



## ANTIGUA AND BARBUDA Department of Environment

### Terms of Reference

Payment for Ecosystem Services (PES) Financial Expert

<b>Job Title</b>	Payment for Ecosystem Services (PES) Financial Expert
<b>Contracting Authority</b>	Department of Environment, Ministry of Health and the Environment, Antigua and Barbuda
<b>Date of Reissue</b>	September 8th 2021
<b>New Deadline</b>	September 30th 2021
<b>Duration</b>	5 months
<b>To Apply</b>	<p>Interested persons are invited to apply for this opportunity. Please email the Procurement Officer at <a href="mailto:DOE@ab.gov.ag">DOE@ab.gov.ag</a> and copied to <a href="mailto:antiguauenvironmentdivision@gmail.com">antiguauenvironmentdivision@gmail.com</a> the following:</p> <p>Request for Specific Consultancy Services</p> <ol style="list-style-type: none"><li>1. Cover Letter</li><li>2. Curriculum Vitae</li><li>3. Technical Proposal</li><li>4. Financial Proposal</li><li>5. Contact information for three (3) references</li></ol> <p>Please use email subject line: "...Application for Payment for Ecosystem Services (PES) Financial Expert..."</p>
<b>EQUAL EMPLOYMENT OPPORTUNITY (EEO)</b>	The Department of Environment (DoE) provides equal opportunity and fair and equitable treatment in employment to all people without regard to race, color, religion, sex, national origin, age, disability, political affiliation, marital status, or sexual orientation. The DoE also strives to achieve equal employment opportunity in all personnel operations through continuing diversity enhancement programs.
<b>LATE BIDS</b>	Late Bids will not be opened and will be returned to Bidder.

# **Terms of Reference**

## **Payment for Ecosystem Services (PES) Financial Expert**

### **I. About the Department of Environment**

The Department of Environment is a Government agency within the Ministry of Health and the Environment in the Government of Antigua and Barbuda.

The overall mission of the Department of Environment (DOE) is to provide technical advice on the environment and to design and implement projects on behalf of the Government and the people of Antigua and Barbuda. These interventions are designed to protect and enhance the country's environment, as well as seek common solutions to national, regional and global environmental challenges.

The Department of Environment accomplishes its mission inter alia through:

- An integrated environmental planning and management system established on the basis of public participation and interagency collaboration,
- Efficient implementation of appropriate programmes, projects and technical services,
- Providing accurate council on environmental management as well as effective and consistent enforcement of environmental laws and regulations, and
- Provide the public with easily accessible information and technical assistance on environmental issues.

The Department of Environment manages projects within four main Programmes, which are aligned with national legislation and international environmental agreements. These are:

- a. Climate Change Programme (Adaptation, Mitigation, and Capacity Building)
- b. Biodiversity Programme
- c. Pollution Programme
- d. Monitoring, Evaluation and Data Management Programme

The DOE has an active portfolio of projects, with project sizes ranging from USD 50K to USD 15 million, with an additional 15 projects under development. Partners of the DOE include UN Environment, UNDP, IUCN, Caribbean Development Bank, Government of Italy, Global Environment Facility, Green Climate Fund, the Adaptation Fund, among others. The DOE was accredited as a direct access entity to the Adaptation Fund in 2015 and to the Green Climate Fund in 2017. The DOE is focused on designing high-impact, transformational projects that maximize funding directly available to the public, private and civil society actors in order to meet an ambitious environmental agenda.

## **II. About the Project**

The Path to 2020 Project aims to implement Objective 1 of Antigua and Barbuda's National Biodiversity Strategy and Action Plan (2014 – 2025): *A national system, including protected areas, for the management and conservation of biodiversity conservation is developed and established.* By strengthening institutional coordination for protected areas, supporting legal frameworks, and blending local co-investment with international financing, this project will position Antigua and Barbuda to tap into global opportunities in conservation investments. The project will use innovative financing to enable the private sector and NGOs to participate in the management and sustainable use of protected areas.

The project has three main components:

- i. **Strengthening regulations, institutions and financing mechanisms for the national Protected Areas System:** The indicator for this Component is: *Safeguarding of biodiversity and ecosystem services through strengthening capacity of PA system (17,704 hectares) to conserve and enhance critical habitats and watershed areas.*
- ii. **Expansion of protected areas in support of species conservation:** The indicator for this Component is: *Increased protection for biodiversity of global significance over 3,035 hectares, including the only remaining wet forest ecosystem (moist evergreen closed canopy forest) in the country, and a number of restricted-range bird species and the island's most rare fern species.*
- iii. **Pilot livelihood financing mechanisms that support conservation and sustainable use of biodiversity and plant genetic resources in the newly designated Shekerley Mountain Management Area:** This component is expected to raise significant financing from the private sector as co-financing for the overall project. The indicator for this Component is: *Ensuring the conservation of genetic resources and the sustainable use of at least 10 locally adapted crop varieties.*

## **III. Consultancy Background**

### **Project Site**

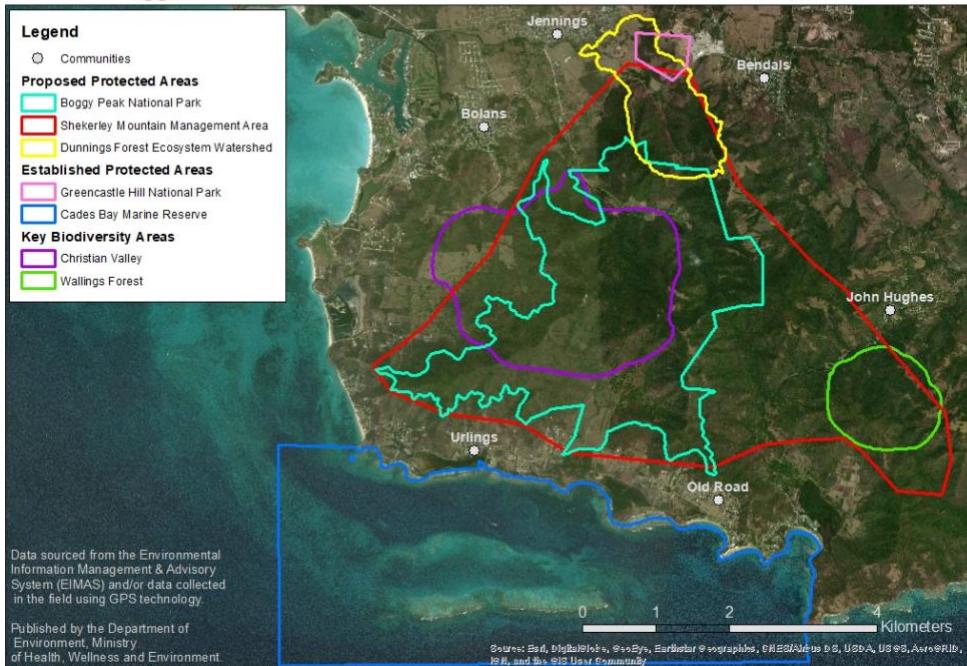
The Shekerley Mountain region in southwestern Antigua extending from Boggy Peak to Midway Peak and Christian Valley is the study area and the focus of this Terms of Reference. The SMMA is located in the Southwest of the island of Antigua ( $17^{\circ} 01' N$ ,  $61^{\circ} 52' W$ ), and is the area where Antigua's highest points are located as well as the island's largest expanse of tropical forest (Figure 1, red boundary).



## Path to 2020 Protected Area Map



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**Figure 1: Map of approximate extent of the proposed Shekerley Mountain Management Area, proximity to local communities, and the boundaries of Boggy Peak National Park, the Dunnings Forest ecosystem, the Wallings Forest Key Biodiversity Area, and the Christian Valley Key Biodiversity Area**

The Shekerley Mountains, located in the Southwest of the island of Antigua, extends from Boggy Peak to Midway Peak and Christian Valley ( $17^{\circ} 01' N$ ,  $61^{\circ} 52' W$ ). They are one of the best examples of moist evergreen closed canopy forest on the island and harbour the last remaining tropical forest in the country (extensive forest cover on the southwest part of Antigua in Figure 1). The area has a tropical climate with June being the hottest month and January the coldest. Rainfall in the Southwest of the island can receive approximately 3 times as much rainfall as other parts of the island. The area is also subject to periodic hurricanes, which occur from June to November. Temperature varies little throughout the year, with daytime temperatures between  $25^{\circ}$ - $29^{\circ} C$  usually dropping to around  $6^{\circ} C$  at night. The temperature and climate are moderated by near constant on-shore breezes. Due to year-round high temperatures and nearly constant winds, the evapotranspiration rate in the region is generally high. The Mountains also support subsistence livelihoods of communities with approximately 7,000+ people living in St. Mary's parish on the southwest coast (<https://statistics.gov.ag>).

The project will establish a new Protected Area in the form of the Shekerley Mountain Management Area (SMMA) (estimated 3,035 hectares). The southwest area of Antigua (including the Shekerley Mountains) contains the majority of the areas on the island designated for use as Forest and Environmental Protection. The SMMA is an important but complex landscape surrounded by a number of different villages (see figure 2). The area encompasses other protected areas, forest reserves, two of Antigua and Barbuda's ten Key Biodiversity Areas (KBAs) (See Appendix), two International Birding Areas (IBA's) in the country, watershed management zones, agricultural land, crown land and privately owned plots (Figure 2). The SMMA is home to several important flora and

fauna including Antigua's only endemic bird, the Broad-winged Hawk (*B. platypterus insulicola*) where it nests in the tall trees and rocky cliffs of the region. It partially comprises three major watersheds on the island: Christian Valley, Cades Bay and Body Ponds. In addition to its natural value, the SMMA has immense historic and cultural value as a place of refuge for escaping Maroon slaves, home to several Amerindian historic sites, outstanding megaliths, and ancient reservoirs.

## **Consultancy Background**

The project intends to implement a Payment for Ecosystem Service (PES) pilot within the project site. Originally, the Dunnings Forest Ecosystem, an important watershed, was selected as the PES area. The site was selected to pilot payments for watershed ecosystem services that can protect critical freshwater supplies, conserve the forest in the Dunnings area, and demonstrate an alternative economic value for the watershed. This would have provided a model for watershed conservation that can be easily replicated in other areas of the proposed Shekerley Mountain Management Area (SMMA), which accounts for approximately 40% of the national groundwater supply. Under this proposed PES system, the payment would have targeted customers of the Antigua Public Utilities Authority (APUA) through a levy being added to their monthly water bills because APUA used the wells in this area for the public water supply. The water levy could then be used to finance watershed conservation programs that will protect the country's freshwater supply. However, the wells within the Dunnings area and the wider SMMA are no longer being used by APUA, for a variety of reasons. As a result of this development, the DOE deemed this particular levy as no longer feasible.

The project now needs to design a new PES pilot within the SMMA. The ideal pilot should provide a valuable example for decision makers in Antigua and Barbuda of the positive economic potential of PAs. Any funds collected from the pilot or future PES systems will be directed to the Sustainable Island Resource Finance (SIRF) Fund, which in turn will make grants available to government agencies, NGOs, community groups, etc. These funds could be used to catalyse conservation investments and pilot support for sustainable livelihoods by working with the SIRF Fund to establish various financing mechanisms such as micro-finance (with credit unions) and/or a revolving fund to provide a mix of grants and loans to sustainable agricultural producers. The SIRF Fund offers a tool to pilot and implement new types of financing opportunities within PAs. The Path to 2020 project will pilot the first financing by the SIRF Fund in support of farmers and sustainable livelihoods in protected areas. For more information on the SIRF Fund refer to the Environmental Protection Management Act 2019 (<http://laws.gov.ag/wp-content/uploads/2019/08/No.-10-of-2019-Environmental-Protection-and-Management-Bill-2019.pdf>).

In addition to piloting funds to implement conservation actions, the project also will support activities to operationalize the PES system, including: any policy / regulatory changes needed to establish a PES system; designing the overall payment system (i.e. the process for the funds to flow from consumers to the SIRF Fund to grantees); establishing the criteria for how the funds can be spent (i.e. defining eligible conservation activities); and undertaking outreach to the public about the PES system, with the objective of making the PES system operational.

The project has to now explore other possible elements of a PES system for future development, these may include payments based on carbon sequestration; payments (fees) to carry out research on genetic biodiversity, traditional crop varieties, and other productive uses; and payments (visitor fees) for visiting the SMMA (building on the Green Card PA fee system being supported under the GEF SPPARE project).

To note, there has been some research done on carbon sequestration within the SMMA. In a 2019 technical report it was estimated that 159,668 tC is stored within SMMA (585,982 t CO<sub>2</sub>e) and the SMMA had a Net carbon sink of 7,439 tC (27,301 t CO<sub>2</sub>e) between 2010-2019.

## IV. Purpose and Objective of Consultancy

The consultant will explore feasible options for PES payments in the SMMA, design how this PES system/s would work and provide procedures for the implementation of the PES system/s. This process may include determining the payment amount, designing an overall payment system and establishing a criterion for use of the PES funds.

**The Department of the Environment** is therefore inviting suitably qualified consultants to submit proposals for a consultancy to carry out the activities as indicated in Section V - Scope of Work.

## V. Scope of Work

The Consultant, in conjunction with technical support from the Department of Environment, will be expected to cover all the activities necessary to accomplish the stated objective of the project including but not limited to the following:

1. Conduct an ecosystem service mapping exercise. This is to include:
  - a. An assessment of the extent and condition of different ecosystems and how these have changed over time, potentially applying ARIES for SEEA (<https://seea.un.org/content/aries-for-seea>) or equivalent;
  - b. From this assessment, provide a mapping of the provisioning of ecosystem services (ESs) over time in biophysical terms;
  - c. Based on a literature review of ES valuation studies, estimate the value of these changes in ES flows over time;
  - d. Identify both drivers and pressures that have caused this shift in the provisioning of ESs over time, and from this identify behaviors by various agents (individuals/communities/firms) that may have contributed to enhanced ES provisioning and/or mitigated the reduction in ES provisioning over time.
  - e. Map these changes along with the changes in values, i.e. *who* is providing what enhanced ESs/mitigating ES loss, *where* is this occurring, what is the *value* being provided.
  - f. Provide an initial assessment of the specific beneficiaries, i.e. who and benefiting and where from enhanced ES provisioning and/or mitigated the reduction in ES provisioning
2. Carry out a literature review to determine, given local, economic, social, ecological and cultural conditions, what the design of a successful PES scheme might look like
3. Organize and facilitate stakeholder consultations, and from this conduct a feasibility study which will look to determine the feasibility of charging for each ES and the most feasible ESs that can be charged for. This should take into account how the proposals are to be best connected to existing financial regimes or fiscal incentives. The PES has to be operationalized within the SIRF Fund.
4. Design a PES System for each viable service, to demonstrate how the PES will function so it is clearly understood. Infographics or other creative forms can be used here.
  - a. Within the design, explain the circular flow of the system with emphasis on how the

- money should be used to maintain the ecosystem service.
- b. Set out how both the beneficiary group and the group paying for ESs are to be designated, and how to monitor and operationalize the PES
5. Create a Standard Operation Procedures (SOP) which will include the step by step instructions for the implementation of each PES, the roles and responsibilities of the relevant agencies, and an indicative budget.

## VI. Deliverables

The consultant will provide the following outputs:

- I. Workplan
- II. Report on the ecosystem service mapping exercise
- III. Literature Review
- IV. Feasibility study of potential PES systems
- V. Design of PES System for each viable service
- VI. Standard Operation Procedures (SOP) for each viable service
- VII. Monthly Consultant Updates
- VIII. Final Report

## VII. Reporting Requirement

Under the general supervision of the Project Coordinator, the consultant will be contracted to undertake and complete the specified activities, outlined in Section V – Scope of Work.

Seven (7) working days after the contract or agreement has been signed by the consultant and the Department of Environment (DoE), the consultant will submit a detailed Work Plan, inclusive of timelines for the submission of monthly updates and the final report.

Within fifteen (15) working days of completing the specified scope of work, the Consultant will prepare and submit to the DoE, a Final Report.

The Final Report should be submitted electronically to the Project Coordinator in Microsoft Word. **The Final Report should also be accompanied by a signed invoice in the amount claimed by the consultant and Workplan in Eastern Caribbean Dollars.** The invoice should include full banking instructions in order to facilitate wire transfer of funds by DoE.

## VIII. Duration

The assignment should not exceed a total of five (5) months for the Consultant.

## IX. Required Qualifications and Experience

- A relevant advanced university degree (Masters or equivalent in Environmental economics or another related field).
- Minimum of 5 years work experience in Natural Resource Management and Financial Management preferably with work experience of at least one year in the Caribbean.

- Previous development and/or implementation of Payment for Ecosystem Services.
- Proven ability to provide technical guidance to a wide range of stakeholders to achieve stated project objectives
- Excellent English Language skills.
- Highly developed communication skills, including ability to draft/edit texts and to articulate ideas in a clear, concise style to a variety of audiences.
- Ability to identify strategic issues, opportunities and risks and communicate broad and compelling organizational direction;
- Advanced MS Office skills

## **X. Evaluation Criteria**

The evaluation criteria and weightings that will be applied to this TOR are as follows:

<b>Category</b>	<b>Description</b>	<b>Weighting</b>
1	Qualifications of consultant and availability of named individuals including national experts	25
2	Adherence to TOR specifications and related requirements: Clear understanding of required deliverables	35
3	Experience with similar work	25
4	Demonstrated track record of success, supported by references	15
	Total	100