



SME CASE STUDY VIGNETTE

NO. 4



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01 | Introduction

The respondent is the CEO founder of a data analytics company that started in London, incorporated in 2022, and is now based in the East Midlands. The management team draws on an international collaborative skill set. They have an Indian data manager and data analysts in India (through the Indian Institute of Technology) and support staff in Nigeria, where a key focus is to deliver technological solutions for improved farming practices, utilising cloud computing and final year graduate student agronomists recruited from local universities to engage with farmers.

The company's niche role is to develop technical applications and solutions to facilitate more economically efficient and environmentally sensitive farming practices in emerging African economies (e.g. Cameroon, Kenya, Ghana, and Nigeria). Partnering with the DAWN development policy agenda in Western Nigeria (potentially providing data for WHO and UN), there is sponsorship support to provide improved mobile communications for farmers and local agronomists to guide the most efficient farming practices. This includes the use of geospatial satellite information, drone footage and soil testing to provide clear guidance on the most suitable crops for the soil, terrain, and climate. Currently, they work with 200 farms but have plans to roll out their pilot work to 4,000 farms in Nigeria in 2024. A critical issue is to reduce food waste and secure more stable cash crop international markets, notably by supporting exporting between Nigeria and the UK. However, this will require the development of a verifiable and traceable green supply chain which supports regulatory requirements for the production, storage, and delivery of perishable food products. A key requirement for the company is therefore to develop a collaborative partnership between food supply chain and regulatory experts at the University of Lincoln and green supply chain technology (e.g. blockchain traceability) via Middlesex University and external tech experts.

02 | Environmental reporting

A key driver is the company's green and social mission for food sustainability (SDG), led by the CEO, which is purposed to deliver a more efficient, stable and profitable farming system in Africa, through the introduction of smart farming technologies and greener practices which reduce waste, such as through improving warehousing conditions and practices, and addressing power supply failures and poor water use. The African farmers cannot afford their services, so they are bringing together UK Lincoln University working with a Nigerian Chamber to develop the market. A key element is the company's tech expertise (from India), using geospatial services. This suggests that their business

model is relevant globally, including in the UK. They have a “*top-notch tech platform*”, which for example, has discovered underground river water supplies in Cameroon.

A challenge is to overcome local farmer trust issues to develop collective contracting farming with end-user market goals. A key objective is to produce for specific markets and avoid waste, with clear supply chain timelines, warehousing and transportation services. “*This requires an end-to-end e-commerce model.*” Key environmental measures include:

- Satellite and drone imaging of topology and weather information on rainfall, flood prediction and potential desertification
- Boots on the ground soil tests to check type, nutrient levels and borehole water availability and quality
- Checks on farming practices such as crop rotations and optimal choices for planting, nutrients and pesticide use, crop health and environmentally sensitive approaches
- They can support cooperative farming, greenhouse tech solutions and also support maintenance and cultivation of woodland and shrub foraging food, rather than loss to wood production.

03 | External Financing

The business model has been bootstrapped, with a small amount of investment coming in via personal investors. The company has a vision of supporting contract farming where for example 20% of farming products can be quality assured and sold to the UK. This will create better income and sustainability for farmers.

A couple of small investors initially helped get the business started and they envisaged requiring £1.5m to fund an African farming project, but the 35m Naira support in Nigeria and associated University voluntary services mean that the project can progress with a grant of £50-100k to support the blockchain technology development with the support of University of Lincoln for food regulatory guidance and an external agri-food green supply chain blockchain technology solution partner. The University of Lincoln has good connections with Nigeria, working on exchange services with students to develop skills. They have also sought a small grant of under £50k from Natural England to test their services in the UK to map and risk assess UK soil quality. They are also in contact with potential investors such as Barclays Eagle Labs (who are supporting the Carbon 13 accelerator in the East of England).

04 | Good practice

Developing green, sustainable and credible food supply chains is essential to the project. They have met with Sainsbury’s and discussed the limited availability of African food in their UK stores. With the current post-Brexit UK food supply restrictions, there is an opportunity for opening new food production markets. Furthermore, if the quality assurance and supply chain credentials can work for the UK, they can also open up other market opportunities internationally for African farmers.

The company have the technology to support the food logistics market to address food perishability and eliminate waste. The company have developed good strategic collaborative research partners, such as the University of Lincoln with their strengths in food import standards and Nigerian university partners for student research exchange.

05 | Benefits of environmental reporting

Environmental reporting will provide a niche market opportunity for African farmers and ensure market future-proofing and sustainability. Environmental nature-positive approaches will enable optimal planting and crop efficiency, alongside the essential green supply chain logistics being developed. The agri-food environmental tech approach of the company is well aligned with the current Innovate UK and UK Connected Places Catapult calls for research into agri-food production and green supply chains and logistics.

06 | Future plans

The company has developed plans for R&D research applications in 2024 for sustainable blockchain supply chain solutions, particularly in terms of certifying quality assurance and ensuring efficient transparent traceability of African food products for export – ensuring that they are produced in an environmentally sustainable way, comply with social and governance workers' rights and avoid technical supply chain failures such refrigeration and storage levels and timetables. Blockchain can also ensure that transportation is undertaken in a low-carbon fashion by environmentally accredited logistics companies.

ABOUT

Funded by the Natural Environment Research Council, our case study series sheds light on early-stage SMEs journeys in obtaining external financing, SMEs navigating challenges in accessing finance for nature-positive innovation, aligning with environmentally conscious investors through shared metrics, and the evolution of SME investors in becoming 'nature-positive'. For further details, please see www.cusp.ac.uk/sme-finbio.