



COUNTRY PROFILE



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Swaziland

The Vision 2022 launched in 1999 outlines the Kingdom of Swaziland's primary development goals of addressing poverty and inequality. A robust science, technology and innovation will enable Swaziland to accelerate this progress, providing solutions, the evidence and evaluating the country's progress towards achieving its goal to become a first world country by 2022. Vision 2022 already commits to increased investment in science and demonstrates the government's commitment to quadruple its allocation from current 0.2 % of the country's GDP to R&D to the African Union target of 1 %.

Swaziland's strategic goals at a glance

- Human resource development targeted at its youth who make up 43 % of the 1.3 M people living in the Kingdom
- Increasing agricultural productivity while pursuing farming methods that conserve the environment
- Supporting R&D with increased funding, encouraging private sector investment and promoting intra-sectoral and disciplinary collaboration
- Diversifying the economy
- Improve the health of its people by widening service delivery
- Provide opportunities to improve the lives and equity for disadvantaged members of society including women, people living with disabilities and children

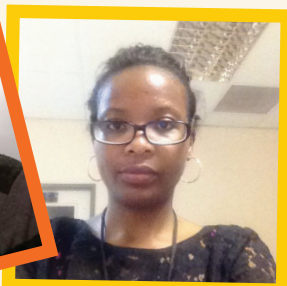
Some of the young African scholars being trained through the AAS' programmes



Baitshapi Mokaleng, MPhil Trainee



Kaelo Seatla, PhD Trainee



Lucy Mupfumi, PhD Trainee



Leabaneng Tawe, MPhil Trainee.



Dorcas Maruapula, MPhil Trainee



Kesaobaka Molebatsi, PhD Trainee

Swaziland

Partnerships will be essential to accelerating the strategic goals outlined in Vision 2022. The African Academy of Sciences is keen to see an Africa-led and Africa-centred approach to the development of STI. Increased support from African public, private, philanthropic sectors will promote ownership and ensure an Africa-driven science agenda. As such, the AAS is committed to partner with Swaziland to drive this vision.

Building a synergistic relationship between Swaziland and the AAS

The AAS has been in existence for the past 32 years and in which it:

- Has built grant management capacities that have positioned it to be Africa's foremost grant making body. The academy is currently managing funding in excess of \$150 M invested by our partners through the Alliance for Accelerating Excellence in Science in Africa (AESA), a funding and agenda setting platform that the AAS created in partnership with the NEPAD Agency. Swaziland can leverage this expertise to build its grant making and research coordinating capacities as it sets up the National Commission for Research, Science and Technology.
- Is implementing programmes to tackle climate change, improve the health of Africa's people, promote innovation and expand into scientific frontiers, such as stem cell, genomics and precision public health. Our programmes train scientists, help them develop their careers, and provide the infrastructure they need to conduct quality research. The ultimate goal is to retain them on the continent. With Swaziland's focus on improved health service delivery, the AAS can offer the expertise to tailor its R&D interventions to its needs to provide home grown solutions and translate this leadership into improved funding.
- Is training a future generation of African scientists. Its programmes are offering master's, PhD and postdoctoral training and internships to develop world class scientific leaders. Swaziland human resource development can be boosted through supporting these programmes as 32 % of its university staff has PhDs.
- Is promoting intra-Africa collaboration to reduce duplication and maximise impact of its programmes. Through the AAS, Swaziland researchers can access potential partners and improve chances of winning international grants for which collaboration is a prerequisite. In addition to AAS Fellows, our grantees comprise in various disciplines and are from nearly 40 Africa countries.
- The AAS' climate change programme, Climate Impact Research Capacity and Leadership Enhancement (CIRCLE), is training a future generation of African climate scientists and generating knowledge for the continent to effectively tackle climate change. Climate change has increased some countries in southern Africa's susceptibility to droughts, including Swaziland. CIRCLE provides a training model for Swaziland to replicate and invest in generate the evidence it will need to reduce the impact of climate change on agricultural productivity, ensuring food security and environmentally friendly production methods.
- Is implementing interventions to attract more women into science, which has seen our programmes recruit a ratio of 50 % women as master's, PhD and postdoctoral Fellows. With fewer women academic staff at the University of Swaziland having PhDs, AAS programmes are a platform for Swaziland to train its future women scientific leaders and promote gender equity in the scientific sector.



Exploiting the synergy

The AAS is aggressively building partnerships with African countries to ensure Africa-led investment of R&D. Countries which are collaborating with the AAS include:

- Nigeria, which provided US\$5 M to an AAS Endowment Fund.
- South Africa, which invested close to US\$1 M to support innovative health technologies through the Grand Challenges Africa programme.

South Africa's funding is managed by the AAS but supports its local innovators to collaborate with peers in other African countries, a partnership model that can be replicated between the Academy and Swaziland.

Benefits of investing in research

The benefits for the Kingdom include:

- Increasing Swaziland's research output and making it globally competitive.
- Building capacity locally to ensure home grown solutions for achieving strategic goals of Vision 2022.
- Promoting gender equality in STI.
- It will transform Swaziland to a knowledge based economy that will spur socio-economic growth.

Next steps

Potential areas of partnerships are outlined below as per Swaziland's developmental goals. Exploring the partnership model that the AAS has with countries like Nigeria and South Africa, Swaziland can invest in:

1. The Developing Excellence in Leadership, Training and Science (DELTA) Africa, a programme led by AESA to develop world-class researchers and scientific leaders to conduct cutting-edge health research in infectious diseases, non-communicable diseases (NCDs), population and public health.
2. Grand Challenges Africa, which promotes Africa-led scientific innovations to help countries better achieve the Sustainable Development Goals by awarding seed and full grants to the continent's most impressive innovators. Current priorities include maternal, neonatal and child health, antimicrobial resistance, biomedical engineering and key areas of infectious diseases and NCDs.
3. The Human Heredity and Health in Africa (H3Africa) initiative, which aims to facilitate a contemporary research approach to the study of genomics and environmental determinants of common diseases with the goal of improving the health of African populations. H3Africa programmes are focused on infectious diseases and NCDs including kidney disease, sickle cell anaemia, diabetes, hypertension, heart disease and stroke to lay the foundation for precision and genomic medicine in Africa.





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4. AESA Postdoctoral Fellowship Programmes-through AESA, the AAS is implementing post-doctoral programmes to support early career researchers: the CIRCLE programme develops skills and research experience for early career African researchers in the field of climate change in five thematic areas of health, agriculture, water, energy and policy. The AESA-RISE postdoctoral programme will support postdoctoral training and research to produce leaders in areas that include material sciences, engineering, water resource management, marine biology and natural products.
5. STEM Education where Science, Technology, Engineering and Mathematics (STEM) education focused on capacity building, mentorship and networking are promoted in ways that foster scientific research and ensure that higher education systems are equipped to meet the demands for emerging knowledge based economies.
6. Research Management and Good Financial Grants Practice Research thrives in environments with good research and financial management capacities. The Good Financial Grant Practice (GFGP) was established as an innovative tool for standardising, simplifying and strengthening financial governance, providing a specification for both grantors and grantees of what is good practice for financial management throughout the grant life cycle.
7. Policy and Advocacy, which provides horizon scanning of the scientific landscape, promotes research uptake, production of policy papers and convenes stakeholder forums.

African Academy of Sciences

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