

## TECHNICAL COOPERATION DOCUMENT

### I. BASIC INFORMATION FOR TC

▪ Country/Region:	Trinidad and Tobago /Caribbean
▪ TC Name:	Piloting an innovative approach to adaptation in Tobago
▪ TC Number:	TT-T1057
▪ Team Leader/Members:	Gerard Alleng (Team Leader); Sara Valero Freitag (Co-Team Leader); Team members: Anaitée Mills, and Juan Carlos Gomez (INE/CCS); Dale James (CCB/CTT); Vashtie Dookiesingh (MIF/CTT); Adela Moreda (INE/RND); Rodrigo Riquelme (INE/WSA), Luis Simon (EXR/CSO); Maria Elisa Arango (LEG/SGO); Shirley Gayle and Gregory Dunbar (FMP/CTT)
▪ Indicate if: Operational Support, Client Support, or Research & Dissemination	Client Support
▪ If Operational Support TC, give number and name of Operation Supported by the TC:	N/A
▪ Date of TC Abstract authorization:	August 5 <sup>th</sup> 2015
▪ Beneficiary:	Trinidad and Tobago
▪ Executing Agency and contact name:	The Cropper Foundation (TCF) Mr. Mark Thomas CEO ( <a href="mailto:mthomas@thecropperfoundation.org">mthomas@thecropperfoundation.org</a> )
▪ Donors providing funding:	Sustainable Energy and Climate Change Multi-Donor Fund (MSC)
▪ IDB Funding Requested:	US\$555,000
▪ Local counterpart funding, if any:	US\$137,000 (in kind and in cash)
▪ Disbursement period (which includes Execution period):	18 months (execution period: 14 months)
▪ Required start date:	November 2 <sup>nd</sup> 2015
▪ Types of consultants:	Firms and individual consultants
▪ Prepared by Unit:	Climate Change and Sustainability Division (INE/CCS)
▪ Unit of Disbursement Responsibility:	Country Office of Trinidad and Tobago (CTT)
▪ TC Included in Country Strategy (y/n):	No
▪ TC included in CPD (y/n):	No
▪ GCI-9 Sector Priority:	Support development in small and vulnerable countries, protect the environment, respond to climate change and promote renewable energy

### II. DESCRIPTION OF THE ASSOCIATED LOAN/GUARANTEE (N/A)

### III. OBJECTIVES AND JUSTIFICATION OF THE TC

- 3.1 Caribbean nations are particularly vulnerable to the effects of climate change as a result of their relative isolation, small land masses, concentrations of population and infrastructure in coastal areas, limited economic bases, high dependence on international tourism and climate-sensitive ecosystems and limited financial, technical, and institutional capacity for adaptation. Expected impacts of climate change in the Caribbean region for the upcoming years include: (i) sea level rise (SLR); (ii) decreased mean annual precipitations; (iii) increased annual temperatures; (iv) increased sea surface temperature; and (v) increased storm

activity and intensity. The implications of these changes on the socio-economic and environmental conditions are expected to be significant, including the degradation of coastal ecosystems.

- 3.2 Coastal coral reefs have been documented (Vergara et al, 2009) to have substantial economic services to coastal communities in the Caribbean. The value of services provided by corals in the Caribbean, including primary loss in productivity of fisheries, coastal protection, tourism and others has been estimated in US\$5-11 billion/year. These ecosystems have been identified as one of the most vulnerable to the impacts of climate change and, even though impacts may vary across regions and localities, it is virtually certain that these will be overwhelmingly negative<sup>1</sup>. Thermal stresses, low adaptive capacity of coral reef systems together with small variations in sea surface temperatures are projected to increase the frequency of coral bleaching and morbidity<sup>2</sup>. The negative effects of these climate change impacts are exacerbated by existing anthropogenic stressors such as population growth, over-fishing and pollution increase, which are also likely to increase. Under these and the projected conditions, reefs that are already stressed may not survive or may be degraded to the extent that they could not be considered as functional or healthy. In order to provide some measure of resilience, coral reef rehabilitation practices will have to be implemented together with ecosystem management interventions.
- 3.3 The Buccoo Reef Marine Park is Tobago's main tourism attraction with over 50% of the island's tourists visiting the site. Tourism accounts for 46% of Tobago's GDP, and employs 60% of its workforce. The economic contribution of tourism associated with the reef alone has been estimated at US\$7-8.8 million per year. Furthermore, it protects a low-lying and developed section of Tobago's shoreline from erosion and storm damage, avoiding an estimated US\$5.6 to US\$10 million per year in damages<sup>3</sup>. Over the years the system has been negatively impacted by overcapacity of visitors to the site, and excessive land-based pollution. A study of water quality and benthic biota at fringing coral reefs in Tobago found that recent increases in local nutrient pollution, particularly from sewage, had pushed Tobago's coral reefs over the threshold indicative of eutrophication on Caribbean coral reefs.<sup>4</sup> Additionally there are more recent negative impacts related to climate change in which mass coral reef bleaching events associated with increases in seawater temperature have occurred. Bleaching events were first observed at Buccoo Reef in 1998 and, since then, have become a regular occurrence. These impacts will most likely be exacerbated if no mitigation action is taken.
- 3.4 The Cropper Foundation (TCF), in collaboration with world-renowned Trinidad and Tobago artist Peter Minshall, has conceptualized a three-year project to create an underwater art installation called "Tobago Water Colors<sup>5</sup>", to help address the indirect effects of climate change on Buccoo Reef by serving as a rival tourist attraction. Fewer tourists would spend less disruptive man-hours on the reef stimulating and accelerating its rehabilitation and remediation. There is precedent for the use of underwater sculpture parks as rival tourist attractions to coral reefs and as successful conservation and remediation methods in Cancun (Mexico); Molinere Bay (Grenada); New Providence (The Bahamas); and the Florida Keys (USA). In

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<sup>1</sup> Intergovernmental Panel on Climate Change, IPCC Fourth Assessment Report: Climate Change (2007).

<sup>2</sup> Ibid

<sup>3</sup> Burke, L., S. Greenhalgh, D. Prager and E. Cooper, 2008. Coastal Capital: Economic Valuation of Coral Reefs in Tobago and St. Lucia. World Resources Institute, Washington, DC, 2008.

<sup>4</sup> Lapointe, B. et al, 2010. Land-based nutrient enrichment of the Buccoo Reef Complex and fringing coral reefs of Tobago, West Indies. Marine Pollution Bulletin 60 (2010) 334–343

<sup>5</sup> A draft concept note submitted to IDB by The Cropper Foundation can be seen [here](#).

addition, underwater parks of this nature foster economic development, not only from the community based industries that are developed around them (as it is the case for Molinere Bay), but also from the direct income that these provide to their countries and surrounding communities. The Subaquatic Museum of Art in Cancun (MUSA) is the world's largest underwater museum with over 500 permanent life-size sculptures. It attracts approx. 300,000 visitors per year, generating over US\$40 million in profits<sup>6</sup>.

- 3.5 As part of the "Tobago Water Colors" initiative, a "Water Colors Trust Fund" will be established with earnings from park's ticket and memorabilia sales, making the attraction a novel, long-term, sustainable, income-generating mechanism for financing management and activities at Buccoo Reef<sup>7</sup>, with a focus on climate change adaptation. Water Colors will achieve Triple Bottom Line outcomes, benefitting Tobago's economy by giving the island another marketable attraction (and local communities' craftspeople new souvenir and memorabilia trades - cultural and creative industries), contributing to environmental benefits and enhancing Trinidad and Tobago's cultural heritage by providing the country's first major public artwork.
- 3.6 The Government of Trinidad and Tobago identified cultural and creative industries as one of its six business development priorities<sup>8</sup> as they represent untapped economic potential, and make a positive contribution to innovation and other sectors of the economy through supply chain effects. Cultural industries include visual and performing arts, festivals, museums, audiovisual production (film, TV, radio), music and crafts, among others. Creative industries range from digital animation, software development, video games, to interactive multimedia and scientific visualization. In Trinidad and Tobago, cultural and creative industries are estimated to account for 4.8% of GDP and 5% of all jobs in 2011. These industries are growing rapidly and outperforming other exportable sectors. The net flow of foreign exchange derived from these industries grew from US\$32 million in 2000 to US\$50 million in 2011. In the Americas, they account for approximately US\$87 billion of world creative exports, approx. 14% of the world total<sup>9</sup>. If the Caribbean is to continue to increase competitiveness in this changing global environment, it needs to promote the right conditions for creativity and innovation to prosper in a new entrepreneurial culture.
- 3.7 The objective of this Technical Cooperation (TC) is to pilot an innovative approach to climate change adaptation and to support sustainable and environmentally friendly development for Tobago's economy. Specifically, it will undertake a feasibility assessment for the implementation of a large underwater art installation to facilitate the natural recovery of the Buccoo Reef and provide a new source of income for the tourism and cultural and creative industries. The park will serve as a rival attraction reducing the number of visitors to the reef thereby facilitating its natural recovery.
- 3.8 The proposed TC will contribute to the following the Ninth General Capital Increase (GCI-9) lending targets: (i) supporting development in small and vulnerable countries (GN-2616-2); and (ii) climate change, sustainable (including renewable) energy, and environmental sustainability. It is also aligned with the IDB's Integrated Strategy for Climate Change Adaptation and Mitigation and Sustainable Renewable Energy (GN-2609-1) and its Action Plan (GN-2609-3) as well as with the objectives of the

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<sup>6</sup> Information obtained though in person communication.

<sup>7</sup> It is expected that once the trust fund is in full effect, the activities financed will be expanded to other areas of Tobago and cover different approaches to remediation and climate change adaptation.

<sup>8</sup> Building Competitive Advantage, Ministry of Planning and Sustainable Development 2012.

<sup>9</sup> WIPO. 2011. WIPO Studies on the Economic Contribution of the Copyright Industries. Building Competitive Advantage, Six strategic business clusters. Ministry of Planning and Sustainable Development, Government of The Republic of Trinidad and Tobago (2012).

Biodiversity and Ecosystem Services program. Finally it is also aligned with the development pillars of the recently updated Institutional Strategy for the Bank (2010-2020) by promoting innovation and sustainable growth and contributing to the region's efforts to cope with climate change, while also developing the region's creative economy.

- 3.9 This TC has synergies with other IDB on-going projects such as the "Caribbean Smart Islands Program (RG-T2543)" and "Piloting the Integration of Coastal Zone of Management and Climate Change Adaptation in Tobago (TT-T1034)" led by INE/CCS; "Water and Sewerage Authority of Trinidad and Tobago Modernization and Wastewater Infrastructure Rehabilitation Program (TT-L1018)", "Multi-phase Wastewater Rehabilitation Program-Phase I (TT-L1026)", and "Testing a Prototype Caribbean Regional Fund for Wastewater management GEF (TT-X1011)" led by INE/WSA; "Feasibility Studies for a risk-resilient Coastal Zone Management program (TT-T1038)" led by Environment, Rural Development and Natural Disasters Division (INE/RND); and "Program to promote PPPs for infrastructure in T&T (TT-M1019)" and "ICT Innovations for the Development of the Masquerade Industry of T&T (TT-M1021)" led by MIF. It supports inter-divisional collaboration within INE and with the private sector of the Bank and has great potential to lead to bigger investment opportunities for the IDB.

#### **IV. Description of activities/components and budget**

- 4.1 **Component I. Piloting of an underwater installation for adaptation (US\$230,000).** This component will finance: (i) the final identification of the project site, based on environmental and aesthetic assessment of at least 3 potential project sites in Tobago, that will be evaluated in terms of their environmental capacity to support the establishment of the water park as well as their appropriateness from an attraction and business point of view<sup>10</sup>; (ii) an Environmental and Social Management Plan for the selected project site; (iii) a Management Plan for the pilot attraction;<sup>11</sup> and (iv) the production and deployment of two pilot sculptures. All these activities will generate information about the design and management of the bigger art installation in regards to appropriate materials for the marine environment, construction and deployment methodologies/techniques, among others. The expected results of this component are: (i) the selection of the final project site as well as appropriate environmental and operations and management plans; and (ii) the determination of the feasibility and potential for scaling-up of the pilot activities.
- 4.2 **Component II. Study on water pollution mitigation (US\$170,000).** This component will finance a feasibility study for water pollution control in the Buccoo Reef area by undertaking a hydrological study, nutrient study, discharge audit/cadaster, treatment level study and a cost study. The result of this component is the assessment of current pollution levels and the identification of interventions and infrastructure needs that could be implemented to improve water quality in Buccoo Reef.
- 4.3 **Component III. Market, feasibility and communications & marketing (US\$90,000).** This component will finance: (i) an economic and financial feasibility study for the larger art installation; (ii) a market study to identify the optimal financial conditions for the success of the attraction, such as willingness of visitors and private

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<sup>10</sup> A preliminary environmental assessment of Buccoo Reef, Tobago, with the aim of ascertaining potential sites for the underwater sculpture park at or near the reef, and possible environmental effects was carried out by the executing agency in 2015. The report is available [here](#).

<sup>11</sup> The completion of the activities listed under (i), (ii) and (iii) above, to the Bank's satisfaction, will be a condition precedent for the execution of the activity listed under (iv) herein.

stakeholders to respectively visit the new attraction and include it in the current tourist supply portfolio, forecast of annual income, and identify ways to attract sponsors and private sector involvement; and (iii) a communications & marketing plan/campaign to determine the best channels and ways (including marketing materials) to promote the attraction to its target audience. As part of the communications plan, an analysis will be conducted to determine tourism, cultural and creative products and services that could complement the park's merchandise. The activities under this component will provide inputs to design the "Water Colors Trust Fund" which is of utmost importance for the sustainability of the project. The results of this component are: (i) the generation of key information to ensure sound economic and financial basis; and (ii) a communications campaign to reach the target audience and promote this unique attraction and the industries around it.

**Indicative Results Matrix**

Component/Description	Unit	Baseline (2015)	Yr 1	Yr 2	Completion Date	Data Source
<b>Component 1. Piloting of an underwater installation for adaptation</b>						
Environmental and Social Management Plan of project site	Nº	0	1	0	2016	EMP Report
Management plan for pilot attraction	Nº	0	1	0	2016	MP Report
Piloted underwater sculptures	Nº	0	0	2	2016	Semi-Annual Report
<b>Component 2. Study on water pollution mitigation</b>						
Feasibility studies for water pollution control	Nº	0	1	0	2016	Feasibility study Report
<b>Component 3. Market, feasibility and communications study</b>						
Economic and financial feasibility study	Nº	0	0	1	2016	Feasibility study Report
Market studies	Nº	0	0	1	2017	Market study Report
Communication plans/campaigns	Nº	0	0	1	2017	Communications Report

- 4.4 The total cost of this project is expected to be US\$692,000, of which US\$555,000 will come from non-reimbursable resources of the Bank, and US\$137,000 will be provided as a combination of in kind and in cash by TCF in its role as executing agency for the project.

**Indicative Budget (US\$)**

Component	Description	IDB	Counterpart		Total
			Cash	In Kind	
Component I. Piloting an innovative approach to climate change adaptation	Final selection of project site	7,000	7,000	0	14,000
	Environmental and Social Management Plan for project site	13,000	10,000	0	23,000
	Management plan for pilot attraction	20,000	10,000	5,000	35,000
	Production and deployment of two underwater sculptures	190,000	0	0	190,000
Component II. Study on water pollution mitigation	Feasibility study for water pollution control	170,000	12,000	8,000	190,000

Component	Description	IDB	Counterpart		Total
Component III. Market, feasibility and communications & marketing	Market study	30,000	3,000	2,000	35,000
	Economic and financial feasibility study	30,000	3,000	2,000	35,000
	Communication and Marketing plan/campaign	30,000	0	5,000	35,000
Project administration		40,000	40,000	0	80,000
M&E		15,000	10,000	20,000	45,000
Auditing		10,000	0	0	10,000
<b>Total</b>		<b>555,000</b>	<b>95,000</b>	<b>42,000</b>	<b>692,000</b>

- 4.5 **Technical and supervisory responsibility:** INE/CCS (through the Team Leader) will have technical and supervisory responsibility for the execution of the project. The IDB Country Office in Trinidad and Tobago (CTT) will provide routine operational support in its role of Unit with Disbursement Responsibility providing support for field supervision and procurements under this project. The main contact at CTT will be the Operations Associate assigned to the program.
- 4.6 **Monitoring and evaluation:** TCF will monitor the progress of all project activities and will submit progress reports to the Bank on January 1<sup>st</sup> and July 1<sup>st</sup> of each operational year. These reports will follow standard IDB format and will address program activities and finances, as well as results achieved. TCF will also facilitate the undertaking of an independent mid-term evaluation when 50% of the resources have been disbursed and a final evaluation when 90% of the resources have been disbursed. The evaluation will consider the execution of the project from a technical, institutional and financial point of view. The technical team will also report to the donors providing funding according to applicable Bank policies.
- 4.7 **Audits:** TCF will manage the project's financial resources and will follow the Bank's standard procedures for auditing, international accounting norms and reporting. TCF will also establish and maintain a separate and specific bank account to manage the resources of this project. It will prepare and submit to the IDB the project's final financial statements within 90 days after the date of the last disbursement. The statements will be audited by an independent accounting firm acceptable to the IDB, based on terms of reference agreed to by the IDB.

## V. EXECUTING AGENCY AND EXECUTION STRUCTURE

- 5.1 **Executing Agency (EA):** This TC will be executed by The Cropper Foundation (TCF). The Bank, through its Climate Change and Sustainability Division (INE/CCS), will monitor and supervise its execution. TCF will coordinate all activities with the different stakeholders and will hire the consultants for the activities under the project. TCF is a not-for-profit organization established in 2000 with a focus on environmentally-sustainable and economically-equitable development in Trinidad and Tobago (T&T). Its work is geared towards influencing local, regional and global development policy and practice so that socio-economic and political issues and environmental concerns are addressed in a holistic manner, within the framework of sustainable development. TCF has experience managing Bank resources in the past as the executing agency in a project called "Implementation of Sustainable Farming Practices in Trinidad's Northern Range Communities – TT-M1017", whose objective was to build capacity among small-scale farmers in T&T in the use of sustainable farming practices.

- 5.2 **Executing mechanism:** TCF will provide the overall oversight of the TC but will liaise with the team at the IDB when necessary. Also, a Project Coordinator with technical knowledge and project management skills will be contracted to assist with overseeing all the activities developed under this proposal.
- 5.3 **Procurement:** Procurement of goods and services or consulting services will be carried out by the executing agency according to the IDB Policies for the Selection and Contracting of Consultants Financed by the IADB (GN-2350-9) and for the Procurement of Goods and Works Financed by the IADB (GN-2349-9). To carry out activity (iv) in Component I - Production and deployment of two underwater sculptures -, Single Source Selection will be applied for the following reasons: (i) Mr. Minshall (and team) is the artist involved with the TCF in the creation of the “Tobago Water Colors” project; (ii) he agreed to donate his intellectual property as his contribution to Tobago’s tourism product; and (iii) his expertise and skills are unique and absolutely necessary for the completion of the artwork involved in this project. This activity involves the procurement of goods representing over 34% of the total amount of the TC funded by the Bank. The proposed exception to the 30% investment cap set forth on the Bank’s policy on technical cooperation (GN-2470-2) is justified because this activity is critical to achieve the project’s objectives because all other components and activities evolve around the creation of this art work.

## **VI. MAJOR ISSUES**

- 6.1 The main risks in this project will be: (i) low interest of the target audience in visiting and paying for the proposed attraction, which will be mitigated by developing and implementing a communication and marketing campaign for the pilot art work; and (ii) resistance to utilize the selected pilot project site by tour operators. This will be mitigated by stakeholder involvement activities during design and implementation of the project.

## **VII. EXCEPTIONS TO BANK POLICY**

- 7.1 An exception to the Bank’s Technical Cooperation Policy (GN-2470-2) has been requested to the corresponding delegated approval power for this operation.

## **VIII. ENVIRONMENTAL AND SOCIAL STRATEGY**

- 8.1 This TC has been classified as Category “B” per the Environment and Safeguards Compliance Policy (OP-703) (see [Safeguard Policy Filter/Safeguard Screening Form](#)). This category requires the development of an Environmental Assessment (EA) and an Environmental and Social Management Plan (ESMP) which is being covered in Component I.<sup>12</sup>

## **IX. Required Annexes:**

- Annex I: [Letter of Request](#)
- Annex II: [Terms of Reference](#)
- Annex III: [Procurement Plan](#)

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<sup>12</sup> The EA and the ESMP will be prepared (i) prior to the construction and deployment of the sculptures and (ii) there will be the monitoring of the implementation of the ESMP mid-way during the period of its implementation.



# THE CROPPER FOUNDATION

19 January 2015

Mr. Julian Belgrave  
Acting Country Representative  
Inter-American Development Bank  
17 Alexandra Street  
St. Clair  
Trinidad

## **Re: Application to the IDB's Climate Change and Sustainability Division by The Cropper Foundation**

Dear Mr. Belgrave

The Cropper Foundation intends to combat the effects of climate change on Tobago's Buccoo Reef by creating a major underwater art installation near the reef by world-renowned Trinidad and Tobago artist, Peter Minshall (whose accomplishments include a Guggenheim Fellowship and the opening ceremonies of the Barcelona, Atlanta, and Salt Lake City Olympic Games). There is precedent for the use of underwater sculpture parks as rival attractions to (and as successful conservation tools for) coral reefs in Mexico, Grenada and the USA, and the Foundation intends to apply to the Climate Change and Sustainability Division of the Inter-American Development Bank (IDB) for project funding.

Buccoo Reef, as Tobago's main attraction, contributes about USD 250 million per year to the island's economy. Climate change has contributed to the reef's poor state by dramatically increasing bleaching (an often-fatal coral disease, triggered when the seawater becomes too warm). Pollution from nearby resort-based villages also accelerates seaweed overgrowth of the reef's corals—with tourist activity exacerbating the problem by scaring off the fish that keep the suffocating seaweed in check. Traditional methods of managing the reef, and the effects of climate change on it, have failed due to poor funding and the concomitant dearth of enthusiasm by underpaid reef managers for their work.

The Cropper Foundation's proposed artwork, *Water Colours*, will cause tourists to spend fewer disruptive man-hours on the reef (e.g., scaring away seaweed-grazing fish), so stimulating its rehabilitation. This will also enhance the corals' ability to cope with climate change-related bleaching. A trust fund will also be established with *Water Colours*' ticket and memorabilia earnings, making the attraction a novel, sustainable, income-generating mechanism for financing management and remediation activities at Buccoo Reef. Additionally, *Water Colours* will benefit Tobago's economy by giving the island another marketable attraction, and enhance Trinidad and Tobago's cultural heritage by providing the country's first major public artwork. *Water Colours* is supported by the Tobago House of Assembly, Trinidad and Tobago's Institute of Marine Affairs, and The University of the West Indies. It is also viewed favorably by Mr. Gerard Alleng (Senior Specialist in the IDB's Climate Change and Sustainability Division), and by Senator Dr. the Honourable Bhoendradatt Tewarie (Minister of Planning and Sustainable Development in the Government of the Republic of Trinidad and Tobago).

*Water Colours* entails two phases. In an initial four-month "Water Colours: Research and Development Phase" project, Mr. Minshall and his team will select the best location for the sculpture park and site-specifically design the artwork. This project will also involve a market study to forecast the attraction's



annual income. In the subsequent 32-month “*Water Colours*: Creation and Installation Phase” project, the artist and his collaborators will create, install and unveil the sculptures. The four-month “*Water Colours*: Research and Development Phase” project—for which funding from the Climate Change and Sustainability Division of the Inter-American Development Bank is being sought—will cost USD 140,280.67 (of which USD 129,830.67 is being requested from the Climate Change and Sustainability Division of the Inter-American Development Bank, with in-kind funding amounting to USD 10,450.00).

I thank you for your consideration, and will be happy to address any questions or concerns you may have. I have attached a copy of the project’s Concept Note, which provides additional project details.

Yours faithfully

A handwritten signature in black ink, appearing to read "Mark Thomas". The signature is fluid and cursive, with the first name "Mark" and last name "Thomas" clearly distinguishable.

Mark Thomas  
Chief Executive Officer



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***Office of the Chief Secretary***  
**Chief Administrator's Office**  
**Tobago House of Assembly**  
**Administrative Complex, Calder Hall**  
**Scarborough, Tobago, W.I.**  
Tel. No. (868) 660-7511, Fax. (868) 639-4151

**January 21<sup>st</sup> 2015**

**Dr. Mark Thomas**  
**Cropper Foundation**  
**Building No. 7 Fernandes Industrial Complex**  
**Laventille**  
**Trinidad**

**Dear Dr. Thomas,**

I am pleased to advise that the Tobago House of Assembly (THA) fully supports the establishment of the "Peter Minshall's Water Colours Underwater Sculpture Park (ARESEA PROJECT) in Tobago. The THA also wishes to compliment you and the Cropper Foundation for its informative presentation of the project proposals and for choosing Tobago as the location for the establishment of such a wonderful initiative.

We believe that the project's objectives, as well as the expected social and ecological impacts are consistent with the policies presented in the THA's Comprehensive Economic Development Plan.

In light of the foregoing, the THA is pleased to give its approval for the execution of the project in Tobago. As was stated at our meeting on February, 17<sup>th</sup> 2014; the THA's approval is conditional upon the Institute of Marine Affairs (IMA) being involved in the project feasibility study and the employment of a suitable Tobago-based marketing Consultant to assist with your feasibility assessment.

We thank you for considering working with the THA for the sustainable development of our island.

**Yours respectfully,**

A handwritten signature in blue ink, appearing to read "D. Sanchez", is written over the typed name of the Chief Administrator.

**Chief Administrator**  
**Tobago House of Assembly**



**Ministry of Planning and Sustainable Development**  
*Office of the Permanent Secretary*

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Level 14 Eric Williams Finance Building  
Independence Square, Port-of-Spain, Trinidad and Tobago, WI  
Tel: 627-9711/ Fax 623-8123

March 10, 2015

**Mr. Julian Belgrave**  
**Representative a.i.**  
**Inter-American Development Bank**  
**17 Alexandra Street**  
**St. Clair**  
**Port of Spain**

Dear Mr. Belgrave,

**Re: Peter Minshall's Water Colours Underwater Sculpture Park – ARESEA PROJECT - Tobago**

I refer to a correspondence received by the Ministry of Planning and Sustainable Development on February 12, 2015 from the Tobago House of Assembly (THA) regarding the above captioned programme.

As you are aware, the financing requested for this Technical Cooperation will support an initial feasibility study phase called "Water Colours: Research and Development", which entails a study of the ideal location for the sculpture park. Additionally, the project will involve a market study to ascertain the optimal ticket and memorabilia prices for the attraction, forecast its annual income, and determine the best way to advertise it to its target audience.

The THA underscored that the project's objectives, as well as the expected social and ecological impacts will be consistent with the policies in the THA's Comprehensive Economic Development Plan. Furthermore, the realization of this project will be vital to the tourism sector in Tobago.

After review of the Technical Cooperation abstract, please note that the Ministry of Planning and Sustainable Development supports this initiative, which is to be implemented in Tobago by the Cropper Foundation.

We look forward to the Bank's continued support in this critical area and assure you of Government's commitment to the successful execution of this program.

Sincerely,

A handwritten signature in blue ink, appearing to be 'CML', is written above a horizontal line.

Permanent Secretary  
Ministry of Planning and Sustainable Development

**INTER-AMERICAN DEVELOPMENT BANK**  
**CLIMATE CHANGE AND SUSTAINABILITY DIVISION (INE/CCS)**  
**PROJECT COORDINATOR**  
**PILOTING AN INNOVATIVE APPROACH TO ADAPTATION IN TOBAGO (TT-T1057)**

**TERMS OF REFERENCE**

**I. BACKGROUND**

- 1.1 Caribbean nations are particularly vulnerable to the effects of climate change as a result of their relative isolation, small land masses, concentrations of population and infrastructure in coastal areas, limited economic bases, high dependence on international tourism and climate-sensitive ecosystems and limited financial, technical, and institutional capacity for adaptation. Coastal coral reefs have been documented (Vergara et al, 2009) substantial economic services to coastal communities in the Caribbean. The value of services provided by corals in the Caribbean, including primary loss in productivity of fisheries, coastal protection, tourism and others has been estimated in US\$5-11 billion/year. These ecosystems have been identified as one of the most vulnerable to the impacts of climate change and, even though impacts may vary across regions and localities, it is virtually certain that these will be overwhelmingly negative<sup>1</sup>. Thermal stresses, low adaptive capacity of coral reef systems together with small variations in sea surface temperatures are projected to increase the frequency of coral bleaching and morbidity<sup>2</sup>. The negative effects of these climate change impacts are exacerbated by existing anthropogenic stressors such as population growth, over-fishing and pollution increase, which are also likely to increase. Under these and the projected conditions, reefs that are already stressed may not survive or may be degraded to the extent that they could not be considered as functional or healthy. In order to provide some measure of resilience, coral reef rehabilitation practices will have to be implemented together with ecosystem management interventions.
- 1.2 The Buccoo Reef Marine Park is Tobago's main tourism attraction with over 50% of the island's tourists visiting the site. Tourism accounts for 46% of Tobago's GDP, and employs 60% of its workforce. The economic contribution of tourism associated with the reef alone has been estimated at US\$7-8.8 million per year. Furthermore, it protects a low-lying and developed section of Tobago's shoreline from erosion and storm damage, avoiding an estimated US\$5.6 to \$10 million per year in damages<sup>3</sup>. Over the years the system has been negatively impacted by overcapacity of visitors to the site, excessive land based pollution. A study of water quality and benthic biota at fringing coral reefs in Tobago found that recent increases in local nutrient pollution, particularly from sewage, had pushed Tobago's coral reefs over the threshold indicative of eutrophication on Caribbean coral reefs (La Pointe, 2007). Additionally there are more recent negative impacts related to climate change in which mass coral reef bleaching events associated with increases in seawater temperature have occurred. Bleaching events were first observed at Buccoo Reef in 1998 and, since then, have occurred in 2002, 2005, 2008,

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<sup>1</sup> Intergovernmental Panel on Climate Change, IPCC Fourth Assessment Report: Climate Change (2007).

<sup>2</sup> Ibid

<sup>3</sup> Burke, L., S. Greenhalgh, D. Prager and E. Cooper. Coastal Capital: Economic Valuation of Coral Reefs in Tobago and St. Lucia. 1-66 (World Resources Institute, Washington, DC, 2008).

2010, 2012, 2013, and 2014—making what was once a rare occurrence a regular event. These impacts will most likely be exacerbated if measures are not put in place to alleviate the level of stressors to the system.

- 1.3 The Cropper Foundation, in collaboration with world-renowned Trinidad and Tobago artist Peter Minshall, has conceptualized a three-year project to create an underwater art installation called “Tobago Water Colors<sup>4</sup>”, which will help addressing the indirect effects of climate change on Buccoo Reef by serving as a rival tourist attraction to the reef. Fewer tourists would spend less disruptive man-hours on the reef stimulating and accelerating its rehabilitation and remediation. As part of the initiative a “Water Colors Trust Fund” will be established with earnings from park’s ticket and memorabilia sales, making the attraction a novel, long-term, sustainable, income-generating mechanism for financing management and activities at Buccoo Reef<sup>5</sup> with a focus on climate change adaptation.
- 1.4 The work proposed in this technical cooperation (TC) is geared towards piloting an innovative approach to climate change adaptation and supporting sustainable and environmentally friendly development for Tobago’s economy by undertaking a feasibility assessment for the implementation of a large underwater art installation that will help facilitate the natural recovery of the reef and provide a new source of income for the tourism and cultural and creative industries. The park will serve as a rival attraction reducing the number of visitors to Buccoo Reef and facilitating its natural rehabilitation and remediation.

## **II. OBJECTIVE OF THE CONSULTANCY**

- 2.1 The objective of this consultancy is to coordinate the activities of the TC entitled ‘Piloting an Innovative Approach to Adaptation in Tobago (TT-T1057)’. Successful implementation of this project is expected to contribute to the development of the underwater art installation “Tobago Water Colors” including its environmental management, economic and financial feasibility, operation and maintenance and creative industries to be developed around the attraction.

### **A. Specific Tasks**

- 2.2 The contractual in the role of Project Coordinator (PC) will network and collaborate with The Cropper Foundation’s (TCF) staff and other relevant stakeholders as well as with the IDB. The PC will help to ensure that the procurement of goods and services on this project is in accordance with agreed IDB procurement guidelines and standards. The PC will:
  - i. Manage the contractual(s) who will deliver the technical components of the project.
  - ii. Assist in the development of all activities under the project.
  - iii. Manage and control the project documents, logistics, procurement, outputs and publications.

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<sup>4</sup> A draft concept note submitted to IDB by The Cropper Foundation can be seen [here](#).

<sup>5</sup> It is expected that once the trust fund is in full effect, the activities financed will be expanded to other areas of Tobago and cover different approaches to remediation and climate change adaptation.

- iv. Use project management tools and techniques to facilitate successful implementation of all components of the project, paying attention to the management of resources, the keeping of financial and other records; stakeholder relationship and communications and visibility.
- v. Monitor project implementation and prepare periodic monitoring reports (technical and financial) ensuring timely submission.
- vi. Coordinate project activities to ensure that each component is implemented in accordance with the program objectives.
- vii. Liaise and facilitate the audit exercise to be completed at the end of the program.

2.3 Collaborate with TCF and the IDB to facilitate project review missions by the IDB and plan and organize mid-term reviews.

## **B. Deliverables**

2.4 A detailed work plan, methodology and implementation schedule within ten (10) working days after commencement of the assignment.

2.5 Submission of periodic program reports in accordance with agreed schedule.

2.6 Ensure the delivery of all products under the various components by respective contractuels hired under the program.

## **III. CONSULTANCY CHARACTERISTICS**

3.1 Type of consultancy: Individual contractual.

3.2 Duration: 14 months from the date of the signing of the contract.

3.3 Post of Duty: The contractual will be based at the TCF.

3.4 Payment Schedule: Remuneration will be monthly and contingent on the submission of satisfactory progress reports to TCF.

## **IV. RESPONSIBLE UNIT AND SUPERVISOR**

4.1 The PC will work under the day-to-day supervision of Mr. Mark Thomas, CEO at The Cropper Foundation and will also report, when necessary to the Team leader at the IDB.

## **V. REQUIREMENTS**

5.1 A post-graduate degree (Master's preferred) or equivalent professional experience, in environmental economics, environmental or coastal zone management, sustainable development or related areas. Project management training required.



- 5.2 Minimum five (5) years of experience in the coordination and management of projects, preferably in an area related to climate resilience, e.g. coastal zone management; natural resources management; disaster risk management etc.
- 5.3 Knowledge and understanding of the adaptation to climate change; working experience in the Caribbean.
- 5.4 Excellent command in English (speaking, reading and writing).

# PILOTING AN INNOVATIVE APPROACH TO ADAPTATION IN TOBAGO

Project Number: TT-T1057

Period comprised in this Procurement Plan: From November 2015 to January 2017

Ref No. 1	Description of main procurement activities during the next 14 months.	Estimated cost in (US\$)	Procurement method <sup>2</sup>	Review (ex ante or ex post)	Source of financing and percentage		Prequalification <sup>3</sup> (Yes / No)	Estimated Dates		Status <sup>4</sup> (pending, in process, awarded, cancelled)	Comments
					IDB %	Local/ Other %		Publication of specific procurement notice	Completion of contract		
<b>1</b>	<b>PROCUREMENT OF WORKS</b>										
	Purchase and installation of pilot underwater sculptures.	<b>\$190,000</b>	DC	Ex ante	\$190,000	0	No		November 2016	Pending	
<b>1</b>	<b>CONSULTING SERVICES</b>	<b>\$460,000</b>									
	<b>Consulting Services 1:</b> Selection of project site, Environmental and Social Management Plan of project site and Management Plan for pilot attraction.	\$67,000	QCII/QCNI	Ex ante	\$40,000	\$27,000	No		April 2016	Pending	
	Description: The consultancy will consist of a review of the preliminary site assessment study undertaken by TCF to select the final project site based on environmental and logistical factors and will include the development of an Environmental and Social Management Plan and a Management Plan for the site and pilot art installation.										
	<b>Consulting services 2:</b> Development of a	\$182,000	QCBS	Ex ante	\$170,000	\$12,000	No		June	Pending	

	Feasibility study for water pollution control.								2016		
	Description: The consultancy will undertake a feasibility study for water pollution control in the Buccoo Reef area by undertaking a hydrological study, nutrient study, discharge audit/cadaster, treatment level study and a cost study.										
	<b>Consulting services 3:</b> Development of an economic and financial feasibility study.	\$33,000	QCII/QCNI	Exante	\$30,000	\$3,000	No		July 2016	Pending	
	Description: The consultancy will assess the economic and financial feasibility of the bigger Water Colors project generating key information that will ensure a sound economic and financial basis.										
	<b>Consulting services 4:</b> Development of a Market study.	\$33,000	QCII/QCNI	Exante	\$30,000	\$3,000	No		July 2016	Pending	
	Description: The consultancy will involve a market study to identify the optimal financial conditions for the success of the attraction, such as willingness of visitors and private stakeholders to respectively visit the new attraction and include it in the current tourist supply portfolio, forecast of annual income, and identify ways to attract sponsors and private sector involvement.										
	<b>Consulting services 5:</b> Communications and Marketing plan/campaign.	\$30,000	CQS	Exante	\$30,000	0	No		December 2016	Pending	
	Description: The consultancy will identify ways to attract sponsors and private sector involvement and determine the best channels and ways of promoting the attraction to its target audience (inclusive of materials). As part of the study, an analysis will be conducted to determine tourism, cultural and creative products and services that could complement the park's merchandise.										

	<b>Consulting services 6: Project Coordinator</b>	\$80,000	QCII/QCNI	Ex ante	\$40,000	\$40,000	No		January 2017	Pending	
	Description: A consultant will be contracted to ensure successful implementation of the project, manage the consultants who will undertake the different components under the program, manage and control the project documents, logistics, procurement, output and publications and overall coordination of the program.										
	<b>Monitoring and Evaluation</b>	\$25,000	CQS	Ex post	\$15,000	\$10,000	No		January 2017	Pending	
	<b>Auditing</b>	\$10,000	CQS	Ex post	\$10,000	0	No		January 2017	Pending	

<sup>2</sup> **Goods and Works:** ICB: International competitive bidding; LIB: limited international bidding; NCB: national competitive bidding; PC: price comparison; DC: direct contracting; FA: force account; PSA: Procurement through specialized agencies; PAs: Procurement agents; IA: Inspection agents; PLFI: Procurement in loans to financial intermediaries; BOO/BOT/BOOT: Build, own, operate/build, operate, transfer/build, own, operate, transfer; PBP: Performance-based procurement; PLGB: Procurement under loans guaranteed by the Bank; PCP: Community participation procurement; **Consulting Firms:** QCBS: Quality- and cost-based selection; QBS: Quality-based selection; FBS: Selection under a fixed budget; LCS: Least-cost selection; CQS: Selection based on the consultants' qualifications; SSS: Single-source selection; **Individual Consultants:** QCNI: Selection based on comparison of qualifications of national individual consultants; QCII: Selection based on comparison of qualifications of international individual consultants.

<sup>3</sup> Applicable only to Goods and Works in case the new Policies apply. In the case of previous Policies, it is applicable to Goods, Works and Consulting Services.

<sup>4</sup> Column "Status" will be used for retroactive procurement and when updating the procurement plan.

## SAFEGUARD POLICY FILTER REPORT

PROJECT DETAILS	
IDB Sector	ENVIRONMENT AND NATURAL DISASTERS-BIODIVERSITY AND PROTECTED AREAS CONSERVATION
Type of Operation	Other Lending or Financing Instrument
Additional Operation Details	
Investment Checklist	Generic Checklist
Team Leader	Alleng, Gerard P. (GERARDA@iadb.org)
Project Title	Tobago Water Colours Adaptation Project
Project Number	TT-T1057
Safeguard Screening Assessor(s)	Alleng, Gerard P. (GERARDA@iadb.org)
Assessment Date	2015-10-16

SAFEGUARD POLICY FILTER RESULTS		
Type of Operation	Technical Cooperation	
Safeguard Policy Items Identified (Yes)	Activities to be financed by the project are in a geographical area and sector exposed to natural hazards* (Type 1 Disaster Risk Scenario).	(B.01) Disaster Risk Management Policy– OP-704
	The operation is in compliance with environmental, specific women's rights, gender, and indigenous laws and regulations of the country where the operation is being implemented (including national obligations established under ratified Multilateral Environmental Agreements).	(B.02)
	The operation (including associated facilities) is screened and classified according to their potential environmental impacts.	(B.03)
	The operation may be of higher risk due to controversial environmental and associated social issues or liabilities.	(B.04)
	The project is specifically designed to increase the capacity of human social and ecological systems to adapt to a changing climate.	(B.04)
	The project includes activities to close current "adaptation deficits" or to increase the capacity of human social and ecological systems to adapt to a changing climate.	(B.04)
	An Environmental Assessment is required.	(B.05)

	Consultations with affected parties will be performed equitably and inclusively with the views of all stakeholders taken into account, including in particular: (a) equal participation of women and men, (b) socio-culturally appropriate participation of indigenous peoples and (c) mechanisms for equitable participation by vulnerable groups.	(B.06)
	The Bank will monitor the executing agency/borrower's compliance with all safeguard requirements stipulated in the loan agreement and project operating or credit regulations.	(B.07)
	Environmental or culturally sensitive areas, defined in the Policy as critical natural habitats or critical cultural sites in project area of influence.	(B.09)
	Conversion of Natural Habitats in project area of influence.	(B.09)
	Suitable safeguard provisions for procurement of goods and services in Bank financed projects may be incorporated into project-specific loan agreements, operating regulations and bidding documents, as appropriate, to ensure environmentally responsible procurement.	(B.17)
<b>Potential Safeguard Policy Items(?)</b>	No potential issues identified	
<b>Recommended Action:</b>	<p>Operation has triggered 1 or more Policy Directives; please refer to appropriate Directive(s). Complete Project Classification Tool. Submit Safeguard Policy Filter Report, PP (or equivalent) and Safeguard Screening Form to ESR.</p> <p>The project triggered the Disaster Risk Management policy (OP-704). A Disaster Risk Assessment (DRA) may be required (see Directive A-2 of the DRM Policy OP-704) in case of high risk, a limited DRA in case of moderate risk. Next, please complete a Disaster Risk Classification along with Impact Classification.</p> <p>The project triggered the Other Risks policy (B.04): climate risk. Please include sections on how climate risk will be dealt with in the ESS as well as client documents (EIA, EA, etc); Recommend addressing risks from gradual changes in climate for the project in cost/benefit and credit risk analyses as well as TORs for engineering studies.</p>	
<b>Additional Comments:</b>		

ASSESSOR DETAILS	
<b>Name of person who completed screening:</b>	Alleng, Gerard P. (GERARDA@iadb.org)
<b>Title:</b>	
<b>Date:</b>	2015-10-16



## SAFEGUARD SCREENING FORM

PROJECT DETAILS	
IDB Sector	ENVIRONMENT AND NATURAL DISASTERS-BIODIVERSITY AND PROTECTED AREAS CONSERVATION
Type of Operation	Other Lending or Financing Instrument
Additional Operation Details	
Country	TRINIDAD AND TOBAGO
Project Status	
Investment Checklist	Generic Checklist
Team Leader	Alleng, Gerard P. (GERARDA@iadb.org)
Project Title	Tobago Water Colours Adaptation Project
Project Number	TT-T1057
Safeguard Screening Assessor(s)	Alleng, Gerard P. (GERARDA@iadb.org)
Assessment Date	2015-10-16

PROJECT CLASSIFICATION SUMMARY		
Project Category: B	Override Rating:	Override Justification:
		Comments:
Conditions/ Recommendations	<ul style="list-style-type: none"> <li>Category "B" operations require an environmental analysis (see Environment Policy Guideline: Directive B.5 for Environmental Analysis requirements).</li> <li>The Project Team must send to ESR the PP (or equivalent) containing the Environmental and Social Strategy (the requirements for an ESS are described in the Environment Policy Guideline: Directive B.3) as well as the Safeguard Policy Filter and Safeguard Screening Form Reports.</li> <li>These operations will normally require an environmental and/or social impact analysis, according to, and focusing on, the specific issues identified in the screening process, and an environmental and social management plan (ESMP). However, these operations should also establish safeguard, or monitoring requirements to address environmental and other risks (social, disaster, cultural, health and safety etc.) where necessary.</li> </ul>	

SUMMARY OF IMPACTS/RISKS AND POTENTIAL SOLUTIONS	
Identified Impacts/Risks	Potential Solutions

Minor or moderate conversion or degradation impacts to natural habitats (such as forests, wetlands or grasslands).	<b>Ensure Proper Management and Monitoring of the Impacts of Natural Habitat Loss:</b> A Biodiversity Management Plan (BMP) should be prepared that defines how impacts will be mitigated (roles and responsibilities, monitoring, budget, etc.) and could be incorporated in the ESMP. Depending on the financial product, the BMP should be referenced in appropriate legal documentation (covenants, conditions of disbursement, etc.). Confirmation should be obtained from competent experts that they are confident that the plan can mitigate impacts and also that the relevant authorities have approved the BMP.
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DISASTER RISK SUMMARY	
<b>Disaster Risk Category:</b> Low	
<b>Disaster/ Recommendations</b>	<ul style="list-style-type: none"> <li>No specific disaster risk management measures are required.</li> </ul>

DISASTER SUMMARY	
<b>Details</b>  <p>The Project should include the necessary measures to reduce disaster risk to acceptable levels as determined by the Bank on the basis of generally accepted standards and practices. Alternative prevention and mitigation measures that decrease vulnerability must be analyzed and included in project design and implementation as applicable. These measures should include safety and contingency planning to protect human health and economic assets. Expert opinion and adherence to international standards should be sought, where reasonably necessary.</p>	<b>Actions</b>  <p>The project triggered the Other Risks policy (B.04): climate risk. Please include sections on how climate risk will be dealt with in the ESS as well as client documents (EIA, EA, etc); Recommend addressing risks from gradual changes in climate for the project in cost/benefit and credit risk analyses as well as TORs for engineering studies.</p>

ASSESSOR DETAILS	
<b>Name of person who completed screening:</b>	Alleng, Gerard P. (GERARDA@iadb.org)
<b>Title:</b>	
<b>Date:</b>	2015-10-16

COMMENTS
No Comments

## **PILOTING AN INNOVATIVE APPROACH TO ADAPTATION IN TOBAGO**

**TT-T1057**

### **CERTIFICATION**

I hereby certify that this operation was approved for financing under the Sustainable Energy and Climate Change Multi-donor Fund (**SECCI-MSC**) through a communication dated August 5, 2015 and signed by Felipe Caicedo (ORP/GCM). Also, I certify that resources from said fund are available for up to **US\$555,000** in order to finance the activities described and budgeted in this document. This certification reserves resources for the referenced project for a period of four (4) calendar months counted from the date of eligibility from the funding source. If the project is not approved by the IDB within that period, the reserve of resources will be cancelled, except in the case a new certification is granted. The commitment and disbursement of these resources shall be made only by the Bank in US dollars. The same currency shall be used to stipulate the remuneration and payments to consultants, except in the case of local consultants working in their own borrowing member country who shall have their remuneration defined and paid in the currency of such country. No resources of the Fund shall be made available to cover amounts greater than the amount certified herein above for the implementation of this operation. Amounts greater than the certified amount may arise from commitments on contracts denominated in a currency other than the Fund currency, resulting in currency exchange rate differences, for which the Fund is not at risk.

Original signed

10/21/2015

\_\_\_\_\_  
Sonia M. Rivera  
Chief  
Grants and Cofinancing Management Unit  
ORP/GCM

\_\_\_\_\_  
Date

### **APPROVAL**

Approved: Original signed

10/23/2015

\_\_\_\_\_  
Amal-Lee Amin  
Division Chief  
Climate Change and Sustainability Division  
INE/CCS

\_\_\_\_\_  
Date