



SEAWEED BIOTECHNOLOGIST / PHYCOLOGIST - TISSUE CULTURE

Duration: August - October 2026 (*with possibility of extension based on project progress and performance*)

Development of Climate-Resilient Seaweed Strains and Tissue Culture Systems in Zanzibar

Presentation of Coastal Biotech

Coastal Biotech Ltd. is a blue biotechnology company focused on developing biostimulants, bioactive compounds, and marine biopolymers derived from macroalgae. We translate seaweed-derived science into scalable solutions for agriculture, plant systems, and sustainable biomaterials. We work through international scientific collaborations with leading research institutions, including the Technical University of Munich, the University of Barcelona, and GreenCoLab, supporting advanced research, innovation, and technology transfer.

Project Background

The Ministry of Blue Economy and Fisheries of Zanzibar has commissioned Coastal Biotech Ltd. to support the operationalisation of the island's first seaweed tissue culture laboratory. The assignment is implemented in collaboration with the Zanzibar Fisheries and Aquaculture Resources Infrastructure (ZAFIRI), with the objective of strengthening national capacity in marine biomass production, seaweed biotechnology, and climate-resilient aquaculture systems.

Context and Objectives

Seaweed cultivation in Zanzibar is experiencing declining productivity due to rising ocean temperatures, environmental stress, disease pressure, and reduced genetic diversity in commercially cultivated strains of *Kappaphycus alvarezii* and *Eucheuma denticulatum*. These constraints directly affect coastal livelihoods, export competitiveness, and long-term sector resilience.

The project aims to develop climate-resilient and genetically diverse seaweed strains through tissue culture and controlled propagation systems to strengthen local biotechnology capacity. It also expands the scientific and economic value of seaweed through integrated applications in processing, including biostimulants, high-value molecule extraction, and marine biopolymer development.

Key Responsibilities

- Isolate, screen, and propagate seaweed strains with high stress tolerance and strong cultivation performance
- Execute tissue culture and micropropagation protocols for *Kappaphycus alvarezii* and *Eucheuma denticulatum*
- Conduct controlled cultivation experiments under varying environmental conditions (temperature, salinity, light intensity, nutrients)
- Operate and support photobioreactor-based cultivation systems
- Monitor biomass growth, morphology, and physiological performance indicators
- Contribute to strain improvement and optimisation of propagation protocols
- Analyse experimental data and contribute to technical and scientific reporting
- Support institutional capacity building and knowledge transfer to ZAFIRI and SUZA

- Ensure proper documentation of all experimental procedures and results according to scientific standards

Candidate Profile

We welcome applications from MSc, PhD candidates, early-career researchers, and industry professionals with relevant experience.

- MSc or PhD in Phycology, Marine Biology, Marine Biotechnology, Molecular Biology, or a related field
- Experience in seaweed tissue culture, clonal propagation and strain improvement systems
- Strong laboratory skills in sterile techniques, algal cultivation, and experimental design
- Strong data analysis skills using R or Python or willing to learn.
- Prior experience in tropical marine systems is an advantage
- Scientific rigor and independence in research environments
- Full-time on-site work in Zanzibar is required
- A driving license is desirable but not mandatory

Technical Areas of Interest

- Seaweed tissue culture and strain improvement
- Marine biotechnology and aquaculture innovation
- Genetics and molecular biology
- Marine hydrocolloids / biopolymers
- Climate resilience and stress physiology
- Controlled cultivation systems and photobioreactors

Location

SUZA Beit-el-Ras Campus
Zanzibar, Tanzania

Application

Send your CV to rd@cbiio.com alongside examples of your work. Publications, Articles, Videos are acceptable.

Application Deadline: 5th of July, 2026