

## TERMS OF REFERENCE

### CONSULTANCY SERVICES TO DESIGN, PREPARE BILL OF QUANTITIES AND FACILITATE THE SUPERVISION OF CONSTRUCTION OF A COCOA PROCESSING FACILITY FOR THE TOLEDO CACAO GROWERS' ASSOCIATION IN BELIZE

#### **1. BACKGROUND**

1.01 Belize is a small, lower-middle income country. Forty-one percent (41%) of Belize's population was below the poverty line in 2013 with an unemployment rate of 10.4% in September 2019<sup>1/</sup>. Tourism is the country's most significant sector and accounted for 44.9% of Gross Domestic Product (GDP), 33.9% of employment and 43.1% of total exports in 2017<sup>2/</sup>. The coronavirus (COVID-19) pandemic has exacerbated an overall decline in economic activity over the last 15 months<sup>3/</sup>. Through continued diversification, the agricultural sector contributed 9% to Belize's GDP in 2017, employing just over 22,000 workers; and it remains one of the main pillars of the economy<sup>4/</sup>.

1.02 Food and agricultural products account for more than 80% of goods exports<sup>5/</sup>. However, Belize's agriculture sector suffers from significant production and value-addition constraints due to a range of factors. Until recently, agriculture sector strategies by the GOBZ, have tended to focus on sugar, citrus, and bananas, with little emphasis on supporting marginal cash crops like cacao<sup>6/</sup>.

1.03 To stimulate the expansion of exports, Belize developed a National Trade Policy (NTP) 2019–2030. The NTP identifies and seeks to address the constraints to export development. Building the capacity of business support institutions and exporters is a key component of the strategy. In pursuit of Objective #2: Improve Trade Performance, Diversify Production and Export Basket and Enhance Value Addition, the GOBZ has identified a number of sub-sectors in agriculture, including cocoa, as important drivers of diversification and increased export earnings.

1.04 Globally, cocoa beans (derived from the cacao tree), are a highly traded product and the main ingredient in chocolate manufacturing. Production is concentrated in developing countries with the requisite climate and soil for cultivation while processing and consumption are largely concentrated in

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<sup>1/</sup> Information on social indicators, poverty, and welfare for Belize is scant. The last Country Poverty Assessment (CPA) conducted was in 2009-10 supported by CDB. See also Carneiro, Francisco. (2016). *Belize Right Choices Bright Future: Systematic Country Diagnostic*. World Bank Group. Available online at <http://documents1.worldbank.org/>

<sup>2/</sup> Ministry of Tourism and Civil Aviation (Business Development Unit). 2020. *Tourism Consumption Study: Enhancement of Tourism Value Chain – Linking Local Farmers to the Tourism Market*. Available online at <https://tourism.gov.bz/>

<sup>3/</sup> Statistical Institute of Belize. *GDP For Second Quarter 2020*. Available online at <https://med.gov.bz/>

<sup>4/</sup> Belize Trade and Investment Development Service (BELTRAIDE). (2018). *Agriculture: The Foundation of Belize's Economy*. Available online at <https://belizeinvest.net/>

<sup>5/</sup> Food and Agricultural Organisation of the United Nations (FAO). (2019). *Developing and Enhancing Small Scale Agro Processing Capacity in Belize*. Available online at <http://www.fao.org/>

<sup>6/</sup> The terms Cacao vs. Cocoa are used in specific context in this document. In one sense, the two words mean the same thing as “cocoa” is the English adaptation of the word “cacao.” However, there are also important distinctions between the two. While cacao refers to cacao beans that have not been roasted, what is called cocoa is made of beans which have been roasted. Recently, manufacturers of raw vegan food products have adopted the more authentic spelling of the word in an attempt to distinguish their products from products which use roasted cacao beans, such as raw cacao powder vs. cocoa powder.

developed countries. The industry in 2019 was valued at USD137.9 billion (bn) and is expected to increase to USD182.09 bn by 2025<sup>7/</sup>. Notably, growing demand in artisanal chocolate offers new opportunities for niche suppliers in the high-value cocoa bean market.

1.05 Belize's cacao industry has historical linkages to the indigenous Mayan culture, a defining feature of which is the continued use of traditional farming methods, excluding inorganic fertilisers, and pest and disease control methods. Participation in the cocoa-chocolate global value chain (CCGVC) totalled less than USD600,000 in 2016 (UNComtrade, 2017), making the country a small producer in this industry. Cocoa beans accounted for nearly 98% of Belize's cocoa-chocolate exports. An estimated 55% of the beans are exported to the United States of America (USA), while other key markets include Japan and the EU. Most of the cacao beans are sold to artisanal and chocolate manufacturers. For example, Cadbury's Green and Black, now owned by Mondelez, historically sourced beans from TCGA in Belize. Similarly, Maya Mountain Cacao, another large domestic buyer, sells its beans to artisanal chocolate manufacturers in the USA and Europe via its parent company—Uncommon Cacao.

1.06 Smallholders are the largest group in local cacao cultivation; and about 15,000 persons are dependent on the industry. An estimated 500 smallholders are concentrated in Toledo district, in southern Belize. However, a few farmers cultivate small plots in the Stann Creek and Cayo districts. Approximately 3,000 acres of cacao is currently cultivated.

#### *Toledo Cacao Growers Association*

1.07 TCGA is a not-for-profit organisation that was established in 1986, and is registered under the Belize Company Act, Chapter 250. The Association was in good standing in 2020 with the Registrar of Companies. TCGA has 407 members, of which 26 are women. Its mission is “to improve the socio-economic standard of living of its members through competitive and diversified systems of production, which incorporate sound ecological practices.”

1.08 Historically, TCGA has been the primary actor in Belize, representing cacao farmers, pooling crops, and negotiating sales to international buyers. It provides technical support in cacao production through training, extension services, and demonstration farms, and offers high quality fine flavour cacao beans. Over the last ten years, TCGA has made a concerted effort to capitalise on opportunities from moving up the CCGVC. To date, two studies exploring the dynamics of the CCGVC, have indicated that moving up the value chain has two essential components<sup>8/</sup>: (i) increasing the production of, and the ability to guarantee high quality cacao beans, in particular, beans that could be classified as *fine and flavour cocoa*<sup>9/</sup> (FFC); and (ii) value addition to cacao beans through processing.

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<sup>7/</sup> [https://www.researchandmarkets.com/reports/5138783/global-chocolate-market-forecasts-from-2020-to?utm\\_source=BW&utm\\_medium=PressRelease&utm\\_code=j79btp&utm\\_campaign=1472980+-+Global+Chocolate+Market+Report+2020%3a+Market+to+Reach+US%24182.090+Billion+by+2025%2c+Increasing+from+US%24137.599+Billion+in+2019&utm\\_exec=chdo54prd](https://www.researchandmarkets.com/reports/5138783/global-chocolate-market-forecasts-from-2020-to?utm_source=BW&utm_medium=PressRelease&utm_code=j79btp&utm_campaign=1472980+-+Global+Chocolate+Market+Report+2020%3a+Market+to+Reach+US%24182.090+Billion+by+2025%2c+Increasing+from+US%24137.599+Billion+in+2019&utm_exec=chdo54prd)

<sup>8/</sup> See International Development Consultants Ltd. (2015). *Value Chain Analysis and Industry Strategy Development for Belizean Cacao*, Report submitted to BELTRAIDE. Available online at <https://www.agriculture.gov.bz/>; and Hamrick, Danny and Fernandez-Stark, Katrina. (2018). *Belize in the Cocoa-Chocolate Global Value Chain*. Duke Global Value Chains Center, Duke University. Available online at <https://www.gvcc.duke.edu/>

<sup>9/</sup> “Having the status recognised as fine flavour gives you a leg up in marketing your product to potential customers”, Ed Seguire, Chair International Cocoa Organisation panel on FFC.

### *Constraints to Increased Production*

1.09 The largest natural threat to Belize cacao production is the monilia fungus, which has seriously affected production in the past. The pathogen *Monilia*, is a powdery mildew fungus that is spread by insects, and which can decrease production by 90% if it is not managed. When properly controlled, production can be increased to 85%<sup>10/</sup>. During the period 2011–2015, TCGA received assistance from the EU and the Inter-American Development Bank’s Multilateral Investment Fund (IDB-MIF) and was able to rehabilitate over 1,000 acres of cacao, that was infested with the monilia fungus. As a result of this intervention, production was increased from 75 metric tons (MT) to 130 MT annually. However, production levels remain constrained by low output levels. When compared to the Dominican Republic, the world’s largest producer of organic cacao, yields in Belize are nearly four times less<sup>11/</sup>.

1.10 Cultivated using traditional practices in agroforestry systems, cacao in Belize is grown under a canopy of trees which provide shade, income and food<sup>12/</sup>. Production is labour intensive with modest infrastructure investment. Farmers practice slash-and-burn agriculture, which entails shifting cultivation and careful management and integration into agroforestry systems, to maintain biodiversity and avoid environmental degradation. There are several constraints to productivity including poor agricultural practices (for example-tree and shade management), irregular land tenure, lack of availability of disease resistant planting material and poor propagation. These constraints also affect TCGA’s ability to maintain its IMOCert<sup>13/</sup> and Fairtrade<sup>14/</sup> certifications.

### *Value Addition to Cacao Beans*

1.11 Belize’s participation in the CCGVC is almost exclusively in the production segment, with the harvesting of cocoa beans and initial processing (fermentation and drying)<sup>15/</sup>. A simplified illustration of the process is represented in Figure 1.

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<sup>10/</sup> However, management for disease calls for regular visits by agriculture extension services and inspectors, as well as periodic training for growers to ensure that each grower properly maintains a file and is aware and compliant with the latest market regulations.

<sup>11/</sup> Donovan, Jason et al. (2008). *Towards a sustainable cocoa sector in Belize: An action plan based on analysis of production systems, rural livelihoods, and market environment*. Report submitted to CATIE, Belize Ministry of Agriculture and Fisheries (MAF) and the Regional Unit for Technical Assistance (RUTA).

<sup>12/</sup> Common shade species which also offer market opportunities for other products include fruit and timber trees such as banana, plantain, palm, and various timber species like Salmwood.

<sup>13/</sup> IMOCert is an international certification body with headquarters in Bolivia, that operates in more than 20 countries in Latin America and the Caribbean. As an organic control body, it has been accredited for many years in accordance with European Union Regulations 834/2007 and 889/2008 by the Dakks (national accreditation body for Germany), in accordance with ISO/IEC 17065. See further <https://imocert.bio/>

<sup>14/</sup> Fairtrade is the most globally recognised ethical label. The Fairtrade mark means the producers and businesses have met the stringent Fairtrade social, economic, and environmental standards. FLOCERT, is the main independent certifier for Fairtrade, which inspects producers and traders to ensure they comply with Fairtrade Standards. Following a successful certification for a producer organisation, a three-year certification cycle starts. During this time, up to two confirmation audits normally take place depending on FLOCERT’s assessment of the organisation’s individual situation. This assessment is based on monitoring of routine data, as well as the individual organisation’s set-up. FLOCERT also conducts unannounced audits if there are indications of additional risk, such as specific allegations, expansion of the organisation’s certification scope, or product- or country-specific risks. See <https://www.fairtrade.net/>

<sup>15/</sup> A few small producers engage in value-added activities and produce chocolate bars and products for the local market and tourists. However, these firms are small in size and are not participating in export markets to a significant extent.

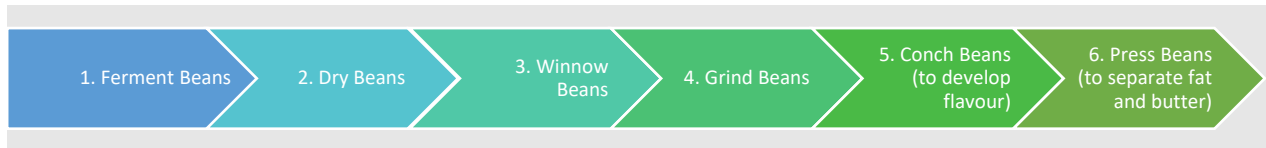


Figure 1: Simplified Cacao to Chocolate Process

1.12 At present, the majority of cacao farmers in Toledo can get to step two (drying beans); and a few are able to winnow their beans (step three)<sup>16/</sup>. Many farmers prefer to sell wet beans without roasting. For the most part, farmers deliver their beans in sacks at the side of the road, where they are collected by TCGA for sale. During the value addition process, the first step, is in the sorting of beans and there is currently no facility at which that can be done. TCGA is pursuing re-certification with IMOCert and Fairtrade. Even as this process advances, maintenance of the certification and sustained value addition will be dependent on the consistency and quality of the supply of Fine Flavour Cacao through the establishment and maintenance of traceability systems<sup>17/</sup>.

## 2. **OBJECTIVE**

2.01 The objective of the consultancy is to provide architectural, engineering, project management services to facilitate the construction of a 3,000 square foot cacao processing facility which will be adjoined to the existing building of the TCGA in Toledo District, Belize; and according to existing regulatory requirements of the GOBZ and internationally acceptable standards for certification of processing facilities.

## 3. **SCOPE OF SERVICES**

3.01 The tasks to be completed will include, but not be limited to:

- (a) Participating in a detailed briefing conducted by TCGA to outline the specifications required for the processing facility.
- (b) Designing and preparing architectural and structural drawings in accordance with the specifications provided by TCGA and recognised codes and standards.
- (c) Designing parameters that shall take into consideration the following features of the new facility: workspace requirements, portioning of the processing area, fire protection, occupational health and safety requirements, electrical systems, plumbing, drainage and water distribution system measures on water efficiency, climate control/ventilating and air-conditioning system shall follow available green/eco-efficient building design practices, sanitary or other facilities for operational staff, any requirements for site access road, security fencing and drainage
- (d) Submitting drawings for approval by the relevant local authorities for the built environment in Belize.

<sup>16/</sup> To bring out the chocolate aroma, the beans are roasted over an open fire. After roasting, the cacao beans are cooled and their thin shells, which have become brittle by roasting are removed. ‘Winnowing’ the beans, is the process of removing the shell after roasting and extracting the inner “meat” or “nib”. The nibs contain about 53% cacao butter and are ground between two large grinding stones to create a fine cocoa powder. The cocoa powder usually begins to liquify from the frictional heat while grinding the nibs, which produces a cocoa paste.

<sup>17/</sup> A system to track a product from production to consumption.

- (e) Undertaking any design revisions, in keeping with the direction of the planning authorities.
- (f) Assisting the Project Coordinator (PC) in obtaining any requisite approvals and/or permits on the proposed infrastructure works from the relevant government agencies.
- (g) Preparing a Bill of Quantities, cost estimates.
- (h) Assisting TCGA with preparation of bidding documents, conducting pre-bid meeting, evaluation of bids in accordance with the criteria set forth in the bidding documents, preparation of procurements reports and assisting TCGA in the negotiation of contracts relative to the construction of the facility.
- (i) Preparing an Environmental and Social Management Plan to manage any potential impacts and risks from the project relative to environmental and social safeguards, including, gender considerations, in accordance with CDB's guidelines. This includes Health and Safety, Waste management, Emergency Recovery Plan, and other such requirements.
- (j) Preparing and revising, as necessary, a schedule for implementation of the works.
- (k) Providing construction management services, including, environmental monitoring, conducting technical inspections of the Project to ensure that the construction works are accomplished in accordance with the technical specifications and other contract documents.
- (l) Certifying that the quality of works conforms to the specifications, norms, standards and drawings; assess the adequacy of the contractor's input materials, labour, equipment, and construction methods.
- (m) Advising TCGA in the resolution of contractual issues.
- (n) Attend third party inspections as necessary.
- (o) Assessing all quantity measurements and calculations required for payment purposes at the frequencies specified in the contract documents, and certifying work done for payment.
- (p) Preparing monthly reports on the progress of works, indicating any engineering difficulties affecting efficient and timely execution.
- (q) Compiling visual evidence of progress in the form of high-resolution photographs is an important requirement of this project. Photographs must be included in each progress report. The photographs should record a sequential execution of each construction contract.
- (r) Revising designs to suit unforeseen conditions which may arise during construction. Preparing, as necessary, detailed recommendations to the PC for contract change orders and addenda (variations/extensions), to ensure the best possible technical results are achieved with the available funds.

- (s) Supervising the Contractor in all matters concerning safety and care of the works, including the erection/placement of temporary signs and other traffic control devices, as necessary.
- (t) Verification that the project is completed, certify completion, prepare as-built documentation and inspect the works during defect liability period and other related tasks.
- (u) Preparing a Completion Report on construction of the Project, including as-built drawings, within three months after the date of issue of a Certificate of Practical Completion for the construction contract.

#### **4. DELIVERABLES AND REPORTING REQUIREMENTS**

4.01 The Consultant will report to the Managing Director, TCGA (PC) and will be required to submit/deliver the following:

<b>Deliverables</b>	<b>When</b>
An inception report in narrative form with the Consultant's understanding of the assignment, including, assessment of existing facilities, the layout for the new building, and the requirements for utilities. The inception report will also contain an outline sketch of the building, and initial work plan and methodology, and a schedule for the design development Phase.	Within 14 days after commencement of assignment.
Preliminary design drawings of the structure.	Within six weeks after commencement of assignment.
Final detailed drawings approved by TCGA and submitted to regulatory authority.	Within four months after commencement of assignment.
Revisions to drawings submitted (if required), in keeping with the direction of the planning authorities.	To be determined by regulatory approval process.
Environmental and Social Management Plan with gender considerations, and addressing Health & Safety, Waste management, Emergency Recovery.	To be determined by regulatory approval process.
Approved documentation (drawings) and/or permits (as required) for infrastructure works to relevant government agencies.	Within five months after commencement of the assignment.
Detailed Bill of Quantities, Cost estimates, tender documents for construction of works	Within two weeks after obtaining regulatory approval.
Completed bid evaluation; completed contract negotiations with preferred contractor; Schedule for implementation of the works and performance specifications.	Within six after commencement of assignment.
Technical inspections of that the construction works and environmental monitoring, implementation advice to TCGA.	On-going, beginning within two weeks of commencement of construction to completion of construction.

<b>Deliverables</b>	<b>When</b>
Submitted, where necessary, detailed recommendations to the PC for contract change orders and addenda, to ensure the best possible technical results are achieved with the available funds.	
Monthly reports on the progress of works, indicating any engineering difficulties affecting efficient and timely execution.	No later than 15 <sup>th</sup> day of each month, commencing one month after the start date as defined in the construction contract until close of contract.
Assessed and certified work done for compliance with quality and safety to satisfy claim for payment based on performance schedule specified in the contract documents.	On-going, beginning within one month of commencement of construction to completion of construction.
Certificate of Practical Completion to the Contractor upon completion of the construction.	Within 12 months of commencement of assignment.
Completion Report on construction of the Project, including as-built drawings. Submit hard copies and electronic copies of all drawings and reports required under this assignment in AutoCAD, Microsoft Word, PDF, PowerPoint, and Excel formats where applicable.	Within three months after the date of issue of a Certificate of Practical Completion for the construction contract.
Inspected works at appropriate intervals during the Defect Liability Period and recommended for certification.	On-going for two months, following completion of construction contract.

## **5. DURATION**

5.01 The Project will be implemented in 100 person-days over a period of 14 calendar months.

## **6. QUALIFICATIONS AND EXPERIENCE OF THE CONSULTANT**

6.01 The Consultant shall possess the following:

- (a) At least a Bachelor's degree in Architecture, Civil/Structural Engineering, or a related field.
- (b) Professional registration with the relevant bodies in the above-mentioned areas.
- (c) A minimum ten years' experience in building design and construction project management, with experience in at least three projects of similar size and scope within the last ten years.
- (d) A working knowledge of the procurement of works.
- (e) Specific experience in Belize and knowledge of local construction regulations will be an advantage.