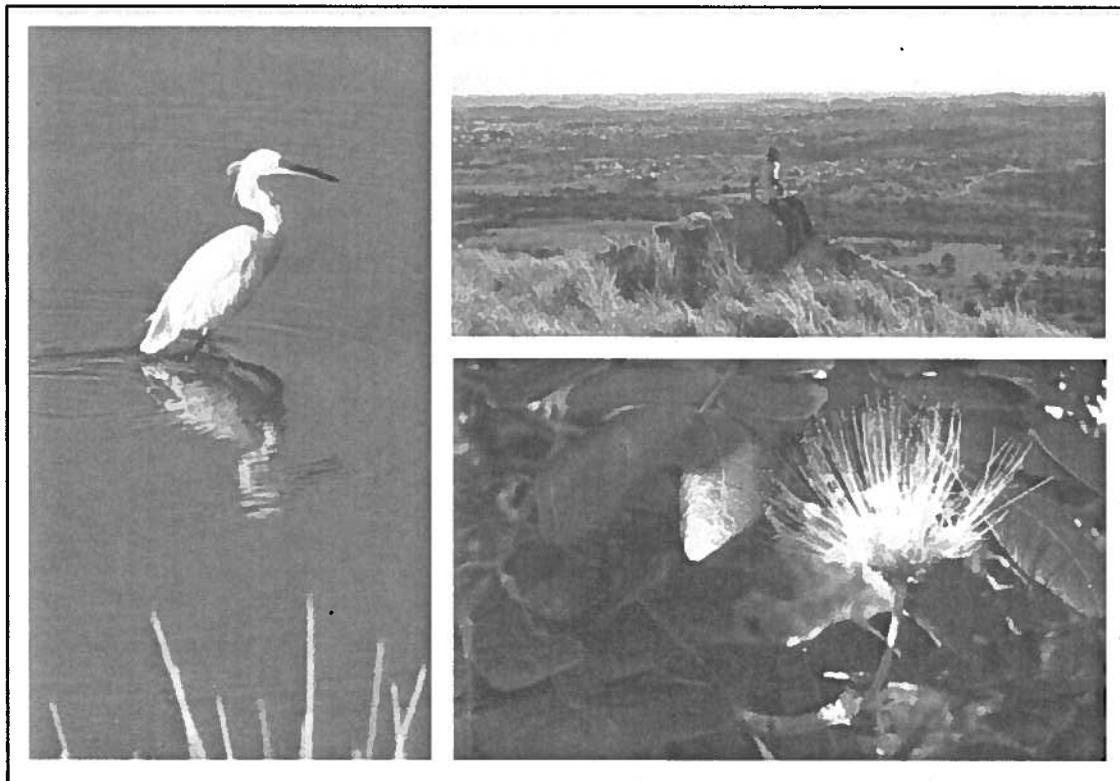




“Biodiversity is our Business”

Valuing Ecosystem Services for Biodiversity Protection in Antigua & Barbuda

**ANNEX 1 Proposal for a pilot project
To the Japan Biodiversity Fund (JBF)**



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Introduction

The island state of Antigua and Barbuda, which includes several small near shore islands and the uninhabited island of Redonda, is situated in the eastern arc of the Leeward Islands, in the Caribbean. The islands themselves cover a total land area of 440 sq. km, and are generally low lying, surrounded by white sand beaches, wetlands and mangroves, shallow water coral reefs and sea grass beds. Antigua occupies an area of 280 sq. km while Barbuda is approximately two thirds this size occupying 160 sq. km and Redonda is 1.3 sq. km.

Antigua has three distinct geological zones that traverse the island diagonally (northwest to southeast): the hilly volcanic region in the southwest, the flat central plains, and the limestone hills and valleys in the northeast¹. The highest topographical point on Antigua is Mount Obama (formerly Boggy Peak) in the southwest with a maximum altitude of 405 m. Barbuda is flatter by comparison with a maximum altitude of 40 m and average elevation of 4 m above sea level. The island is entirely formed from coralline limestone and there are three geological zones: the highlands limestone region, the Codrington Limestone region, and the Palmetto Point Series; which overlays the other formations in coastal areas. The islands are subject to a tropical maritime climate with alternating periods of drought and periods of heavy rains that coincide with the tropical hurricane season. While the variation in daily or seasonal air temperatures² and humidity is relatively small, precipitation can be highly variable, and these islands often experience severe droughts (approximately every 5-10 years).

Conflicting land use pressures, especially between housing, tourism and agricultural activities in the face of underfunded protected areas and undervalued biodiversity, is resulting in intensified pressures to convert biodiversity-rich areas to economically productive sites (such as housing, hotels, and extractive industries such as quarrying). Degradation caused by roaming livestock, drought and other extreme weather events is further stressing biodiversity and the provision of ecosystem services.

¹ Martin Kaye (1959).

² Average monthly minimum temperatures range from 22.4°C in February to 25.4°C in August, while monthly maximum temperatures range from 27.9°C in February to 30.5°C in September

To support Antigua and Barbuda's biodiversity conservation and sustainable development targets, this project will raise national awareness of the value of ecosystem services and the ways in which biodiversity directly contributes to Antigua and Barbuda's tourism-based economy and quality of life. The project will estimate the value of biodiversity and ecosystem services on the island of Antigua for its contributions to: recreation and aesthetics; water purification services; resilience; contributions to local livelihoods and sustenance; genetic resources; and carbon sequestration and storage. A national dialogue under the banner of "Biodiversity is our Business" will communicate the knowledge and lessons learned to a diverse audience, including businesses, government officials, and community members, and will inform future development decisions by integrating biodiversity relevant data and information into the development approval process. This pilot project is aligned with NBSAP implementation and the national sustainable development strategy, and will pilot the potential for ecosystem service valuations to support national biodiversity management and sustainable financing tools.

Project goals and objectives

Goals

- To integrate information on the value of biodiversity and other relevant spatial and socio-economic data into decision-making in business, policy, and at the community level
- To catalyze national support for biodiversity protection and eventually a possible payment for ecosystem services through the national environmental fund (SIRF Fund/MEPA Trust)

The key objectives of this project are to:

1. Implement an island-wide ecosystem valuation exercise
2. Collect and compile georeferenced species and biodiversity-related socioeconomic data and integrate them into the national environmental information system (the EIMAS) to support decision-making
3. Combine valuation results with spatial data layers to generate various land-use scenarios to support decision-making
4. Raise awareness about the value of biodiversity and ecosystem services and their contribution to the national economy under the banner of "Biodiversity is our Business"
5. Use a learning-by-doing approach to enhance the capacity of the government, private, and civil society sectors to value ecosystem services, use existing data to inform decision making, and to work collaboratively to conserve biodiversity and use it sustainably.
6. Share lessons learned on the pilot project, amongst other Parties at the Convention on Biological Diversity's Conference of the Parties (CBD COP) in December 2016

Relationship with NBSAP implementation

The components of this pilot project support the implementation of Antigua and Barbuda's revised NBSAP. Section 6.1.2 of the NBSAP addresses Valuation of Biodiversity:

Another innovative strategy currently being reviewed for the funding of the NBSAP is undertaking a biodiversity valuation study. This is being reviewed as a means of incorporating ecosystem services into an effective means to finance the NBSAP implementation. Once a valuation study has been completed, it is anticipated that companies that utilize the services of

the ecosystems in which they are located will be more inclined and supportive of measures being implemented to finance biodiversity management in the country.

The biodiversity valuation study in Section 6.1.2 has to date not been undertaken, and there are no initiatives underway to complete a terrestrial biodiversity valuation study in Antigua and Barbuda.

Project activities under this pilot will also support the implementation of Target 1 in Antigua and Barbuda's NBSAP:

- **Strategic Goal A: Address the underlying causes of biodiversity loss by mainstreaming biodiversity across government and society.**
 - o Target 1: By 2020, at the latest, people are aware of the values of biodiversity and the steps they can take to conserve and use it sustainably
 - Indicator: By 2020, at least 3 regularly scheduled programs or infomercials on local media and social networks on biodiversity issues are in place with documented reviews of stakeholder groups per quarter ☐
 - By 2020 at least three awareness-building activities per quarter are hosted by NGOs and/or Government on Biodiversity related issues

There have been no activities planned nor implemented to date to work towards the attainment of this national target.

Project Components

Component 0 – Project Management

Project Management will be the responsibility of the MEPA Trust (with backstopping by the JBF programme officers). It will include the smooth implementation of the project including the maintenance of good relations and effective communication with all experts and entities involved, sound administration, good quality and timely reporting, and the recruitment of national experts.

Component 1 – Island-wide ecosystem services valuation

Antigua and Barbuda's tourism economy – which accounts for 70% of GDP – requires natural capital for its proper functioning, and valuation tools are a means of better incorporating ecosystem services into development decisions on the national and local scales.

Guided by an ecosystem services valuation expert this component will tailor existing valuation methodologies to local circumstances and will conduct an island-wide ecosystem services valuation. Table 1 below describes the ecosystem services and potential valuation methodologies to be used under this component.

The process will be collaborative, ensuring buy-in across key sectors and stakeholders. The MEPA Trust will engage its network of community groups and NGOs to ensure participatory engagement and transparency. Many civil servants and business owners are also members of churches and community groups that the MEPA Trust works with on an ongoing basis. In the private sector, key stakeholders

include the A&B Hotel and Tourism Association, yachting business (e.g. marina owners), small and medium tourism companies, fisheries cooperatives, among others. In government, target agencies include the Development Control Authority, the Ministry of Finance, Citizenship Investment Programme (CIP) Unit, the public utility (APUA), Fisheries, and Agriculture.

The incentive for participation of these sectors is that the valuation study complements ongoing SIRF Fund and MEPA Trust operationalization. All three sectors – government, private, and civil society – will have access to SIRF Fund resources through on-granting and concessional loans, and so this pilot project will educate partners on biodiversity valuation and help identify innovative opportunities for payments for ecosystem services

The outcome of this component will be capacity building in a learning-by-doing approach, digital ecosystem services and valuation maps of the island, and a valuation report that will be used in component 3 for incorporation into decision-making in business, governance, and at the community level. It may also serve to catalyze national support for biodiversity protection and eventually a possible payment for ecosystem services through the national environmental fund.

Table 1. A description of ecosystem services and potential valuation methodologies

Ecosystem Service	Description	Valuation Methodology
Recreation and aesthetics	Tourism, which accounts for 70% of Antigua and Barbuda’s economy, and specifically eco-tourism, including hiking, bird-watching, zip lining and safari tours, rely on recreation and aesthetic value of natural resources	Travel Cost Method; Contingent Choice Survey
Purification services	Watersheds filter surface water and recharge aquifers (wells)	Productivity Method
Resilience	Natural systems have interacting species for example that control pests through natural processes, reducing the need for artificial controls. Ecosystems regulate watershed and weather behaviour, reducing risk of floods to the communities downstream	Damage Cost Avoided; Replacement Cost Method
Local livelihoods and sustenance	Biodiversity is used by communities for sustenance (personal) and livelihoods (economic) uses, for food, medicine, etc.	Contingent Choice Survey; Productivity Method
Genetic material for pharmaceutical research	“Bioprospectors” use genetic material and traditional knowledge as cues for uses; pharmaceutical values of the highest quality sites can be on the order of USD 9000/hectare	Productivity Method / Productive-Use Value ³
Carbon sequestration and storage	Growing vegetation takes in (“fixes” or “sequesters”) carbon dioxide and stores it in biomass; since carbon dioxide is a	Benefit Transfer Method for comparable tropical ecosystems

³ <http://www.iphandbook.org/handbook/ch09/p04/> Accessed May 22, 2016

greenhouse gas, growing biomass reduces
carbon dioxide in the atmosphere

Ecosystem service valuation methods are summarized below. These methods are indicative and will be further refined by the ecosystem services valuation expert.

Contingent Choice Survey: This method asks people to make choices based on a hypothetical scenario. It differs from contingent valuation because it does not directly ask people to state their values in dollars. Instead, values are inferred from the hypothetical choices or tradeoffs that people make. The Choice method is explicitly selected here because community members may feel that their resources are threatened if they are being asked to put a "pricetag" on the services they receive.

Travel Cost Method: The travel cost method is used to estimate economic use values associated with ecosystems or sites that are used for recreation. The method can be used to estimate the economic benefits or costs resulting from changes in access costs for a recreational site, elimination of an existing recreational site, addition of a new recreational site, and changes in environmental quality at a recreational site. The premise of the travel cost method is that the time and travel cost expenses that people incur to visit a site represent the "price" of access to the site. Thus, peoples' willingness to pay to visit the site can be estimated based on the number of trips that they make at different travel costs.

Benefit Transfer Method: This method is used to estimate economic values for ecosystem services by transferring available information from studies already completed in another location and/or context. For example, the Benefit Transfer Method is proposed for pharmaceutical Willingness to Pay (WTP) estimates for comparable tropical ecosystems, and the same method can be applied to carbon dioxide sequestration and storage for comparable tropical ecosystems.

Damage Cost Avoided: The damage cost avoided method uses either the value of property protected, or the cost of actions taken to avoid damages, as a measure of the benefits provided by an ecosystem. For example, the construction of Jolly Harbour on 53 acres of land, most of it salt pond and mangrove swamp that was dredged and backfilled, impeded watershed drainage, resulting in flooding of surrounding villages (West Palm Beach and Bolans). The cost of this damage can be applied to intact areas to calculate the value of damage cost avoided. If an intact watershed protects downstream property from flooding, the flood protection benefits may be estimated by the damages avoided if the flooding does not occur or by the expenditures property owners make to protect their property from flooding.

Productivity Method: This method is used to estimate the economic value of ecosystem products or services that contribute to the production of commercially marketed goods. It is applied in cases where the products or services of an ecosystem are used, along with other inputs, to produce a marketed good. For example, water quality affects the productivity of irrigated agricultural crops, or the costs of purifying drinking water. In this case, there are at least 12 groundwater wells and one surface water catchment in the sub-watershed boundary. The Productivity Method is also proposed for the extractive quarry industry, and agriculture as an indicator of ecosystem productivity.

Component 2 – Data processing and storage, and information provision

Antigua and Barbuda already possesses a substantial amount of data that could very effectively complement the valuation study produced under component 1 to support development decisions that take biodiversity into consideration (Figure 1 and Table 2 provide some examples of this data). While some of this data is already in the National Environmental Information System (EIMAS) – the national GIS-based information system, other potentially useful data has yet to be digitized, georeferenced and/or compiled.

This component of the project will compile and process relevant biophysical and socio-economic data in order to make this data readily useable by decision makers. It will also produce various land-use scenarios combining information from component 1 and the newly compiled data.

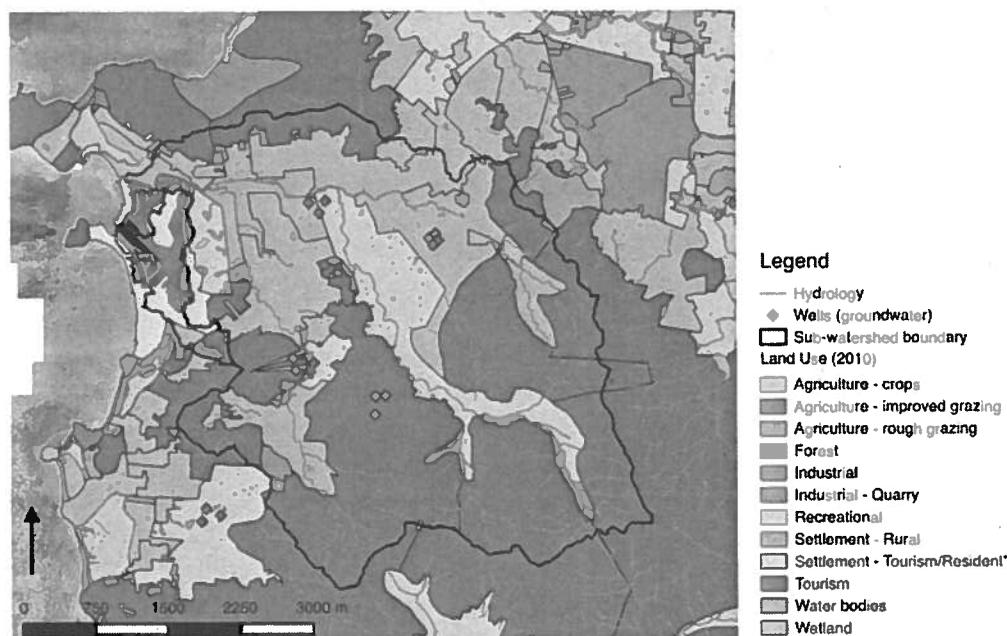


Figure 1. Land use and ecosystem services in the Dunnings sub-watershed boundary (2010. Source: EIMAS)

Table 2. A sample of spatial datasets available in the National Environmental Information System (EIMAS)

Watershed layers
Sub-watersheds
Ecosystems (mangroves, coral reefs, sea grass)
Land use
Road system
Sea level rise projections
Building footprint (building polygons)
Hydrology features (drainage)
Beaches
Protected areas
Ponds (major water catchments)
2011 zoning plan

One of the project partners - the Environmental Awareness Group (EAG) - possess two decades of species and environmental monitoring data in paper form which has not yet been georeferenced. This wealth of data also has not yet been integrated into the EIMAS. In March 2016, the IUCN recognized the value of the EAG's biodiversity data and temporarily stationed a GIS analyst at the EAG's offices to work on geo-referencing and digitizing it. Under component 2, the JBF pilot project will build on IUCN's initial capacity building efforts by geo-referencing species distribution data on at least 10 species listed as protected in Schedule VIII of the EPMA (Protected Wildlife).

In addition, Antigua and Barbuda is piloting the use of Unmanned Aerial Systems (UAS) or "drone" technology to collect and manage data for Protected Areas, including assessing mangrove wetland extent and health of mangroves in Cades Bay Marine Reserve. The EAG is a partner in the drone project, which will complement this JBF pilot project.

Relevant socio-economic data including land use, land tenure, poverty maps, biodiversity use (livelihoods/dependence) amongst others will also be compiled under this component. This will complement work to be conducted by another project partner – the Precision Development Foundation - under component 1 in a Contingent Choice Survey.

For the mapping of human dimensions in ocean and coastal space, MEPA Trust staff recently received training on participatory mapping methods and a user-friendly mapping technology, SeaSketch (seasketch.org), for the collection of spatial data to create a digital valuation map. These activities focused on stakeholder engagement, and provided a complimentary decision-support system for government and NGO parties. SeaSketch is a web-based geographic information system used for marine planning and spatial surveys around the globe, including previously being implemented in Barbuda for community-drive ocean zoning. Online mapping platforms allow stakeholders to express their ideas on a shared map, and report value information directly to a digital database. Given recent capacity building of core staff in this area, SeaSketch will be considered for coastal and marine areas to the extent feasible under this project. In Antigua and Barbuda, terrestrial and marine processes are intimately connected and tools that support coherence across land and seascapes are valuable for decision-making.

The outputs of this component will be capacity built in a learning-by-doing approach, as well as a series of digital maps and land use scenarios that in addition to the outcomes of component 1 will be used in component 3 for incorporation into decision-making in business, governance and at the community level. Like the results of the valuation exercise, species and biodiversity relevant socio-economic information and maps may also serve to catalyze national support for biodiversity protection and eventually a possible payment for ecosystem services through the national environmental fund. The preparation of a series of useful GIS overlays may also result from this component to further strengthen the activities under component 3.

Component 3 – Biodiversity is our business

This component is focused on mainstreaming biodiversity values and other biodiversity-related information in decision-making processes across private, public, and NGO sectors, in order to protect Antigua and Barbuda's biodiversity from human-induced threats, and to increase the resilience of systems to adapt to climate change impacts. The valuation study from component 1, together with the

results of component 2 will be used to promote national consensus on the need and means to protect and use biodiversity sustainably in order to support our livelihoods and economy. A number of outreach activities will be conducted under the banner “Biodiversity is our Business” in order to highlight the intersections between biodiversity and natural resources, economic prosperity, and sustainable development.

The paradigm shift potential of this project is to promote the understanding of biodiversity not as something confined to the interests of a select group of individuals, but rather as something that is essential for our tourism-based economy and critical to livelihoods and well being on an individual and national level. Achieving this paradigm shift will have repercussions at multiple levels, from land-clearing practices on a single plot of land, to decisions of where and how to build new infrastructure, and even the types of businesses that are pursued – understanding the value of biodiversity will help transition the country towards a green economy. This approach is supported in national legislation and policies, such as the national sustainable development plan⁴, however a critical gap is the outreach and awareness component.

Biodiversity will be mainstreamed at the institutional level by building the capacity of policy makers, land use planners and technicians to include biodiversity valuation and other relevant data, both biophysical and socio-economic, in the planning and development review process broadly, and in Environmental Impact Assessments conducted for specific projects. Environmental Impact Assessments (EIAs) are an essential part of any evaluative procedure, and are the core tool utilized by the Government of Antigua and Barbuda, and specifically the Department of Environment, in reviewing and evaluating development applications. Activities under Component 3 of this project will strengthen the biodiversity component of the EIA process, drawing on guidance documents and relevant best practices⁵.

Mainstreaming of biodiversity will target the private sector through, for example, introducing the concept of payments for ecosystem services, where governments and private sector interests can identify opportunities for mutually beneficial resources to develop payments for ecosystem services. Where business depends on biodiversity, and there are clear users and beneficiaries, the SIRF Fund provides an avenue for win-win situations.

In order to support this paradigm shift, the MEPA Trust will organize two multi-sectoral stakeholder events under this component, partnering with NGOs to develop awareness content to support the publication, and a high level launch of the final biodiversity ecosystem services valuation report, and the payments for ecosystem services scoping activities.

The benefit of piloting this project in Antigua and Barbuda’s small island context is that such a campaign is able to reach 50% of the population. The NGOs and community groups in this project in particular are able to mobilize expansive networks in order to reach high level and priority individuals, as well as raise awareness at the community level. The Department of Environment will support this Component to reach key institutional actors.

⁴ Antigua and Barbuda Medium Term Development Strategy (2016 – 2020), Prepared by the Ministry of Finance and Corporate Governance

⁵ For example, CBD’s voluntary guidelines for biodiversity-inclusive impact assessment <https://www.cbd.int/impact/guidelines.shtml> Accessed May 22, 2016

This approach builds on initiatives at the community level to engage in the national development process, particularly when it comes to environmental protection and common resources. Through a community and government partnership, Antigua and Barbuda signed on to the Latin America and Caribbean regional process on Principle 10 of the Rio Convention, which encourages access to information, public participation and access to justice in environmental matters⁶. Being able to engage in decision-making requires information on resources, and it requires all beneficiaries to have a say in how resources are allocated. This project will improve biodiversity information to support decisions and encourage public participation in applying this information to decision-making processes. Better information and better access to information when it comes to environmental resources, captured in this component through capacity building actions, will improve people's lives through more informed decisions and policies.

To support knowledge management, this component is designed to harness lessons learned for sharing with national and regional audiences through the range of media outputs. The MEPA Trust is well positioned for regional information sharing as the Trust was established through the regional Caribbean Biodiversity Fund (CBF) initiative. The MEPA Trust in Antigua and Barbuda has accelerated implementation and has been selected by the Nature Conservancy to mentor other islands in operationalizing their NGO funds. The biodiversity valuation studies and knowledge material developed under this project will provide concrete experiences and outputs that can easily be transferred to other islands through the CBF/MEPA Trust network.

International audiences will benefit from Antigua and Barbuda's pilot project through information exchange at the Convention on Biological Diversity's Conference of the Parties (CBD COP) in December 2016, amongst others.

Activities and Outputs

Component 0 – Project Management

Activities

- 0.1 Project administration
- 0.2 Communication and relations
- 0.3 Cooperation with the contracted experts
- 0.4 Selection and management of national experts
- 0.5 Reporting

Outputs-

- i. Terms of reference for national consultants
- ii. Terms of reference for Ecosystem Services Valuation Expert (regional/int'l)
- iii. Technical and financial progress report 1
- iv. Technical and financial progress report 2
- v. Technical and financial progress report 3
- vi. Final report including a financial report (4)

⁶ ECLAC, 2015. Antigua and Barbuda joins the regional process on Principle 10:
<http://www.cepal.org/en/notes/antigua-and-barbuda-joins-regional-process-principle-10>

Component 1 – Island-wide ecosystem services valuation

Activities

- 1.1 Select the best suitable valuation methodologies and fine-tune/adapt them to local conditions in consultation with key partners to ensure the methods are tailored to stakeholder needs
- 1.2 Host a validation meeting to collaboratively verify and validate⁷ the ecosystem services valuation methodology
- 1.3 Determine the data requirements needed for the valuation exercises and obtain the already available data
- 1.4 Design stakeholder engagement and communications plan
- 1.5 Carry out surveys and calculate the values for ecosystem services
- 1.6 Prepare a digital ecosystem service valuation map and store it in EIMAS
- 1.8 Prepare an ecosystem services valuation report

Outputs

- i. A valuation exercise and two workshops on sector's involvement and buy-in to the evaluation exercise
- ii. A stakeholder engagement plan demonstrating different sectors' involvement and buy-in to the valuation exercise
- iii. An island-wide digital ecosystem services map stored in EIMAS
- iv. An island-wide digital ecosystem service values map stored in EIMAS
- v. A report on biodiversity ecosystem services

Component 2- Data processing and storage, and information provision

Activities

- 2.1 Upgrade the data management system for project to meet the Department of Environment's EIMAS standards
- 2.2 Georeference data on 8 – 10 species listed as protected in Schedule VIII of the EPMA
- 2.3 Convene the Spatial Data sub-committee of the Technical Advisory Committee (TAC) to approve the new shapefiles and integrated species and socio-economic data into the EIMAS decision support tool
- 2.4 Compile and validate existing socioeconomic baseline data (Statistics Division, Department of Environment, etc.)⁸
- 2.5 Analyze GIS data (including data housed in the EIMAS) to generate insights into correlations between economic activity and biodiversity, threats to biodiversity, as well as their impact on people, and develop at least 5 maps for sharing in digital and print format with wide audiences, including government agencies, the public, and the CBD COP. Prepare different land use/development scenarios assessing "trade-offs" and relate these to policy decisions to show the effects of different decisions on biodiversity, livelihoods and well-being⁹

⁷ The SIRF Fund has already identified a "green card" fee payment system for national park visitation, a mooring payment system for the Northeast Marine Management Area (NEMMA), among other, which the Department of Environment is implementing under the Special Pathways – Protected Areas and Renewable Energy (SPPARE) GEF-funded project

⁸ GIS data will be acquired from the Department of Environment's repository – the Environmental Information Management and Advisory System (EIMAS)

⁹ Available support tool is InVEST, etc. - see <http://www.naturalcapitalproject.org/invest/>

2.6 Develop an ecosystem services decision support tool for the Department of Environment's development approval and its Environmental Impact Assessment (EIA) process.

Outputs

- i. Upgraded data management system for project partners
- ii. 8-10 Sets of georeferenced protected species data
- iii. Workshop to approve the new datasets and their inclusion in EIMAS
- iv. Socio-economic data included in the EIMAS
- v. Different scenarios and thematic maps on the links between biodiversity and threats, development, and socio-economic aspects prepared and stored in the EIMAS as digital maps
- vi. An ecosystem services decision support tool

Component 3 – Biodiversity is our business

Activities

- 3.1 Develop a short "Biodiversity is our Business" documentary (max. 15 minutes), targeted at various audiences communicating the value of biodiversity ecosystem services for our economy, local livelihoods and sustenance (for example, see: <https://www.youtube.com/watch?v=JuQHWiUCX24>)
- 3.2 Publish and launch the final biodiversity ecosystem services valuation report
- 3.3 Share the outputs, results, and lessons through bi-weekly social media posts, on the various organization websites, in newspapers, TV and radio, through field trips and presentations to key biodiversity areas
- 3.4 Organise and implement a high level inter-sectoral dialogue under the banner of "Biodiversity is our Business" targeting land use planners, policy-makers, investors, community groups and other key stakeholders
- 3.5 Train government technicians and local contractors on best practices to incorporate ecosystem services, socio-economic/livelihoods and public participation in development review and decision-making processes
- 3.6 Develop a photo board and compile knowledge and lessons learned across all components to share at the CBD COP and other venues

Outputs

- i. A short documentary on "Biodiversity is our Business"
- ii. Launch of the final report
- iii. Media coverage (social media, newspapers, radio and television interviews) of the ecosystem valuation results and other project results
- iv. A report on the high-level inter-sectoral dialogue
- v. Two workshop reports on workshops for government technicians and local contractors on biodiversity and livelihoods mainstreaming in decision-making
- vi. A photo board and knowledge and lessons learned across all components

Implementation arrangements and stakeholder responsibilities

The project will be implemented through a collaborative implementation arrangement with the Ministry of Environment and three non-governmental organizations, The Marine Ecosystems Protected Area Trust (MEPA Trust), Environmental Awareness Group (EAG), and the Precision Development Foundation (PDF).

The MEPA Trust will be responsible for the overall coordination of this project, will be responsible for technical and financial reporting to the JBF as well as all administrative matters. It will also report on progress and share deliverables with the Technical Advisory Committee (TAC). The TAC acts as a technical advisory body to the Project Management Committee (PMC), providing technical guidance, policy recommendations and support, and facilitating communication, cooperation and coordination among relevant stakeholders and other project partners. In particular, the TAC coordinates and reports on the implementation of MEA-related projects. Agencies involved in the TAC include: the Antigua and Barbuda Investment Authority, the A&B Department of Marine Services (ADOMS), Agriculture Department, Analytical Services Division, the Public Utility's Water and Electricity Business Units, Barbuda Council, Bureau of Standards, Central Board of Health, Development Control Authority, Energy Department, Extension Division, Finance and Debt Unit, Fisheries Division, Foreign Affairs, Forestry Unit, Lands Division, Meteorological Office, National Parks Authority, the National Office of Development Services (NODS), the National Solid Waste Management Authority (NSWMA), Plant Protection, Statistics Division, Surveys and Mapping Division, Tourism Authority, and the Transport Board.

The TAC also represents community interest groups including the Community Development Division, the MEPA Trust, and the Environmental Awareness Group (EAG). In addition, the private sector A&B Coalition for Service Industries is represented on the TAC. This system of coordination allows for information sharing and discussions with the aim of maximizing the efficiency of project outputs and benefits as well as avoiding the duplication of efforts.

Precision Development Center will be issued special invitations to attend relevant sessions of the TAC, in accordance with the TAC operational procedures. Precision Development Foundation (PDF) will compile socioeconomic data with guidance provided by the Ecosystem Services Valuation Expert to fill any data gaps. This would be a Contingent Valuation Survey using a sampling method to capture island-wide information on genetic material for traditional uses, and recreation and aesthetic values of the ecosystem (including eco-tourism values).

The EAG is Antigua and Barbuda's oldest environmental NGO, established in 1989 and amongst others, has led the country in two decades of species data collection and environmental monitoring. The EAG will be responsible for the species data maps under component 2 of this project.

The Department of Environment, as the CBD focal point, having endorsed this project, will provide technical support and other services to ensure the timely and successful implementation of this project.

The contact details of the different parties involved are the following:

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Project timeline and budget

Budget and timeline

The total project budget is USD 180,000 – see attachments

Annex 2 List of Outputs

Component 0

- 0. i Terms of Reference for national consultants.
- 0.ii Terms of reference for Ecosystem Services Valuation Expert (regional/int'l)
- 0. iii Inception Workshop with all project partners
- 0.iv Technical and financial progress report 1
- 0.v Technical and financial progress report 2
- 0.vi Technical and financial progress report 3
- 0.vii Final report including a financial report (4)

Component 1

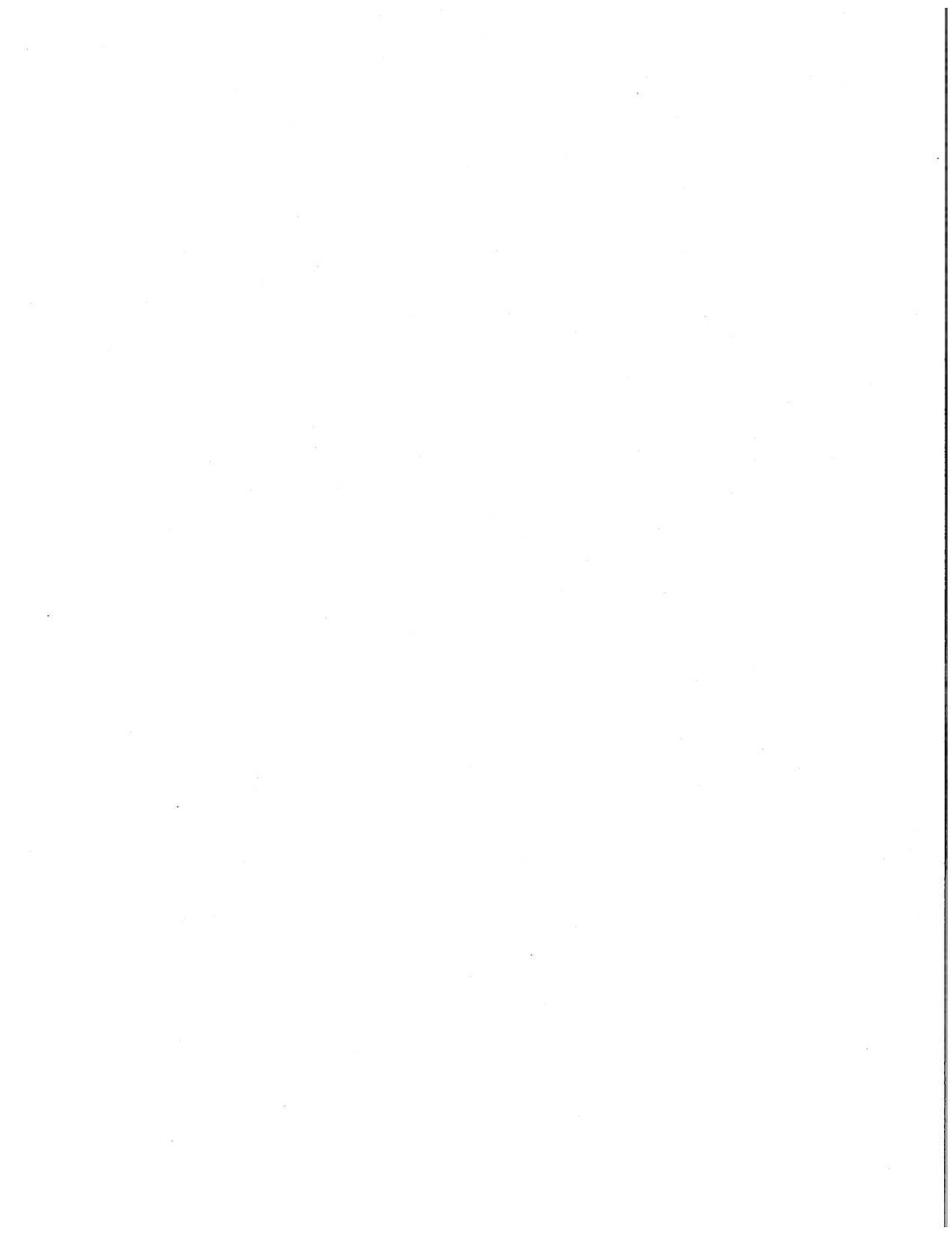
- 1.i Three workshops on stakeholder engagement and sectors' involvement
- 1.ii A stakeholder engagement plan demonstrating different sectors' involvement and buy-in to the valuation exercise
- 1.iii An island-wide digital ecosystem services map stored in EIMAS
- 1.iv An island-wide digital ecosystem service values map stored in EIMAS
- 1.v A report on biodiversity ecosystem services

Component 2

- 2.i Upgraded data management system for project partners
- 2.ii 8-10 Sets of georeferenced protected species data
- 2.iii Workshop to approve the new datasets and their inclusion in EIMAS
- 2.iv Socio-economic data included in the EIMAS
- 2.v Different scenarios and thematic maps prepared and stored in the EIMAS as digital maps
- 2.vi An ecosystem services decision support tool

Component 3

- 3.i A short documentary on "Biodiversity is our Business"
- 3.ii Launch of the final report
- 3.iii Media coverage of the ecosystem valuation results and other project results
- 3.iv A report on the high-level inter-sectoral dialogue
- 3.v Two workshops for government technicians and local consultants on biodiversity and livelihoods
- 3.vi Report on workshops of output 3.v
- 3.vii A photo board and knowledge and lessons learned across all components



Annex 3 Schedule of Payments

30% At the signing of the contract and satisfactory submission of terms of reference for national consultants.

Outputs to be delivered include:

- 0. i Terms of Reference for national consultants.
- 0.ii Terms of reference for Ecosystem Services Valuation Expert (regional/int'l)

30% At the timely and satisfactory completion of the outputs listed under the second tranche in Annex 3

Outputs to be delivered include:

- 0. iii Inception Workshop with all project partners
- 0.iv Technical and financial progress report 1
- 0.v Technical and financial progress report 2

- 1.i At least one of the three workshops implemented
- 1.ii Stakeholder engagement plan

- 2.i Upgraded data management system for project partners
- 2.ii 8-10 Sets of georeferenced protected species data
- 2.iii Workshop to approve the new datasets and their inclusion in EIMAS

20% At the timely and satisfactory completion of the outputs listed under the third tranche in Annex 3

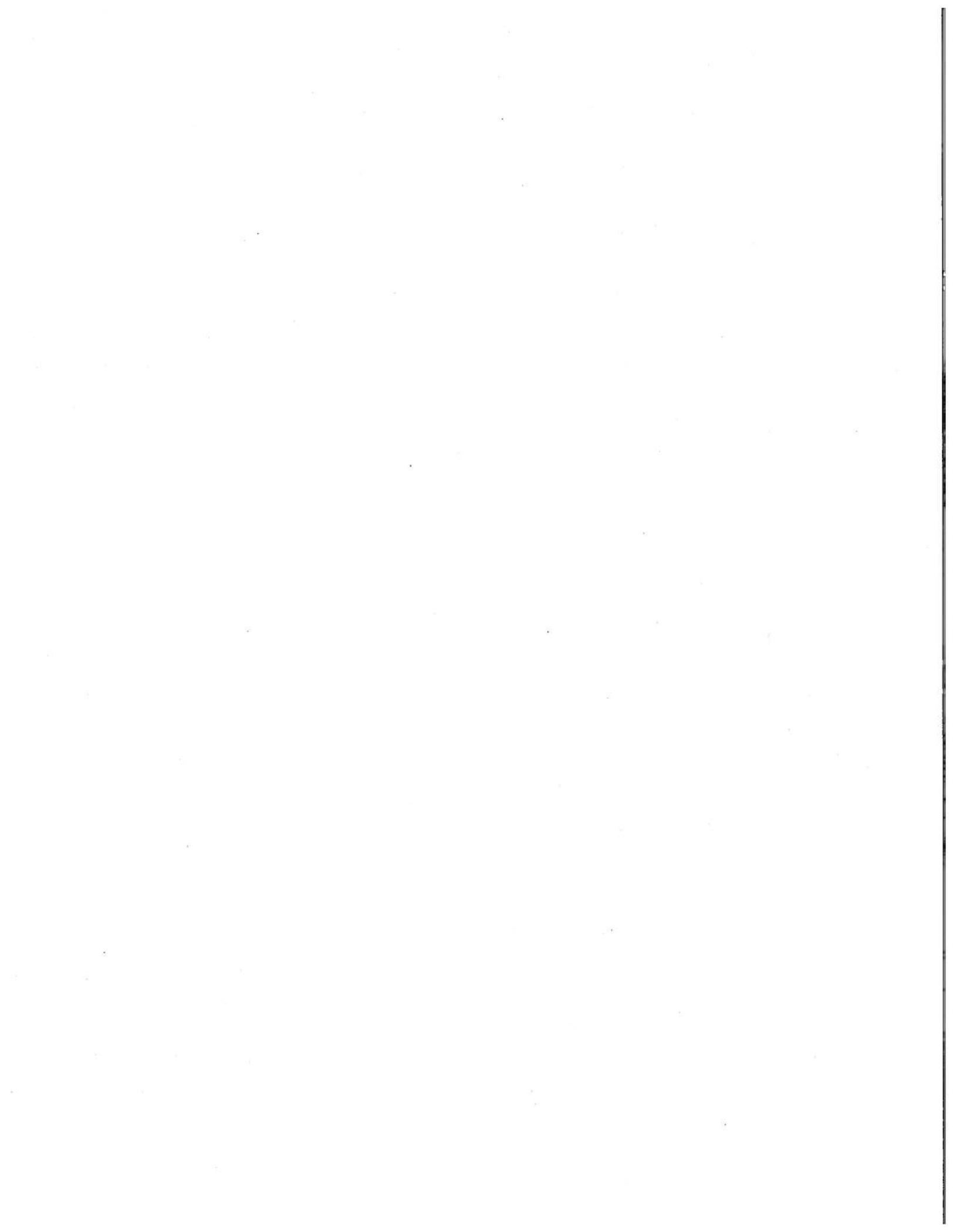
Outputs to be completed include:

- 0.vi Technical and financial progress report 3
- 1.i Two (of the three) workshops on stakeholder engagement and sectors' involvement
- 1.iii An island-wide digital ecosystem services map stored in EIMAS
- 1.iv An island-wide digital ecosystem service values map stored in EIMAS
- 2.iv Socio-economic data included in the EIMAS
- 2.v Different scenarios and thematic maps prepared and stored in the EIMAS as digital maps
- 2.vi An ecosystem services decision support tool

20% At the timely and satisfactory completion of the outputs listed under the fourth tranche in Annex 3

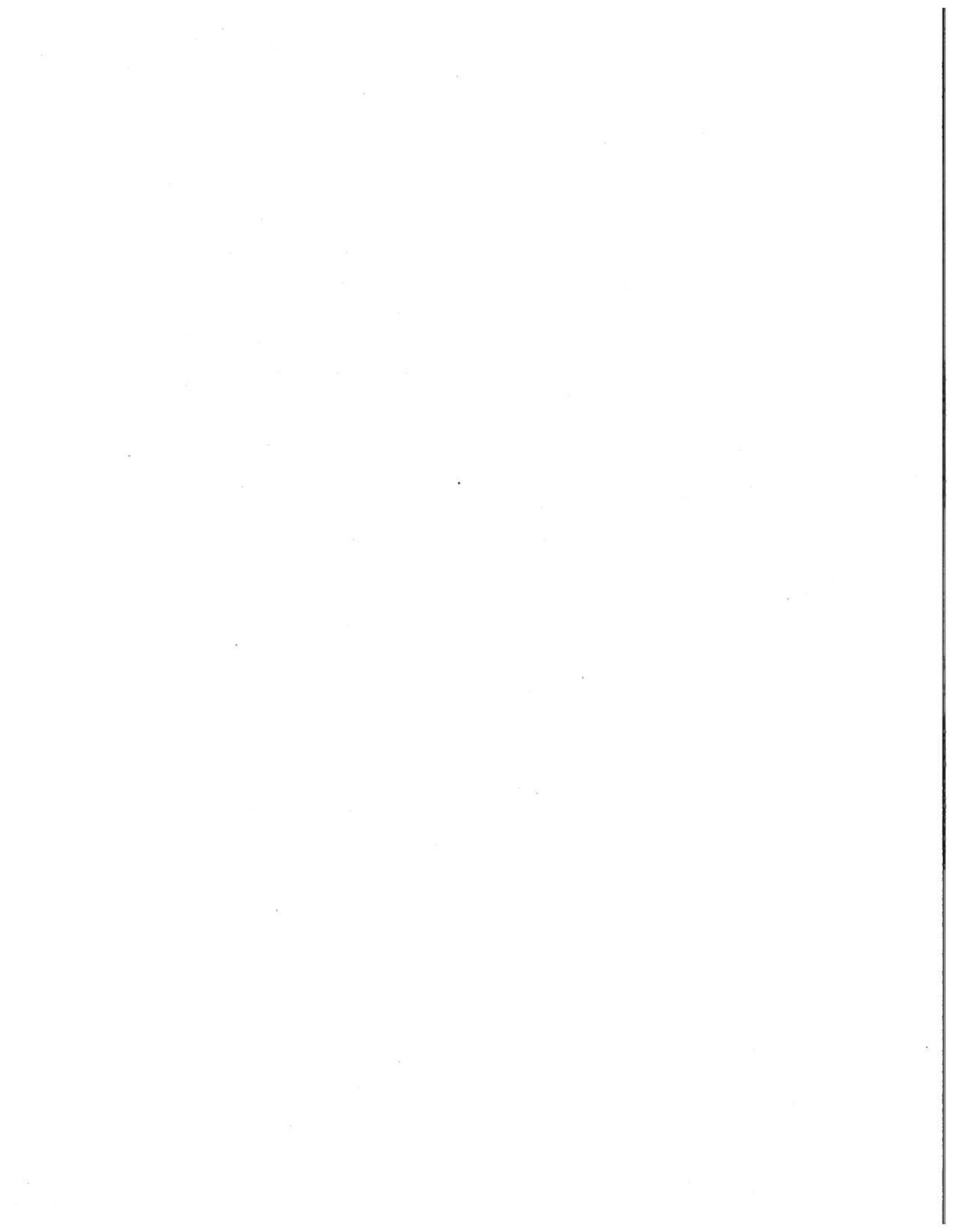
Outputs to be delivered include:

- 0.vii Final report including a financial report (4)
- 1.v A report on biodiversity ecosystem services
- 3.i A short documentary on "Biodiversity is our Business"
- 3.ii Launch of the final report
- 3.iii Media coverage of the ecosystem valuation results and other project results
- 3.iv A report on the high-level inter-sectoral dialogue
- 3.v Two workshops for government technicians and local consultants on biodiversity and livelihoods
- 3.vi Report on workshops of output 3.v
- 3.vii A photo board and knowledge and lessons learned across all components



ANNEX 5 Budget

Item	Unit	No of units	Unit cost	Total	
Human resources					
Project Coordinator (not full time)	months	10	2,500.00	\$ 25,000.00	
Communications expert	months	5	2,000.00	\$ 10,000.00	
Graphic Design specialist	months	3	2,500.00	\$ 7,500.00	
Human geographer	months	5	2,500.00	\$ 12,500.00	
Field researcher stipend	per person per month	5	1,000.00	\$ 5,000.00	
GIS Expert	months	5	2,500.00	\$ 12,500.00	
Data Associate	months	5	1,000.00	\$ 5,000.00	
Part-time Accountant	months	5	1,000.00	\$ 5,000.00	
International expert on Ecosystem Services	man days	60		\$ -	Outside the national budget
Subtotal human resources				\$ 82,500.00	
Travel					
National travel (site visits, field trips, Barbuda)	Lumpsum	6	2,000.00	\$ 12,000.00	
CBD COP13 travel	Tickets and DSA	2	3,500.00	\$ 7,000.00	
International travel				\$ -	Outside the national budget
Subtotal travel				\$ 19,000.00	
Investments					
Hardware			2,000.00	\$ 2,000.00	
Software			1,000.00	\$ 1,000.00	
Subtotal investments				\$ 3,000.00	
Running costs					
Office costs	months	12	250.00	\$ 3,000.00	
Communication (internet, courier media)	months	12	250.00	\$ 3,000.00	
Bank costs			200.00	\$ 200.00	
Independent audit	audits	1	4,000.00	\$ 4,000.00	
Subtotal running costs				\$ 10,200.00	
Dissimination and capacity building					
Paid advertising	per item	30	500.00	\$ 15,000.00	
Doumentary	per production	1	7,500.00	\$ 7,500.00	
High level event	lumpsum	1	8,000.00	\$ 8,000.00	
Validation meeting	lumpsum	1	3,000.00	\$ 3,000.00	
Training (Valuation methods, Govt technicians)	per workshop	5	1,500.00	\$ 7,500.00	
Banner, map and photoboard printing	per item	10	1,000.00	\$ 10,000.00	
Translation	per item	1	500.00	\$ 500.00	
Subtotal dissimination				\$ 51,500.00	
Other					
	months			\$ -	
Subtotal other					
Subtotal unforeseen				\$ 13,800.00	
GRAND TOTAL (national country budget)				\$ 180,000.00	
GRAND TOTAL				\$ 180,000.00	





GOVERNMENT OF ANTIGUA AND BARBUDA

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June 17, 2016

Mr. David Duthrie
Secretariat of the Convention on Biological Diversity
413 Rue Saint-Jacques #800,
Montréal, QC
Canada
H2Y 1N9

Dear Sir,

The Department of Environment within the Ministry of Health and the Environment, Government of Antigua and Barbuda, is pleased to support the development and implementation of the project, "Biodiversity is our Business." The Marine Ecosystems Protected Area Trust (MEPA Trust), in collaboration with the Environmental Awareness Group (EAG) and Precision Development Foundation (PDF), will implement this project.

The project "Biodiversity is our Business" is aligned with and will support the implementation of Antigua and Barbuda's National Biodiversity Strategy and Action Plan (NBSAP). To this end, the Department has provided in-kind support to develop the project document for submission to the Japan Biodiversity Fund (JBF), and will continue to work with the non-governmental organizations to provide technical support as needed for project implementation.

Amb. Diann Black-Layne
Director
Department of Environment
Ministry of Health and the Environment

