

FUTURE OUTCOME

- Development of world-class CEMEREM programmes, facilities, and qualified lecturers to sustain the training of resource engineers and managers in Africa.
- Commercialization of research laboratories and other research facilities for industry and society.
- Strengthening stakeholder networks and forming new collaborations.
- Expanding cooperation with East African universities.
- Extending short and vocational training courses to different sectors.
- Establishment of a strong partnership in applied resource management between Germany and Kenya.
- Development of a CEMEREM concept to leverage natural resources for regional wealth creation while sustaining the environment.
- Continued expansion of networking through CEMEREM International Biennial Conferences and Alumni Seminars.
- Promotion of blended learning methods through partnerships.



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Deutscher Akademischer Austauschdienst
German Academic Exchange Service



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CEMEREM

Centre of Excellence for Mining, Environmental Engineering and Resource Management

Partners:

TTU Taita Taveta University, Kenya

University of Applied Sciences Dresden, Germany

TU Bergakademie Freiberg, Germany

Funded by:

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German Academic Exchange Service

THE CENTRE OF AFRICAN EXCELLENCE

8th African-German Centre of Excellence

A Joint project funded by the Federal Ministry of Foreign Affairs (Auswärtiges Amt) through DAAD between Taita Taveta University, Voi, Kenya (TTU), the University of Applied Sciences Dresden (HTWD), and TU Bergakademie Freiberg. The primary aim of the alliance is to establish a centre of excellence in mining, environmental engineering, and resource management education and research at TTU. Beyond the academic and research goals, the centre serves as a platform for fostering scientific and cultural exchange among project partners, industry and government entities both in Kenya and Germany.

Specific Objectives

- Develop and/or enhance curricula at the undergraduate and postgraduate levels (BSc., MSc., and PhD)
- Educate and train a new generation of mining, processing, and environmental engineers, as well as resource managers for industry and government
- Provide continuous education and training for engineers and managers in the industry
- Enhance teaching and research capacity at TTU
- Integrate sustainability concepts into education, training, research, and project activities.
- Foster networking with society, industry, and governments for sustainable socio-economic development.



TTU campus

CURRENT SITUATION IN KENYA

Kenya is rich in natural resources, including minerals like soda ash, fluorspar, titanium, diatomite, zircon, and gemstones. At the same time, Kenya confronts environmental challenges due to rapid urbanization, industrialization, and resource exploitation. Sustainable development in the resources sector is one of the emphasis of the Kenyan government within the Kenya Vision 2030.

Moreover, Kenya serves as a strategic hub in East Africa, bridging the region with the global community economically, politically, logistically, and culturally. The demand for skilled professionals in mining, environmental engineering, and resource management is growing not only in Kenya but also throughout the broader region.

CEMEREM aims to address this need by delivering high-quality education and training. The centre also promotes sustainability through collaboration with government, industry, and local communities.

Contribution to new engineering courses

- BSc Mining and Mineral Processing Engineering
- MSc Mining Engineering
- MBA Natural Resource Management
- MSc Process Engineering
- BSc Environmental Engineering
- MSc Environmental Engineering
- PhD Mining Engineering
- PhD Process Engineering
- PhD Natural Resource Management



Student excursions during the Summer School in Kenya (left) and in Germany (right)

ONGOING PROJECTS

- Enhancing the quality of potable water at TTU campus
- Improving wastewater treatment at TTU campus
- Improving waste management at TTU campus
- Developing pilot plant for biogas production
- Implementing Agri-Photovoltaic (PV) in Taita Taveta region
- Promoting sustainable practices in small-scale mining in Taita Taveta region
- Offering short and vocational training courses to industry and government partners
- Expanding networks through CEMEREM International Biennial Conferences and Alumni Seminars
- Developing a web-based platform for the trading of locally mined gemstones



Visits to the biogas plant in Freiberg, Germany (left), practical training at the Institute of Natural Materials Engineering in Dresden, Germany (right)



Installation of an Agri-PV plant at the campus of the School of Agriculture, Earth and Environmental Sciences (SAEES) at TTU (left), measurement of biogas in the gas laboratory at TTU (right)