



BUSINESS PROFILE



3BA ALLAMANDA ENTERPRISE

TRINIDAD AND TOBAGO

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ABOUT 3BA ALLAMANDA ENTERPRISE

- **Company status :** Limited.
- **Year of registration :** 2021.
- **Number of employees:** Allamanda Flavours Team has 5 employees (4 women and 1 man), 3BAELS ECOBATT Team has 5 employees (2 women and 3 men).
- **Business sector:** Agri-processing and renewable energy.

Mahalia Joseph – Managing Director

Mahalia Joseph is a forward-thinking entrepreneur from Trinidad and Tobago, dedicated to driving sustainability through innovation in agri-processing and renewable energy. She is the founder of 3BA Allamanda Enterprise Limited (3BAEL), a company established in 2021 that produces high-quality dried

herbs, spices, and fruit snacks under the brand Allamanda Flavours, while also pioneering clean energy solutions for underserved communities. With a strong foundation in agriculture and food systems, Mahalia leads 3BAEL's integrated approach to farming and full-cycle processing—reducing waste and

maximizing product value. Her passion for sustainable innovation extends into the energy sector with ECOBATT, a groundbreaking sand battery that provides affordable, reliable energy storage using thermoelectric technology. Her work has been recognized regionally and internationally, winning the 2024 NEDCO Innovative Entrepreneur Award, COSTAATT's Full Circle Competition, and placing in the WIPO Pitch Competition. She also completed the NEDCO Business Accelerator Program and represented ECOBATT in the global ClimateLaunchpad competition. Driven by purpose and powered by innovation, Mahalia continues to shape a greener, more resilient future for Trinidad and Tobago and beyond.



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CONTEXT

Background

3BA Allamanda Enterprise Limited (3BAEL), operating under the brand Allamanda Flavours, is a woman-led enterprise based in Trinidad and Tobago that specialises in sustainable Agri-processing. Founded by Mahalia Joseph—a former accountant turned farmer and fabricator—3BAEL embodies a mission to fuse traditional Caribbean food processing with innovative, environmentally responsible technologies. The company's vision stems from Mahalia's personal experience with the high energy costs and inefficiencies involved in preserving and processing agricultural produce in the Caribbean. Recognising that energy remains one of the most significant constraints for small-scale agro-processors, Mahalia leveraged her multidisciplinary expertise to develop ECOBATT, a proprietary sand-based thermal energy storage system designed to decouple Agri-processing from fossil fuel dependence.

Under its umbrella brand 3BAELS Energy ALLternative Services Ltd, the company has pioneered the ECOBATT thermal battery—a sustainable solution that uses locally sourced sand to store and release heat energy. This innovation enables year-round food drying and preservation using solar and alternative energy inputs, reducing both operational costs and environmental impact. Allamanda Flavours now integrates ECOBATT technology into its own production lines, offering naturally dried and minimally processed Caribbean flavours while simultaneously empowering other small and medium agri-processors to adopt cleaner energy systems. By combining gender-inclusive entrepreneurship, circular economy principles, and indigenous

innovation, 3BAEL is advancing a climate-resilient model for Agri-processing in Small Island Developing States (SIDS).

Position in the market

Allamanda Flavours occupies a niche position at the intersection of agro-processing and clean technology in Trinidad and Tobago. The company is recognized for producing high-quality, organic dried herbs and spices, sourced locally and processed sustainably. It also stands out as a pioneer in renewable energy applications within agrifood systems, offering a rare fusion of eco-conscious food production and energy innovation tailored for rural and off-grid markets.

Allamanda Flavours' products appeal to health-conscious consumers seeking chemical-free, locally sourced snacks and culinary ingredients, while its clean-energy technology is gaining traction with entrepreneurs, households, and small farmers facing energy reliability issues.

Relationships

The company is deeply embedded in the local agricultural ecosystem, sourcing raw materials—such as herbs and spices—from smallholder farmers and cooperatives across Trinidad and Tobago. This approach supports rural livelihoods, reduces food waste, and ensures freshness in processing.

By aligning with small-scale producers, Allamanda Flavours also contributes to inclusive value chains, providing these stakeholders with consistent demand, knowledge-sharing opportunities, and the potential to access new markets through value-added processing.

PRODUCTS AND MARKET

Allamanda Flavours offers a range of value-added agri-food products, including organic dried herbs and seasoning blends that are locally sourced and minimally processed to preserve their natural flavours and nutritional value. The dried herbs and spices line consists of pimento powder and bits, ochro powder and bits, culantro (chadon beni), ginger powder, and its top seller—a 3Blends Seasoning Mix of pimento, bay leaf, and ginger. These ingredients are harvested from small farms and carefully dried for use in teas, seasonings, and culinary preparations. The products are sold through local markets, pop-up retail spaces, and online channels, catering to a growing customer

base interested in sustainable, health-conscious food options.

In addition to its agri-food line, 3BA Allamanda Enterprise is developing a clean energy product called ECOBATT—a sand-based thermal battery designed to meet the power needs of rural households and small-scale processors. This innovation is particularly relevant for areas with unreliable electricity, offering a scalable and affordable alternative to traditional solar energy systems. As the product moves toward commercialization, the company is targeting regional

markets with a mix of pilot deployments, licensing agreements, subscription models, and partnerships

with energy service providers and development agencies.



INNOVATIONS: MILESTONES AND EXPANSION PLANS

At the core of 3BA Allamanda Enterprise's mission is a commitment to practical, scalable innovation that addresses the real-world challenges faced by small-scale producers. This vision is embodied in ECOBATT, a clean energy storage solution developed by founder Mahalia Joseph. Designed specifically for agricultural resilience, community empowerment, and environmental sustainability, ECOBATT responds to urgent energy issues such as high costs, unreliable access, and climate-related disruptions that disproportionately affect small farmers and rural communities.

ECOBATT uses local sand and steel to store solar and wind energy as heat, which is later converted into electricity. Unlike conventional lithium-ion batteries, ECOBATT is recyclable, affordable, non-toxic, low-maintenance, and easily repairable. These features make it particularly well-suited to underserved areas where energy infrastructure is limited or unreliable. Its versatility allows for a wide range of applications, including microgrids, greenhouse heating, cold storage for perishable goods, and irrigation systems—making it a game-changer for agri-processors and smallholder farmers alike.

Beyond its technical innovation, ECOBATT represents a broader vision for climate-aligned development. Mahalia Joseph emphasizes the system's ability to empower local manufacturing, generate green jobs, and reduce carbon emissions. The solution has already received considerable acclaim, winning first place in the SME category at the 2024 COSTAATT Full-Circle Challenge, earning the Innovative Youth Award from the National Entrepreneurship Development Company Ltd (NEDCO), and taking second place at the Climate Launchpad competition. It was also named a top ten finalist at the Caribbean Industrial Research Institute's DIA Youth Innovation Lab pitch tank and WIPO Appropriate Technology Competition.

The company plans to officially launch ECOBATT in Trinidad and Tobago by 2026, with ambitions to expand across the Caribbean, Latin America, and Africa. As part of its next phase, 3BAEL is seeking investors and partnerships to support pilot projects and scalable deployment of this transformative solution.



SUCCESS FACTORS AND LESSONS LEARNED

The success of 3BA Allamanda Enterprise Limited can be attributed to Mahalia Joseph's resourcefulness, technical innovation, and commitment to community empowerment. Despite limited access to capital and operating in sectors that often overlook small, women-led enterprises, she has grown the company by strategically leveraging local materials, minimizing operational costs, and focusing on practical solutions with high social impact. Her journey from accounting to agriculture and fabrication, and ultimately to entrepreneurship, has resonated with many aspiring innovators in the Caribbean.

The enterprise stands out not only for its sustainable agri-processing products but also for its integration of

renewable energy into the agrifood value chain. By tackling both food preservation and energy access, the company addresses two pressing challenges faced by rural and underserved communities. With strong interest in ECOBATT and increasing demand for natural, locally made food products, the company is well-positioned for long-term growth. Revenue from ECOBATT is expected to begin within two years, with projections of reaching US\$8 million in gross revenue by the fifth year and maintaining an average annual growth rate of 40%. These milestones reflect a business that is not only innovative but also deeply rooted in social and environmental impact.



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