

TC Document

I. Basic Information for TC

▪ Country/Region:	REGIONAL
▪ TC Name:	Support for Algas Organics Ltd. (AOL) - Conversion of Sargassum into Biostimulant.
▪ TC Number:	RG-T3560
▪ Team Leader/Members:	Hennessey, Michael P. (IFD/CTI) Team Leader; Bertrand, Annie (IFD/CTI); Cox, Shameka Tameisha (IFD/CTI); Franklyn, Russell Levon (IFD/CTI); Gamarra Echenique, Victor Jesus (IFD/CTI); Gonzalez Alzualde, Yohana Beatriz (IFD/CTI); Kelly Castillo, Emily Leticia (IFD/CTI); Negret Garrido, Cesar Andres (LEG/SGO); Padilla, Maria Camila (VPC/FMP); Pereira, Stefano (IFD/CTI); Rodriguez Pineda, Mario Vinicio (VPC/FMP)
▪ Taxonomy:	Client Support
▪ Operation Supported by the TC:	.
▪ Date of TC Abstract authorization:	01 Oct 2019.
▪ Beneficiary:	Algas Organics Ltd
▪ Executing Agency and contact name:	Algas Organics
▪ Donors providing funding:	Compete Caribbean Partnership Facility(CCP)
▪ IDB Funding Requested:	US\$250,000.00
▪ Local counterpart funding, if any:	US\$125,000.00 (Cash) US\$125,000.00 (In-Kind)
▪ Disbursement period (which includes Execution period):	36 months
▪ Required start date:	
▪ Types of consultants:	Individuals and Firms
▪ Prepared by Unit:	IFD/CTI-Competitiveness, Technology and Innovation Division
▪ Unit of Disbursement Responsibility:	CCB/CBA-Country Office Barbados
▪ TC included in Country Strategy (y/n):	No
▪ TC included in CPD (y/n):	No
▪ Alignment to the Update to the Institutional Strategy 2010-2020:	Productivity and innovation; Environmental sustainability

II. Objectives and Justification of the TC

- 2.1 In September 2018, the Compete Caribbean Partnership Facility (CCPF) in conjunction IDBLabs launched the Blue-Tech Challenge for the purposes of identifying and supporting the development of innovative commercial models rooted in cutting-edge technologies to contribute to the social and environmental sustainability of the ocean i.e. the Blue Economy, in the Caribbean. In accordance with the Operating Regulations of the CCPF, applicants were screened by an independent advisory panel based on the their level of innovativeness, scalability and viability (See [EZSHARE-1733098931-2](#) for full details). Additionally, successfully applicants underwent a second round of eligibility screening to meet the Bank's integrity and due diligence

requirements (See [EZSHARE-1733098931-4](#)). At the end of this process, 5 projects¹ were initiated for design.

- 2.2 The general objective of this TC is to support the delivery of technical assistance to a successful applicant of the Blue-Tech Challenge: Algas Organics Ltd. (AOL) –a firm located in the inland area of Dennery, St. Lucia that specializes in the production of environmentally friendly bio-stimulants with growth aspirations of entering international markets. Bio-stimulants are not a perfect replacement for conventional fertilizers, but they can assist in a plant's efficient up-take of nutrients by increasing its vigor and health and, as a result, reduce the need for chemical inputs. Concurrently, one of the main inputs of Algas' product is Sargassum seaweed- an invasive species of saltwater flora that degrades beaches and detracts tourism activity². The extraction process starts with the treatment of the dried Sargassum with a water-based patented "starter cocktail" solution to inoculate the mix in order to separate the valuable micro bacteria and bio-stimulants. The process takes place in virgin polyethylene tanks. Upon completion of the 21-day fermentation cycle, the liquid is pumped into a "curing tank" for seven days before the final product is stored in a "master tank." In this regard, machinery use up until this point has been limited and therefore there is minimum risk of injury. From an environmental perspective compostable organic manure is the only by-product, making the production process eco-friendly and sustainable.
- 2.3 The global bio-stimulant industry is anticipated to be valued at USD 4.9 billion by 2025³ with major markets including Canada, the United States and the European Union. For AOL to be able to pursue entering these markets it must undergo a strategic transformation that includes obtaining international certification, improvements in processing capacity and improved marketing efforts. Additionally, preliminary market research carried out by the firm suggest that their innovative process of converted bio-stimulant from Sargassum produces better agricultural yields on average than traditional chemical-based fertilizers ([EZSHARE-773370239-1](#), Annex J). From a social point of view, the scaling of production of bio-stimulant is expected to reduce communities' exposure to toxic sulphide as a result of a fall in the consumption of traditional fertilizers as the uptake of Algas' products increase.
- 2.4 This project will also catalyse a potential solution to a problem faced by local governments and tourism sectors alike: Sargassum seaweed infestations. Sargassum has several negative impacts on an economy. It restricts the movement of local fisherfolk as the seaweed impairs engines and makes fishing boats unnavigable. In addition, the unpleasant smell and large floating masses of seaweed are considered a major factor behind reductions in the Caribbean's tourism arrivals⁴. Most important are the public health concerns related to airborne poisoning. Within 48 hours of decomposition, the organic matter produces toxic gases including ammonia and hydrogen sulphide, for which prolonged exposure has been linked to hypoxic cardiac,

¹ See associated Press release at <https://www.iadb.org/en/news/idb-announces-selected-proposals-its-blue-tech-challenge-caribbean>

² [Ramlogan, Mcconney & Oxenford \(2017\)](#)

³ [Markets & Markets - Biostimulants Market](#) ;

⁴ Ibid

respiratory and neurological failure⁵. In the first half of 2018, over 10,000 cases of acute exposure to these toxic gases were reported in other affected territories⁶.

- 2.5 **Objective.** This TC aims at supporting the firm (AOL) to expand its model of producing bio-stimulants through the conversion of Sargassum. The TC consists of three core components: (i) protecting the authenticity of its product through certifications and registrations in target markets; (ii) the expansion and automation of AOL's processing facility; and (iii) the roll-out of a multi-channel marketing campaign, including an e-commerce platform and the implementation of a targeted social and print media strategy. Therefore, this TC intends to promote job creation in the Blue Economy sector and stimulate environmentally-sustainable exports through its support to bolster Algas' technical capacity. In this respect, the potential impact of this project could be twofold: diversification of St. Lucia's exports into bio-stimulants, and an abatement in the environmental degradation caused by Sargassum.
- 2.6 **Strategic Alignment.** This TC is consistent with the Second Update to the Institutional Strategy (AB-3190-2) as it is strategically aligned with the development challenges of (i) environmental sustainability; (ii) productivity and innovation and specifically addresses the special needs of small and vulnerable countries in fostering development through the private sector. The project is aligned with the priorities defined in the Innovation, Science and Technology Sector Framework Document (GN-2791-3). The project is also aligned with the priorities of the "Proposal for the Establishment of the Compete Caribbean Partnership Facility" (GN-2851) in terms of stimulating innovation in private sector firms and entrepreneurial ecosystem.

III. Description of activities/components and budget

- 3.1 **Component I. Quality Assurance and Intellectual Property Protection (US\$101,699).** This component will support AOL in its market entry requirements, including federal EPA registration for the US market as well as registration in each state. In addition to national registration, the products will be organic certified to appeal to the farming community that follows natural and sustainable practices. Under this activity, AOL will also seek ISO certification for a number of standards, including quality, environment and risk management. Other accrediting institutions to be engaged under this component include the Organic Materials Review Institute (OMRI) and ECOCERT. This component will finance a consultancy that will be responsible for preparing AOL for technical audits as part of the process involved in achieving these certifications. The consultant will serve as the focal point between AOL and accrediting bodies and will manage the registration processes. This component will also finance the expenses associated with receiving accreditation - this includes but is not limited to, registration costs and laboratory testing costs of specimens to support product claims. Upon completion of the requisite certification, this component will also cover the fees associated with patent and trademarking filing of AOL's newly certified products and processes.

⁵ Resiere, Dabor, Hossein Mehdaoui, Rémi Névière, and Bruno Mégarbane, "Sargassum invasion in the Caribbean: the role of medical and scientific cooperation", *Revista Panamericana de Salud Pública*, Vol. 43 (2019).

⁶ Resiere, Dabor, Ruddy Valentino, Rémi Névière, Rishika Banydeen, Papa Gueye, Jonathan Florentin, André Cabié, et al., "Sargassum seaweed on Caribbean islands: an international public health concern" *The Lancet*, Vol. 392, Issue 10165, (2018): 2691.

- 3.2 **Component II. Expansion and Operation of Processing and Storage Facility (US\$24,000).** This component will support the modular expansion of AOL's processing facility. This will include capacity building of AOL's production infrastructure, process automation and improvements in storage. More specifically, the machinery to be procured under this component will focus on automation of basic production processes (e.g. installation of conveyor belt and bottling) generating economies of scale and freeing up human capital resources to be reallocated to more productive activities such as quality management. Additionally, the component will seek to introduce digitization in the production efforts in an attempt to foster a data-driven approach to improve AOL's bio-stimulant production. The expected improvements from digitization are improved resource management and an improved capacity to identify bottlenecks within the firm's operation identified through data-powered analytics. In accordance with section 2.10 of the "New Bank Policy on Technical Cooperation" (GN-2470-2) the associated costs to be covered under the project will not exceed 30 percent of the total value of the TC. It includes purchasing, shipping, installation of machines/fixtures and relevant training of staff in their use to mitigate safety risk in use.
- 3.3 **Component III. Multi-Channel Marketing Campaign (US\$124,301).** This component will finance the services of a consulting firm to design and implement a multi-channel marketing campaign that is tailored to pre-identified customer segments. It will consist of, but not be limited to, development of social media content and a business website; search engine optimization and general marketing and public relations campaigns. Additionally, an individual consultant will be procured under this Component to design referral and loyalty programmes. The purpose of the loyalty programme will be to incentivise repeat customers and the purpose of the referral programme will be to incentivise the sharing of information about Algas' products (e.g. use of promotional codes to be used at the point of sale which provides benefits to the referrer and the referee in the purchasing of Algas' products). The target demographic for these programmes will be existing and potential clientele of AOL within the CARICOM and US markets... Concurrently, this component will also finance an evaluation of the feasibility and potential of using e-commerce platforms for the online sale of AOL's products. An e-commerce platform is expected to assist AOL in its product delivery and create an innovative way for farmers to make purchases. Concurrently, it is anticipated that any platform designed will provide a way to improve AOL's supply chain integration with distributors with a strong focus on synchronization of stock management with the help of digital solutions.
- 3.4 The total cost of the TC is US\$500,000 of which US\$250,000 will be financed by CCPF resources and US\$250,000 (US\$125,000 in cash, US\$125,000 in-kind) will be financed by Algas Organics Ltd. The total value of goods and non-consulting service expenditures being financed by Bank resources is US\$38,050.94.

Indicative Budget (US\$)

Activity/ Component	Description	IDB/ CCPF	Counterpart Funding (Cash)	Counterpart Funding (In- kind)	Total Funding
Component 1: Quality Assurance and Intellectual	EPA Registration for US market entry	22,025	3,000	0	25,025
	PCT Patent Filing & Trademarking	7,600	3,900	0	11,500

Property Protection	Organic Certifications (OMRI, ECOCERT)	33,374	0	0	33,374
	Product Claim Verifications Laboratory Testing	38,700	0	0	38,700
Sub-total Component 1		101,699	6,900	0	108,599
Component 2: Expansion and Operation of Processing and Storage Facility	Processing Facility Equipment	24,000	91,554	125,000	240,554
Sub-total Component 2		24,000	91,554	125,000	240,554
Component 3: Multi-Channel Marketing Campaign	Digital Marketing Strategy Development and Implementation	49,600	12,000	0	61,600
	Feasibility analysis: e-commerce platform	4,000	0	0	4,000
	Print artwork and print media for tradeshows	20,000	4,546	0	24,546
	Direct Marketing initiatives (e.g. tradeshows)	38,701	10,000	0	48,701
	Development of referral and loyalty programmes for CARICOM and US clients	12,000	0	0	12,000
Sub-total Component 3		124,301	26,546	0	150,847
TOTAL		\$250,000	\$125,000	\$125,000	\$500,000

IV. Executing agency and execution structure

- 4.1 In accordance with Section 6.9 of the Operating Regulations of the Compete Caribbean Partnership Facility (CCPF) (GN-2851-1), the executing agency of this technical cooperation will be Algas Organics Ltd. (AOL) with direct supervision by the Inter-American Development Bank through the Competitiveness, Technology and Innovation Division (IFD/CTI). As a consequence of prior due diligence carried out by the Facility Coordination Unit (FCU) of the CCPF, AOL has demonstrated the requisite financial, institutional, environmental and social capacity execute the proposed project and achieve the respective results in a timely fashion. AOL will be responsible for submitting quarterly project monitoring reports. Additionally, the Facility will maintain the right to request any other applicable reports deemed necessary.
- 4.2 The execution period for the operation will be 30 months and the disbursement period will be 36 months. The Country Office Barbados will take on the role of the Unit of Disbursement Responsibility (CCB/CBA). All administrative, technical supervision, internal and external coordination and quality review of the final products will be the responsibility of IFD/CTI in coordination with the CC PF.
- 4.3 The execution structure will be governed by the Bank's policy on Technical Cooperation (GN-2470-2) and is consistent with the TC's specific objective and aims

at completing the tasks at hand in a cost-efficient manner and ensuring quality of the outputs. Additionally, the design, execution, monitoring and evaluation of this TC will be governed by the Bank's "Operational Guidelines for Technical Cooperation Products" (GN-2629-1). The procurement of goods and non-consulting services will be carried out in accordance with "Policies for the Procurement of Works and Goods financed by the IDB" (GN-2349-10) and the contracting of consulting services will be carried out in accordance with the "Policies for the selection and contracting of consultants financed by the IDB" (GN 2350-10). In accordance with Section 3.7 c) of policy GN-2349-10, Direct Contracting may be used for the EPA Registration and Organic Certifications in Component 1 of this TC given that the issuing bodies have proprietary rights to these services.

- 4.4 In accordance with a Financial Agency Agreement signed between the IDB and the Caribbean Development Bank (CDB), the CDB will act as the Financial Agent for the purposes of administering the Facility's (CCPF) grant resources that finances the implementation of individual projects in the Organization of Eastern Caribbean States (OECS) for which this TC falls under.
- 4.5 As a condition precedent to the first disbursement, AOL will establish and maintain a separate and specific bank account for the purposes of managing the resources of this TC. It will prepare and submit to the IDB/CCPF annual unaudited financial statements within ninety (90) days of end of each fiscal year.
- 4.6 The Bank will disburse its contribution in U.S Dollars. The equivalence in U.S. Dollars of other convertible currencies shall be calculated by applying the exchange rate in effect in the market on the effective date of the disbursement. It is not intended that any disbursement will be used as a reimbursement to Executing Agency.

V. Major issues

- 5.1 There is a risk associated with the red tape involved in importing equipment and land use for commercial purposes in St. Lucia. The Government of Saint Lucia has committed to providing subsidized warehouse space for the AOL's processing and storage facility, in addition to tax holidays that encompass corporate tax waivers as well as import and customs exemptions. AOL is currently in the process of reallocating to this new warehouse space which offers nine times their current processing space.
- 5.2 There is also a risk that operations will be interrupted should there be a lack of raw material (e.g. Sargassum). Sargassum arrivals are expected to increase in coming years as the favourable growth conditions for this invasive species are likely to continue into the future⁷. Climate change-induced warming of the Atlantic Ocean, and in particular the North Equatorial Recirculation Region — the main blooming area for the pelagic seaweed — in combination with increased agricultural runoff emanating from Brazil, provide an excellent growth environment for Sargassum⁸. Existing ocean currents transport the pelagic plants towards the Eastern Caribbean. To this effect, AOL will be in a position where it can stockpile Sargassum once the necessary

⁷ Ibid

⁸ Sanchez-Rubio, Guillermo, Harriet Perry, James S. Franks, and Donald R. Johnson, "Occurrence of pelagic Sargassum in waters of the US Gulf of Mexico in response to weather-related hydrographic regimes associated with decadal and interannual variability in global climate", *Fishery Bulletin*, Vol. 116, No. 1 (2018): 93-107

capacity for inventory has been realized through the project. Once properly dried, raw material can be stored for up to 24 months.

VI. Exceptions to Bank policy

- 6.1 Given the novelty of the blue economy and the innovative approach that it represents in the context of economic growth for islands, it is expected that the number of specialized firms and individual consultants familiar with this topic will be very limited. In that respect the team will follow the exception request made during the establishment of the Compete Caribbean Partnership Facility to IDB policies GN-2349-10 and GN-2350-10 related to the eligibility granted by the Board of Executive Directors so that goods, works, services, and consulting services from non-IDB member countries may be eligible in the procurement processes for activities to be financed entirely with resources from the Facility, provided that the country of origin or nationality of such providers is recognized by the donors of the Facility as eligible (see section 2.24 of GN-2851).

VII. Environmental and Social Strategy

- 7.1 Given the nature of the project, there are no associated environmental or social risks. According to the Environment and Safeguards Compliance Policy of the Bank (OP 703), the operation has been classified as Category “C”, meaning that no environmental assessment studies or consultations are required for this operation (see [Safeguard Policy Filter](#) and [Safeguard Screening Form](#)).

Required Annexes:

[Request from the Client_62194.pdf](#)

[Results Matrix_9357.pdf](#)

[Terms of Reference_90000.pdf](#)

[Procurement Plan_42075.pdf](#)