adaptation options. Following the installation of a pilot IoT monitoring network at K2C in collaboration with K2C, SAEON (South African Environmental Observation Network), UNESCO ICTP (International Centre for Theoretical Physics) and IUCMA (Inkomati Usuthu Catchment Management Agency), UNESCO together with biosphere partners are currently in the process of identifying hydrological and meteorological data monitoring gaps in the Vhembe, Cape Winelands, and Groot Marico BRs for the installation of an IoT network and the capacity building of the respective partners.

Key activities on capacity building, technology transfer, and citizen sciences implemented within the Be Resilient South Africa project included the completion of the first phase of the Citizen Sciences data



collection focused on freshwater health monitoring on field monitoring of water quality and quantity indicators in the Eerste River Catchment. A second phase of implementation is envisaged for resumption from January – July 2024. Concomitantly, the UNESCO Be Resilient South Africa Project, together with the Kruger to Canyons Biosphere commenced the first stage citizen science data collection program in the Blyde River Catchment in June 2023. The citizen science implementations and capacity building in the biosphere reserves target at least 50% of women and girls, and 80% of youth in promoting their education and awareness of climate change and water security issues. Implementations of Citizen Science River Monitoring programmes at K2C and Cape Winelands BRs, supported by extensive field training of youth in the use of equipment for measuring indicators for water quality - dissolved oxygen, presence of aquatic species, pH, temperature, salinity and turbidity and streamflow ensured the transfer of the scientific method to youth participants without a background in water science. Moreover, these

youth citizen scientists were involved and continue to be involved in the development and training of a mobile app-sharing platform for community data collected in these landscapes.

Further capacity-building activities included a three-day Writeshop training course in collaboration with the Magaliesberg Biosphere Reserve (MBR) and Resilient Waters. Held from May 30th to June 1st, 2023, the training equipped 36 participants from South African biosphere reserves and Chimanimani Biosphere Reserve in Zimbabwe with essential skills for funding proposal development and resource mobilization. Covering aspects like proposal writing, understanding funding requirements, and donor relations, the sessions explored program design, monitoring, evaluation, and reporting. The BRSA project, focused on climate change adaptation, will progress to Step III of the Climate Risk Informed Decision methodology, identifying adaptation options. The funding proposal training is crucial for biosphere reserves to secure resources, ensuring resilient and sustainable futures.

Key Achievements

- i. **Development of flood hazard maps:** Since May 2022 it has developed flood hazard maps and initiated the development of Open Science applications for disaster risk reduction, particularly on floods, droughts and landslides, and the setup of Internet-of-Things monitoring networks and open-source software development for hydrological modelling in Zimbabwe and South Africa.
- ii. Implementation of the CRIDA process in 5 Biosphere Reserves in Zimbabwe and South Africa with the use of scientific models and tools and local knowledge to cogenerate climate change resilience and adaptation strategies.

- iii. **Supported 3 Member States with UNESCO's science-based cooperation approach:** Phase 3 under the **Governance of Groundwater Resources in Transboundary Aquifers (GGRETA)** project, which was supported by SDC Switzerland Trust Fund, 3 River basin organizations (ORASECOM, LIMCOM, CUVECOM) and 3 Member States (Botswana, Namibia, South Africa), benefited from UNESCO's science-based cooperation approach.
- iv. **Groundwater assessments were conducted,** improving knowledge of targeted transboundary aquifers.
- v. **Workshops provided 300 water professionals with relevant skills to target complex water challenges:** ROSA supported the establishment of transboundary cooperation mechanisms and training on hydro-diplomacy, groundwater modelling and groundwater quality protection.
- vi. **Finalized the Stampriet transboundary aquifer system groundwater model:** Stakeholders (groundwater hydrology water committee members, GGRETA coordinators and Orange-Senqu River Commission (ORASECOM) secretariat) from ORASECOM were trained on the use of the model.
- vii. **Establishment of 2 new Biosphere Reserves** with support from ROSA, giving a total of 18 BR in 7 of the 9 Member States covered.

Challenges

The SC sector encountered gaps in **data availability** due to institutions and countries' unwillingness to share quality information. This was resolved by extensively researching missing data either through self-data-collection, new experts, and/or analysis and fostering dialogue with project partners for trust-building towards data sharing.

Lessons learnt

Implementation of large grassroots projects requires an adequate inception phase of a minimum of 6 months to allow ownership of the theory of change; as well as adequate project staff including administration and communications. **Partnerships and collaboration** between international and local partners play a key role in the progress of the Be Resilient projects (BRR, BRSA, BuPuSa). Moreover, the **visibility, capacity and awareness** raised about transboundary aquifers in Africa with the support of GGRETA have also **facilitated cooperation for upscaling of results with regional institutions beyond ORASECOM**, such as LIMCOM, CUVECOM and SADC-GMI. Lastly, allowing for **differentiated implementation** across the distant target landscapes fosters ownership by their communities.

