

## TRACEABILITY

### APPLICANTS:

- (1) Fine Cocoa company
- (2) Cocoa Research Center (CRC) at UWI
- (3) Brasso Seco Morne la Croix Farmers Association (honey)

### COUNTRY OF INCORPORATION:

- (1) TRINIDAD
- (2) JAMAICA and TRINIDAD (Registered under the royal charter. Headquarters in Jamaica, Cocoa Research Centre in Trinidad)\_
- (3) TRINIDAD

### BENEFICIARIES / SUPPORTING AGENCIES / PROJECT PARTNERS

FARMERS, AGRO PROCESSORS, ARTISANS, COOPERATIVES. The agency in Jamaica (Trinidad) also has the potential for global reach and impact that spans public and private sector initiatives and various vertical markets of industry.

### DESCRIPTION OF APPLICANT

- (1) The Trinidad & Tobago Fine Cocoa Company Ltd was established as a public-private partnership with the aim of rehabilitating the cocoa sector. This is achieved through improving the quality and yield of bean production and developing value-added products for the local, regional and international markets.
- (2) The CRC is an Academic Research Entity of the University of the West Indies. Its mission is to support the sustainability of the cocoa sector through management of genetic resources, research, innovation and outreach. It also serves to support public policy and decision making with respect to cocoa industries in the region to ultimately develop an innovation-oriented research and development programme, capable of spawning competitive industries. CRC has raised the quality and visibility of fine/ flavor cocoa by developing innovations, standards and systems to monitor and assess product quality and processes. Its global DNA Fingerprinting (Fluidgm) service and Near Infra-Red Spectrometry (NIRS) based quality management support, Bean Quality certification standards and its role in establishing a Cocoa Liquor Sensory Evaluation Standard and training module as well as its work on risk mitigation regarding Cadmium is recognised globally. CRC is a recognized centre of excellence for cocoa research, development and conservation internationally and curates the international cocoa gene bank with more than 2,500 varieties.
- (3) The Brasso Seco Group is a membership driven Non-Governmental Association developed to address agricultural issues and encourage members to engage in community development, primarily for Farmers and members to earn a sustainable livelihood through agriculture and agro-processing. The import of honey to Trinidad is illegal and the Association aims to manage the authenticity and standards associated with production from bee keeping to the production of all associated products.

## BLOCKCHAIN APPLICATION

### Traceability

### CHALLENGE PRESENTED

- (1) Throughout the region, indigenous crops such as cocoa lack the structures such as intellectual property protection, market protection, markers and identification systems that would serve to aid farmers, build cooperatives, create value, build supply chains and create sustainability. Quality management, product certification and traceability systems are required for implementation.
- (2) Compliance, international food standards and proof of origin will become a gateway for development of new market opportunities and secondary markets. The implications of traceability solutions can be expanded to other sectors including honey and supporting the agricultural food chain.
- (3) Products and services related to the manufacture of honey should be authenticated for a lack of use of chemicals and sustainable production methods. These products include honey, mead, royal jelly and so on. In countries where the importation of honey is illegal, the systems of traceability will serve to protect the local industries, ensure the registration of providers and manage the ecological impacts of bee keeping and related API systems. The traceability solution should have an integrated approach to encompass production, processing and storage.

## SUMMARY OF READINESS TO PARTICIPATE

- (1) TT Fine Cocoa works with cocoa farmer groups in Trinidad and has begun developing partnerships with growers throughout the Caribbean region. There are 40 grower regions in Trinidad that can be used as a case study with the aim of regional implementation together with the cocoa standards which will be used as part of a trademark quality assurance programme.

TT Fine Cocoa has explored a 'chain-of-custody' programme through the IDB IMPACTT project and believe that the evolving technology used in blockchain would be the most user-friendly and cost-effective system for transparency. They are also working with the World Intellectual Property Office to explore the strategies that can be used to strengthen ownership of intellectual property for farmers and growing clusters. This includes trademarks, product design and geographical indicators. The company is working on a joint branded product with Angostura, Harrods and Nestle which the blockchain project will directly be developed and showcased as a 'real-world' application of the technology

The Trinidad & Tobago Fine Cocoa Company has an exclusive partnership with Harrods London whom are keen to profile cocoa from the region and will be a key partner in this project to showcase 'farm-to-fork' traceability. TT Fine Cocoa Company has developed a strong partnership with international brands whom also seek transparency and reassurance of quality such as Hyatt Hotels, Hilton Hotel Group, Four Seasons Hotel, Harrods Stores (London), Caribbean Airlines, Nestle Trinidad, American Airlines and retail outlets throughout the region.

- (2) CRC UWI has confirmed a commitment of US\$70,000 in cash and in-kind towards the development and deployment of a pilot with its key stakeholders. The CRC has developed five business models for cocoa farms and processors, to be supported by block chain technology.

The CRC has supported programmes locally and regionally to improve productivity, quality and value-addition. Through (EU-ACP) project, farmer field schools and quality management audits in six Caribbean countries (Belize, Jamaica, Dominican Republic, St. Vincent, Commonwealth of Dominica (Dominica), Grenada, Trinidad and Tobago) have been completed. With the EU and Lutheran World Relief, the CRC supported the establishments of cocoa planting material pipelines in Jamaica, Haiti and Dominica. The multi-stakeholder regional project with the EU-ACP Science and Technology Fund established the International Fine Cocoa Innovation Centre (IFCIC) to support innovative production and postharvest practices, cocoa product value addition, apprenticeship training and incubator and business support services. With support from IDB-Lab (formerly MIF), the CRC has supported productivity improvement of estates, climate change resilience, quality management and marketing of cocoa to international markets.

The CRC has nurtured strong research and business linkages with international private and public sector clients and collaborating institutions such as Mondelez, Mars, Barry Callebaut, Lindt & Sprunglii, Guittard Chocolates, Casa Luker, Stork, Penn State University, University of Reading, CIRAD, Washington State University, University of Hamburg, Nottingham University, and every cocoa producing country of the Caribbean.

- (3) The brasso seco group currently has 110 members out of whom 35 are beekeepers. Trinidad's local market has huge potential as there is a great demand for honey; the relatively small supply is what incentivizes its illegal importation from other countries.

A prime focus of this organization is to create and develop socially and environmentally sustainable employment opportunities for the members of its communities. They recognize that environmental destruction is directly related to social inequality and are actively working on both issues through their beekeeping project.

While up till now it's sales have been limited to honey - mostly for the local market - the longer term goal is producing mead, perfumes and other value added products for the international market. Collectively they own 400 hives amongst the members but have great potential to scale up operations. They plan to scale up to collectively own at least 4000 hives and produce 16000 gallons of honey annually. This would have a market value of around \$2.3 million USD which would at least double with the creation of their value-added product lines. Scaling up to this size would allow them to have at least 100 beekeepers and employ another 300 community members indirectly through related businesses.

The Brasso Seco Group commits to provide an in-kind contribution of three (3) hours of labour per week for a period of one (1) year, provided by thirty (30) members. In addition, a financial commitment of \$50,000 TTD has been suggested. As the industry is a protected one - the blockchain solution implemented will aid in the prevention of illegal activities, preserve existing markets and preserve ecological impact of the industry