SOIL REMINERALISERS DEVELOPMENT

FROM BUKUSU ALKALI COMPLEX, UGANDA

PROJECT MANAGER

BACKGROUND

Sustainable soil fertility requires nutrients to be added to soil to replace those removed through harvests and leaching. Added nutrients may come from natural weathering of bedrock or by applying fertilisers. If farming exports more nutrients than it replenishes, the imbalance is described as Nutrient Mining. In Uganda and many other parts of Africa, the high cost of chemical fertilisers puts them out of reach of many small-scale farmers, leading to nutrient mining, impoverished soils and reduced agricultural productivity.

In recent years, there has been growing interest in using powdered rocks instead of chemical fertilisers, a technique known as “remineralizing”. In tropical areas, this also avoids the problem of soluble chemical fertilizers being washed out by downpours and can have the added advantage of improving soil pH. In Brazil, in particular, which has tropical soils and climate like those of East Africa, remineralising has become very popular and effective, with the government publishing standards for commercial remineralising products.

From its mine in the Bukusu Alkali Complex of southeast Uganda, Namekara Mining Co is currently producing vermiculite for use in horticultural growing media. Its mining licence also contains several other rock types suitable for remineralizing and carbon dioxide removal by ERW, including:

- High-phosphorous saprolite
- Primary carbonatite and phoscorite
- Potash-rich rock ('potassic trachytes' and agglomerate)
- Ultrabasic rocks (pyroxenite)
- Vermiculite

These components can be combined in various ways to formulate remineralisers tuned to specific crops. Bananas require plenty of potash, for example.

As the rock powder is absorbed into the soil, it removes greenhouse gas from the atmosphere by a process called Enhanced Rock Weathering (ERW). Hence remineralisation potentially offers a way to sequester carbon and improve agricultural productivity at the same time. The alkaline nature of many rocks of the Bukusu Complex may offer opportunities for carbon dioxide removal by ERW, with carbon credits potentially offsetting the costs of the products to farmers.

POST OF PROJECT MANAGER - SOIL REMINERALISATION & ENHANCED ROCK WEATHERING

In partnership with Equator, Namekara Mining Co plans to develop a suite of soil remineralisers fine-tuned to specific crops. The carbon dioxide removal performance of these products will also be investigated with a view to sale of carbon credits.

Equator is therefore recruiting a project manager to manage the partnership.

JOB DESCRIPTION

Lead the development of a crop-specific soil remineraliser portfolio from Namekara Mine's Bukusu Alkali Complex, forge and coordinate academic research partnerships and establish a commercially viable production-to-market model, while driving potential carbon credit pathways through Enhanced Rock Weathering (ERW).

Key Deliverables & Success Metrics

1. Deliver three distinct crop-tailored remineraliser formulations, complete with full nutrient and pH profiles, within 9 months
2. Complete pot-scale and plot-scale agronomic trials demonstrating ≥10% yield improvement on target crops
3. Secure at least two academic or institutional partnerships for remineralisation and ERW carbon-sequestration research
4. Draft a robust five-year business plan with financial projections and go-to-market strategy

Core Responsibilities

The time frames noted for each phase are provided for planning reference. Some phases will proceed simultaneously depending on project needs and resource availability.

Phase 1: Resource Assessment (Months 1–3)

- Characterise nutrient content, pH buffering capacity, any adverse chemistry and ERW potential of each rock type
- Map and quantify accessible mineral resources across the Bukusu licence area
- Establish sampling, safety and quality-assurance protocols with reference to international standards

Phase 2: Product Development & Agronomic Trials (Months 3–11)

- Produce pilot-scale batches of candidate blends
- Design and oversee pot-scale experiments to optimise formulation ratios
- Plan and initiate plot-scale trials on key crops (e.g., banana, maize), analysing soil chemistry and crop performance

Phase 3: Market Analysis & Business Planning (Months 6–11)

- Benchmark global remineraliser markets (Brazil, South Africa, East Africa) and identify distribution channels
- Conduct competitive and SWOT analyses

- Develop a detailed five-year business plan, including cost models, pricing strategy, and sales forecasts

Phase 4: ERW Carbon-Credit Strategy & Partnerships (Months 7–12)

- Investigate carbon-credit frameworks applicable to ERW in East Africa
- Liaise with NGOs, government bodies, and carbon-market intermediaries to define pilot protocols
- Prepare documentation to support initial carbon-credit issuance

Reporting

- Report directly to Equator's Managing Director and Namekara GMO
- Attend monthly steering-committee meetings with Namekara and Equator
- Attend quarterly meetings with NMCL and Equator directors
- Provide quarterly progress reports with budget vs. actual metrics

Contract Terms

- Duration: 12 months, with extension pending achievement of Key Deliverables
- Performance Review: at Months 6 and 12, tied to success metrics above
- Remuneration: competitive package plus travel and accommodation allowances
- Start date: Q4 2025

CANDIDATE PROFILE

The ideal Project Manager will combine technical expertise with leadership skills and cross-cultural agility.

Education

- Master's degree or PhD in Soil Science, Agronomy, Geochemistry, Environmental Science or a closely related discipline, or demonstrable equivalent experience.

Professional Experience

- Minimum 7 years leading multidisciplinary projects in soil amendments, fertiliser development, or related agronomic R&D.
- Demonstrated track record in resource assessment, field sampling protocols, and agronomic trial management.
- Prior experience developing business plans and engaging with stakeholders across industry, academia, and government.

Technical Skills

- Deep understanding of geochemical analyses and nutrient profiling of rock-based products.
- Proven ability to design, execute, and analyse pot-scale and plot-scale agronomic experiments.
- Familiarity with Enhanced Rock Weathering (ERW) processes and carbon-credit frameworks.

- Experience of the carbon markets and leading legislation which is shaping these markets.

Language Skills

- Fluent in English (written and spoken).
- Proficiency in Kiswahili, Portuguese or French is highly desirable.

Soft Skills

- Strong leadership and self-motivation, with the capacity to operate autonomously in remote field settings.
- Excellent communication and interpersonal skills, adept at negotiating and building partnerships with diverse stakeholders.
- Strategic thinker with robust analytical problem-solving abilities and clear, concise reporting.

Travel & Availability

- Willingness to spend up to 60% of time in Uganda and elsewhere in East Africa.
- Flexibility for international travel to attend conferences, partner workshops, and carbon-credit negotiations.