

## TC DOCUMENT

### I. Basic Information for TC

Country/Region:	Trinidad and Tobago / Caribbean
TC Name:	Piloting the Integration of Coastal Zone Management and Climate Change Adaptation in Tobago
TC Number:	<b>TT-T1034</b>
Associated Loan and Numbers:	Program to Support the Climate Change Agenda I (TT-L1022)
	Programs to Support the Climate Change Agenda II (TT-L1030)
Team Leader/Members:	Team leader: Gerard Alleng (INE/CCS); Alternate team leader: Michele Lemay (INE/RND); Team members: Maria Claudia Perazza (INE/RND), Cassandra Rogers (RND/CBA); Ana Rios (INE/CCS); Sara Valero (INE/CCS); Ayatima Hernandez-Rojas (INE/CCS); Ines Ferreira (INE/CCS); Dale James (CCB/CTT); Luis Acosta Salazar (FMP/CTT); Javier Jimenez Mosquera (LEG/SGO); and Raul Muñoz Castillo (INE/WSA)
Date of TC Abstract authorization:	May 24 <sup>th</sup> 2012
Donors providing funding:	(SCI)-Sustainable Energy and Climate Change Initiative Ordinary Capital (ORC) Fund
Beneficiary	Republic of Trinidad and Tobago
Executing Agency and contact name:	Institute of Marine Affairs (IMA); Dr. Amoy Lum Kong
IDB Funding Requested:	USD\$600,000
Local counterpart funding:	US\$152,500 (in kind) to be provided by the IMA
Execution period:	14 months
Disbursement period:	18 months
Required start date:	August 1 <sup>st</sup> 2012
Types of consultants:	Consultant Firm and Individuals Consultant
Prepared by Unit:	Climate Change and Sustainability Division - (CCS)
Unit of Disbursement Responsibility:	Country Office of Trinidad and Tobago (CTT)
Included in Country Strategy:	Yes
TC included in CPD:	Yes
GCI-9 Sector Priority:	The project contributes to the following GCI-9 lending targets (i) supporting development in small and vulnerable countries and (ii) climate change, sustainable (including renewable) energy, and environmental sustainability

### II. Description of the Associated Loan/Guarantee

This technical cooperation is directly linked to the Policy Based Loan, under the programmatic approach “Program to Support the Climate Change Agenda,” which is comprised of two

independent operations. The first operation TT-L1022 has already been approved and disbursed at the end of 2011 - (PR-3813-1). The second operation TT-L1030 is currently being developed and is expected to be approved by the third quarter of 2013. This Operational Support technical cooperation will provide support for the preparation of this second operation (TT-L1030) and specifically will follow up on a segment of the triggers included in the Policy Matrix for the second operation related to coastal zone management and adaptation. The program's main objective is to support the GoRTT in strengthening and modernizing the regulatory, institutional and policy framework to integrate climate change and its impacts into national economic development. The specific objectives of the loan program are: (i) to support the mainstreaming of climate change into national policies and institutions; (ii) to develop and promote instruments to assess and reduce vulnerability and risks associated with climate change; and (iii) promote carbon markets and policies to reduce Greenhouse Gas (GHG) emissions.

### **III. Objectives and Justification of the TC**

The objective of the TC is to develop an integrated coastal zone management program that incorporates climate change adaptation and disaster risk management using an ecosystem based approach. In the specific context of the PBL - TT-L1030, the TC will provide inputs for the compliance of two policy commitments under the "Support for Adaptation" component related to the development of the Integrated Coastal Zone Management (ICZM) Policy that incorporates climate change considerations as well as the development of an Integrated Coastal Zone Management (ICZM) Plan for Tobago that addresses the particular vulnerabilities of Tobago to the impacts of climate change.<sup>1</sup> Additionally, the lessons learned under this TC will directly inform the development of a broader national Integrated Coastal Zone Management (ICZM) Policy Framework, Strategies and Action Plan, which is the mandate of the Cabinet appointed ICZM committee. The TC will also lay the foundation for future investments in a coastal risk assessment and management program in Trinidad and Tobago. The operation is expected to complement and build on the work undertaken by the Integrating Watershed and Coastal Area Management (IWCAM) project that has been recently completed in Tobago on land-use planning and watershed restoration in the Courland Watershed and Buccoo Reef Area.<sup>2</sup> Some of the outputs of the IWCAM include the improved access to data related to natural resources through the use of a Geographic Information System (GIS), development of a template for the monitoring of the health of coral reefs and the availability of data on land based sources of pollution.

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

In order to achieve the objective of the program, the following activities will be undertaken:

- 1. Gap analysis** – This activity will finance a review of the legislative, policy, institutional and capacity arrangements related to coastal zone management and climate change at the

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<sup>1</sup> [Policy Matrix](#)

<sup>2</sup> ["Land-Use Planning and Watershed Restoration as Part of a Focused IWCAM Demonstration in the Courland Watershed and Buccoo Reef Area"](#)

national level but also cover areas that specifically may be related or relevant to Tobago. This will also involve an assessment of current data gaps with respect to coastal and marine ecosystems, their health, economic uses, and risks. The analysis will also assess current accessibility to data in relation to Tobago.

2. **Vulnerability and Risk Assessment.** – This activity will finance the development of climate-related hazard vulnerability and risk assessments of the coastal zone area of Southwest Tobago based on climate variability (existing climatic events) and climate change scenarios.
3. **Coastal ecosystem-based climate change adaptation response plan.** - This activity will finance the design and implementation of an adaptation response plan for coastal ecosystems in Southwest Tobago. The response plan will be comprised of (i) the enhancement of a long-term water quality monitoring program which entails monitoring of the stressors from land based sources of pollution (nitrate, nitrite, ammonia, dissolved inorganic nitrogen, soluble reactive phosphates, chlorophyll A, total dissolved solid, total suspended solids, total organic carbon and faecal coliform) as well as climate change related stressors (water temperature and acidity, and sea level rise) to determine the health of coastal ecosystems in Southwest Tobago. The monitoring data is to be integrated into the Geographic Information System (GIS) hosted at the IMA; (ii) a coral reef early warning system (CREWS) and tide gauges are to be installed as part of the response plan. The CREWS contains a set of meteorological and air-based sensors which measure air temperature, wind speed and direction, barometric pressure, photosynthetically available radiation (PAR) and ultraviolet radiation (UVR). In addition there is a suite of oceanographic sensors which measure salinity, sea temperature, PAR and UVR. The CREWS has been designed to monitor environmental conditions to help determine the possibility of events such as coral reef bleaching, which can be the result of elevated sea surface temperatures related to climate change. The CREWS will complement the ongoing monitoring of seagrass and mangrove ecosystems already being done by the IMA in southwest Tobago. (iii) An awareness and dissemination program which will involve the design and implementation of a public awareness program on coastal zone management and climate change adaptation for local communities in Southwest Tobago. As a basis for the design of the awareness and dissemination program, a characterization of key stakeholders and their incentives for coastal adaptation will be carried out. A multi-media public communication program and a capacity building program for technical staff at IMA will be designed (part of the design will involve a training needs assessment) and executed through different media and workshops on best practices and lessons learnt from the pilot study to stakeholders involved in coastal zone management (public and private sector, NGOs, CBOs, etc); and (iv) A financial plan for the adaptation program is to be developed.
4. **General guidelines for incorporating an ecosystem based approach to adaptation into a national ICZM Policy** - This activity will produce guidelines that incorporate climate change adaptation into an Integrated Coastal Zone Management Policy, including identification of best management practices for adapting coastal economic activities to risk.

The various activities will be undertaken by consulting firms and individual consultants. Also an individual consultant is to be hired as project coordinator. The expected outputs are the following:

- a. Recommendations to reduce data gaps based on assessment of the existing national legislative, policy, institutional, information and capacity arrangements related to coastal zone management and climate change.

- b. Assessments of existing climate-related risks due to climate variability and climate change impacts including ecosystems at risk in South-west Tobago.
- c. Coastal ecosystem-based climate change adaptation response plan for South-west Tobago.
- d. Guidelines for incorporating an ecosystem based approach (EBA) to adaptation into a national Integrated Coastal Zone Management (ICZM) policy.

The overall outcome: Improved capacity to integrate climate change adaptation into development planning.

#### Indicative Results Matrix

Results Matrix									
		Baseline		Year 1		Year 2		Expected Completion Date	Data Source
	Unit	Value	Year	Planned	Actual	Planned	Actual		
Number of ICZM pilots undertaken									
• # of policies and laws reviewed	#	0	2012	5				August 2013	Project report
• # of climate change related vulnerability and risks assessments undertaken for SW Tobago	#	0	2012	1				August 2013	Project report
# of CREWS established	#	0	2012	1				August 2013	Project Report
• # of climate change response plans developed	#	0	2012	1				August 2013	Project report
• # of public awareness workshops	#	0	2012	3				August 2013	Project report
• # of training sessions	#	0	2012	2				August 2013	Project report
• # of guidelines for incorporating an EBA to adaptation into a national ICZM Policy developed	#	0	2012	1				August 2013	Project report

### Indicative Budget

Activity/ Component	Description	IDB/Fund Funding (USD)	Counterpart Funding (USD)	Total Funding (USD)
1	Gap analysis	40,000	-	40,000
2	Identification of vulnerabilities and risks assessment	150,000	5,500	155,500
3	Coastal ecosystem-based climate change adaptation response plan			
	i. Enhancement of long term water monitoring program	75,000	127,000	202,000
	ii. Installation of CREWS	150,000	-	150,000
	iii. Awareness and dissemination program	40,000	20,000	60,000
	iv. Design and implementation of a coastal ecosystem-based climate change adaptation response plan	30,000	-	30,000
4	General guidelines for incorporating a EBA to adaptation into a national ICZM Policy	20,000	-	20,000
	Project management			
	i. Project Coordinator	45,000		45,000
	ii. Coordination (TAC and committee meetings; etc)	20,000		20,000
	Monitoring and Evaluation	20,000	-	20,000
	Auditing	10,000	-	10,000
	<b>TOTAL en USD\$</b>	<b>600,000</b>	<b>152,500</b>	<b>752,500</b>

**Monitoring and evaluation:** The IMA will implement a monitoring system to evaluate the progress of all program activities. Progress reports will be furnished to the Bank on July 1st and January 1st of each operational year and will be responsibility of the IMA. These reports will follow standard IDB format and will address program activities and finances, as well as results achieved. The Program will be evaluated based on the intermediary and final products of the various activities undertaken under its respective components. The IMA will facilitate an independent mid-term evaluation when 50% of the resources of the financing have been disbursed or when seven months of program execution have expired, whichever occurs first. The IMA will develop the terms of reference for this evaluation, with input from the Bank. The mid-term evaluation will analyze the: (i) progress achieved in the implementation of all Program components, including a determination of the degree of compliance with the timetable, results of procurement activities, and comparison between budgeted and actual costs; (ii) level of compliance with contractual clauses; and (iii) major problems encountered until this point in the execution of the Program and the actions taken to resolve them. The IMA will also facilitate the undertaking of an independent final evaluation when 90% of the Bank's resources have been disbursed. The evaluation will consider the execution of the project from a technical, institutional and financial point of view.

**Audits:** The IMA will be responsible for managing the Program's financial resources and will follow the Bank' standard procedures for auditing, international accounting norms and reporting. The IMA will also establish and maintain a separate and specific bank account for the purposes of managing the resources of this Program. It will prepare and submit to the IDB the Program's final financial statements within ninety (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.

**Technical and supervisory responsibility:** INE/CCS (through the Team Leader) will have technical and supervisory responsibility for the execution of the Program. INE/RND will provide technical support as needed to the Team Leader. The IDB Country Office in Trinidad and Tobago (CTT) will have the responsibility for field supervision of the consulting services to be contracted in coordination with the IMA. The main contact at CTT will be the Operations Senior Associate.

## **V. Executing agency and execution structure**

**Executing agency:** This TC will be executed by the Institute of Marine Affairs (IMA), which is a multi-disciplinary marine and environmental research organization established by Act of Parliament of Trinidad and Tobago and is currently under the Ministry of Housing and the Environment. The daily management of the Institute is the responsibility of the office of the Director, with oversight provided by a Board of Governors. The functions of the IMA include:

- To conduct research and development on the marine environment and other areas that impact upon the environment of Trinidad and Tobago, the Caribbean and adjacent regions;
- To study the multiple uses of the sea and coastal zones, their resources and use potential in Trinidad and Tobago, the Caribbean and adjacent regions and to evaluate and promote such studies with a view to minimizing possible conflicts which may result from such uses;
- To provide information and advice to the Government in its formulation of policies relating to the marine and other related aspects of the environment;
- To advise on the development and optimum utilization of the marine and coastal resource potential of Trinidad and Tobago;

The Institute has worked with development agencies in the past and is currently one of the Regional Activity Centres (RAC) for the Protocol on the Prevention, Reduction and Control of Marine Pollution from Land-Based Sources and Activities (LBS) under the United Nations Environmental Program (UNEP) – Caribbean Environmental Program under the Cartagena Convention. The IMA has worked on Bank related projects in the past assisting in an oceanographic study connected with siting and design of the possible sea outfall, for an IDB funded pre-feasibility study for the collection, treatment and disposal of wastewater of Tobago. Cabinet has recently given approval for the establishment of a committee to develop an Integrated Coastal Zone Management (ICZM) Policy Framework, Strategies and Action Plan for the country and the IMA was appointed to be the chair of this committee. Therefore the IMA is ideally placed to ensure that mutual and maximal benefit can be derived from the parallel projects i.e. the ICZM establishment process being embarked upon by the GORTT and IDB technical cooperation project.

**Executing structure:** The consulting services will be carried out by both individual consultants and consultancy firms. The IMA will be responsible for hiring the consultants and monitoring of the TC. Also, a Project Coordinator will be hired to assist with the coordination of the project and who will be based at the offices of the IMA and will be a condition for eligibility of the TC. As

part of the mechanism for executing the operation, it is expected that a Technical Advisory Committee (TAC) will be established to provide technical guidance to the project particularly in relation to how to integrate climate change adaptation and disaster risk reduction into coastal zone management and guide the overall technical aspects of the Program. The TAC will be comprised of at least the IMA, Life Sciences Department of the University of the West Indies, and other key actors to be determined at a later date. The IMA will be the secretariat for the TAC. In addition to the TAC, a high level consultative committee will be established and will include representatives from the Tobago House of Assembly including administrators from at least the planning, tourism, agriculture and environment units, the IMA, Office of Disaster Preparedness and Emergency Management and Tobago Emergency Management Agency, Ministry of Housing and the Environment (MHE), Buccoo Reef Trust (BRT), the Environmental Management Authority (EMA) and representatives from the private sector, academia and civil society. The role of the consultative committee will be to assist in the implementation, administration and management oversight of the Program. The IMA will chair the consultative committee.

**Procurement:** Procurement of goods and services will be carried out by the executing agency according to the IDB Policies for the Selection and Contracting of Consultants Financed by the Inter-American Development Bank (GN-2350-9) of March 2011 and for the Procurement of Goods and Works Financed by the Inter-American Development Bank (GN-2349-9) of March 2011. See [Annex II Procurement Plan](#)

#### **VI. Major issues**

The expected risks for this operation are as follows:

- Lack of collaboration among key stakeholders in the implementation of the project which will be mitigated by the use of the National Coastal Zone Management Steering Committee (appointed by Cabinet) to assist in the governance of the project.
- Lack of familiarity with IDB's Procurement and Fiduciary procedures by the executing agency which will be mitigated by scheduled Procurement and Fiduciary training undertaken by IDB's local country office.
- There is also a risk that the project is not executed in a timely manner, which will be mitigated through which will be mitigated by the Bank undertaking all procurements for the program in collaboration with the EA.

#### **VII. Exceptions to Bank policy**

N/A

#### **VIII. Environmental and Social Strategy**

It is not anticipated that the activities to be financed in this TC will have negative direct social or environmental effects. Therefore the team considers that, according to the Bank's Safeguards Screening Toolkit, this operation should be given a [classification of "C"](#): (i) no environmental or social risks; (ii) direct contribution to solve an environmental issue.