

ENHANCING CAPACITY FOR ADAPTATION TO CLIMATE CHANGE IN THE CARIBBEAN UK OVERSEAS TERRITORIES

A programme linking the UK Overseas Territories in the Caribbean with the Caribbean Community Climate Change Centre (CCCCC) regional programmes

PROJECT MEMORANDUM

**Department for International Development
Caribbean Community Climate Change Centre**

March 2007

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CONTENTS

- 1 SUMMARY**
- 2 PROJECT DETAILS**
 - 2.1 Project description
 - 2.2 Project appraisal
 - Background
 - Policies
 - Approach
 - Economic Appraisal
 - Social Appraisal
 - Institutional Appraisal
 - Environmental Appraisal
 - 2.3 Lessons and Evaluation
- 3 IMPLEMENTATION**
 - 3.1 Management arrangements
 - 3.2 Timing
 - 3.3 Funding
 - 3.4 Contracting and procurement
 - 3.5 Accounting/audit
 - 3.6 Monitoring and Reporting
- 4 RISKS**
- 5 CONDITIONALITY**

Annexes

- 1 Logical framework
- 2 Climate change: the issues and the Overseas Territories
- 3 Sources of additional information
- 4 Environmental Screening Note

ACRONYMS & ABBREVIATIONS

ACCC	Adaptation to Climate Change in the Caribbean
CARICOM	Caribbean Community
CCCCC	Caribbean Community Climate Change Centre
CPACC	Caribbean Planning for Adaptation to Climate Change
DFID	Department for International Development (UK)
FCO	Foreign and Commonwealth Office (UK)
GEF	Global Environment Facility
GHG	Greenhouse Gas
IPCC	Intergovernmental Panel on Climate Change
JNCC	Joint Nature Conservation Committee
MA	Millennium Ecosystem Assessment
MACC	Mainstreaming Adaptation to Climate Change
MoU	Memorandum of Understanding
OECS	Organisation of Eastern Caribbean States
OTD	Overseas Territories Department
OTEP	Overseas Territories Environment Programme
PEO	Public Education and Outreach
SPACC	Special Programme for Adaptation to Climate Change
UKOT	United Kingdom Overseas Territory
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
USAID	United States Agency for International Development
WSSD	World Summit on Sustainable Development

1 SUMMARY

1.1 The Caribbean UK Overseas Territories, together with their independent neighbours, are vulnerable to the adverse effects of climate change including climate variability and severe weather events. The territories are all small islands; they have narrow economic bases and are sensitive to external market forces; they have limited natural resource bases and human capacity; and they have high population densities concentrated in low-lying coastal areas.

1.2 Key climate change issues for the territories are: sea level rise; changes in precipitation patterns, air temperatures and sea surface temperatures; and the incidence of extreme weather including increasing intensity and (possibly) frequency of hurricanes. All of these have potentially serious adverse environmental, social and economic consequences for the territories. While the territories have little, if any, scope for addressing the causes of climate change, they recognise the need to adapt to the unavoidable consequences of a problem not of their own making. (For further information on the climate change issues in the UK Overseas Territories, see **Annex 2.**)

1.3 Since 1998, a series of regional programmes funded by the Global Environment Facility (GEF) has been implemented in the independent Caribbean Community (CARICOM) countries to assist them in planning for adaptation to climate change. Although the UK is a major contributor to the GEF, the UK Overseas Territories, because of the nature of their relationship to the UK, are not eligible to participate in GEF-funded projects unless they are independently resourced.

1.4 This project seeks to facilitate the participation of the UK Overseas Territories in the Caribbean in the ongoing regional adaptation activities largely funded by the GEF and managed by the Caribbean Community Climate Change Centre (CCCCC), a CARICOM specialized agency, which became fully operational in Belmopan, Belize, in January 2005.

1.5 By the end of the project, it is expected that the participating territories will have enhanced their capacity to benefit from regional climate change adaptation programmes and will have initiated the integration of the outputs of these into national development planning processes.

1.6 The five UK territories: Anguilla, British Virgin Islands, Cayman Islands, Montserrat and Turks and Caicos Islands, have articulated their desire to participate in these regional programmes. This project provides the financial resources, through the CCCCC, to enable them to do so.

2 PROJECT DETAILS

2.1 Project description

2.1.1 The project will assist the Caribbean Overseas Territories in the building of their local capacity to plan and implement measures to adapt to climate change and climate variability within the context of their national development planning processes. It is expected that by the end of the project all participating territories will have developed national climate change adaptation strategies and initiated the implementation of these. It is also expected that each participating territory will have developed the capacity to engage with regional and international climate change programmes, and to benefit from and contribute to the work of the relevant regional institutions, including the CCCCC.

2.1.2 The project will provide the necessary financial resources to the CCCCC to enable it to facilitate a range of activities designed to assist the territories in producing outputs that will contribute to the achievement of these objectives. These outputs, against which project performance will be measured, will include:

- a) the establishment of the necessary project management structures at the CCCCC to ensure efficient and cost-effective delivery;
- b) the establishment of national coordinating mechanisms in each territory;
- c) the development and implementation of public education and outreach programmes;
- d) the enhancement of national capacities to undertake vulnerability and risk assessments in key environmental and socio-economic sectors;
- e) the development and initiation of climate change strategies and action plans and the integration of these into national development planning processes; and
- f) the establishment of mechanisms for the mutual sharing of information and lessons among the territories, and with other countries and institutions within and beyond the region.

2.1.3 Project activities and outputs will broadly follow those of the GEF-funded regional project '*Mainstreaming Adaptation to Climate Change*' (MACC). The MACC project, operational since 2004 in twelve CARICOM states and initially managed as a stand-alone project, was transferred to the CCCCC (as Executing Agency) in August 2006 following a mid-term review by the World Bank. The four key components of the MACC project are:

- a) To build capacity to assess vulnerability and risks associated with climate change through:
 - strengthening the climate impacts monitoring network;
 - generating climate projection and impact scenarios;

- refining a harmonized methodology for assessing climate change vulnerability and adaptation policy making;
 - preparing vulnerability and risk assessment studies in key economic sectors.
- b) To build capacity to reduce vulnerability to climate change through:
- identifying and incorporating ‘no regrets’ adaptation measures;
 - developing climate change adaptation approaches for selected sectors and upgrading EIAs;
 - disaster risk reduction through strengthening technical norms for infrastructure development;
 - developing country-level multi-sectoral adaptation strategies.
- c) To build capacity to access and use resources effectively to reduce vulnerability to climate change, through:
- development of a regional agenda;
 - development of a regional strategy for adaptation to climate change.
- d) To develop and implement a public education and outreach programme.

2.1.4 The project will also draw on the outputs of MACC’s predecessor projects in the Caribbean (see para 2.2.15 below) and on a new GEF-funded project ‘Special Programme on Adaptation to Climate Change’ (SPACC), approved in August 2006 and to be implemented during the period 2007-2010. The SPACC project uses elements of the ecosystem approach¹ as a basis for adaptation to climate change and it is envisaged that this project will draw on relevant outputs and provide a working example of the suitability of the ecosystem approach as a methodology for climate change adaptation.

2.1.5 Through the CCCCC, the territories will also benefit from its growing links with international institutions involved with climate change research, including those in the UK. It is expected that the engagement of the CCCCC in the UK Overseas Territories will enhance the rationale for the further development of the CCCCC’s links with the Hadley Centre, the Tyndall Centre for Climate Change Research, and the UK Climate Impacts Programme.

¹ The ecosystem approach is a strategy for the integrated management of land, water and living resources that promotes their conservation and sustainable use in an equitable way. It is based on the application of appropriate scientific methodologies focused on levels of biological organization which encompass the essential processes, functions and interactions among organisms and their environment. It recognizes that humans, with their cultural diversity, are an integral component of ecosystems. Source: Convention on Biological Diversity – Ecosystem Approach <http://www.biodiv.org/programmes/cross-cutting/ecosystem/default.shtml>

2.2 Project Appraisal

Background

2.2.1 The possibility of the Caribbean UK Overseas Territories participating in the GEF-funded MACC project was first raised with the Department for International Development (DFID) by its project manager in mid-2004. On the initiative of the Government of Montserrat, the subject of climate change was included on the agenda of the October 2004 meeting of the Overseas Territories Consultative Council held in London, where the concept of a link arrangement between the Caribbean territories and the MACC project was floated and widely endorsed in principle.

2.2.2 A consultation meeting was then held at the DFID Caribbean office in Barbados in November 2004 attended by DFID's Overseas Territory Department (OTD) Senior Natural Resources and Environment Adviser (Mr Richard Beales), the then MACC Project Manager (Dr Ulric Trotz), Montserrat's Minister for Agriculture, Lands, Housing and the Environment (Hon Mrs Margaret Dyer-Howe), and the then Head of the Environment and Sustainable Development Unit of the Organisation of Eastern Caribbean States (Dr Vasantha Chase).

2.2.3 Further consultations were held by OTD's Senior Natural Resources & Environment Adviser with relevant senior officials of the Governments of Anguilla and the British Virgin Islands during visits immediately following the Barbados consultation in November 2004, and of the Cayman Islands and the Turks & Caicos Islands during February/March 2005. All five UKOTs signalled their strong desire to participate in the regional programme.

2.2.4 The project concept was also discussed with staff at the Tyndall Centre for Climate Change Research at the University of East Anglia, and the Director of the UK Climate Impact Programme (supported by DEFRA) at the University of Oxford. Both institutions endorsed the project concept.

2.2.5 During the period May 2004 to September 2005 the Tyndall Centre for Climate Change Research at the University of East Anglia implemented a project '*Preparing for and adapting to climate change in the Caribbean*' funded as a small grant (XOT 005) under the joint Foreign and Commonwealth Office (FCO)/DFID Overseas Territories Environment Programme (OTEP). One of the activities of this project was to fund concurrent one-month attachments to the Tyndall Centre for a representative from each of the five Caribbean territories and one from the regional GEF-funded '*Caribbean Planning for Adaptation to Climate Change*' (CPACC) programme, to enhance their understanding of the science of climate change, of the likely impacts of climate change on their countries and the potential for adapting to it. The project culminated in a workshop held in the Cayman Islands in June 2005 at which the DFID/OTD representative was able to announce that a formal Project Concept Note for a project to link the five territories to the MACC project had been approved in May 2005. While this

was well received, unforeseen resource constraints at DFID precluded inception of the project to the timetable then envisaged. The necessary funding allocation will, however, now be available with effect from April 2007.

2.2.6 Since May 2005 the project concept has been further developed in parallel with progress in the Caribbean region towards the establishment of the CCCCC. Also during this time, DFID has been strengthening its links with the UK Joint Nature Conservation Committee (JNCC) whose mandate extends to the provision of nature conservation and climate change advice in the UK Overseas Territories. This project memorandum was developed in consultation with the CCCCC during a project preparation mission in January 2007, comprising representatives of DFID/OTD and JNCC.

Policies

2.2.7 Climate change has engendered a political commitment to action at the highest levels of the UK government. It is a global issue requiring global, regional, national and local solutions to mitigate greenhouse gas emissions and to adapt to its impacts. With the publication of the Stern Review in 2006 and the earlier focus during the UK presidencies of the G8 and European Union in 2005, climate change has become an increasingly high profile issue that now extends across a number of UK government departments.

2.2.8 The 2006 DFID White Paper *'Eliminating World Poverty: Making Governance Work for the Poor'* identifies climate change as a critical development issue and Stern examines climate change in terms of inter- and intra-generational equity. There has also been a marked shift in climate change policy development to include adaptation to climate change impacts in addition to continued mitigation of greenhouse gas (GHG) emissions. To this end the United Nations Framework Convention on Climate Change (UNFCCC) has agreed a 5-year global programme of work on impacts, vulnerability and adaptation to climate change, in particular to support the most vulnerable nations in making informed decisions for adaptation. As reflected in the DFID White Paper, the UK Government has committed itself to continued support for developing countries in adapting to the impacts of climate change.

2.2.9 Adaptation to climate change in metropolitan UK is advanced through the 2006 Climate Change Programme, but this does not extend to the territories; neither has the UNFCCC been extended to them. The Cayman Islands requested that the UNFCCC and Kyoto be extended to them in September 2005 but, as yet, this has not taken place. The territories, meanwhile, remain most vulnerable to the risks of climate change for the same reasons as other small islands and less developed nations, and as Stern identifies, governments such as that in the UK have a moral obligation to support vulnerable communities in adapting to climate change.

2.2.10 This project is consistent with the undertakings of the UK Government and of the UK Overseas Territories in their respective

Environment Charters. In the case of those territories that are members or associate members of the OECS, this project is also consistent with Principle 8 of the St George's Declaration of Principles for Environmental Sustainability in the OECS.

Approach

2.2.11 The approach adopted for this project responds to the territories' needs articulated during the initial consultations noted above. The CCCCC will offer support to the territories within available financial resources and the scope of the project activities and outputs as set out in the logical framework (**Annex 1**).

2.2.12 While there will be no obligation on the part of the territories to avail themselves of the opportunity afforded by the project to participate in and benefit from wider regional climate change adaptation activities, consultations to date have clearly indicated that they will wish to do so according to their individual needs and circumstances.

2.2.13 It is recognised that three of the territories eligible for support under this project (Anguilla, British Virgin Islands and Montserrat) are members or associate members of the OECS. While this project offers support to all five Caribbean UK Overseas Territories specifically through the CCCCC, it does not preclude them from pursuing complementary climate change adaptation initiatives through other mechanisms or institutions including the OECS.

2.2.14 The arrangement whereby financial resources will be made available through and managed by a recognised regional institution under a Memorandum of Understanding, is considered the most efficient and cost-effective way of achieving the desired outcomes across five territories, while minimising delivery transaction costs. There is no practicable alternative.

Economic Appraisal

2.2.15 This project budget (£300K) is small in relative UK terms, yet is likely to have a significant influence on the capacity of the territories to engage in regional programmes and adapt to climate change. The regional programmes run by the CCCCC are funded in the order of US\$5.44million (SPACC) and US\$10.95million (MACC) and the territories are in the fortunate position of being able to benefit from the regional assessments, modelling and development of tools already derived from these established programmes. The project therefore represents good value for money.

2.2.16 Furthermore, as Stern concludes, there is an economic rationale for addressing climate change mitigation and adaptation now rather than the future. Strong and early adaptation policies that take into account the role of uncertainty, risk and equity in adapting to climate change require an immediate investment of GDP. The economic benefits of this cost outweigh the future economic cost of not acting. This is for two reasons: (a) climate

change impacts are inevitable over the next 30-40 years as a consequence of past and current GHG emissions; and (b) Stern's economic modelling which uses a zero discounting rate (reflecting the inter-generational and equity aspects of climate change) results in strong evidence for taking adaptation action now.

2.2.17 Due to the territories' low total GHG emissions any investment in climate change mitigation activities is unlikely to contribute greatly to minimising direct future climatic and consequent economic impact globally and within the territories. Investment in mitigation activities may, however, strengthen their political voice in any engagement they may have with the large emitters.

2.2.18 Under the GEF-funded projects, the independent Caribbean states are developing tools for the economic valuation of ecosystem services² upon which they are dependent on for livelihoods: this project will draw on such evidence. Adaptation policies that act to protect underlying ecosystem services may have a positive impact on livelihoods and economic security. The project will examine the economic, social and environmental vulnerability of the territories to the impact of climate change and provide evidence to support the economic rationale for adapting to climate change.

Social Appraisal

2.2.19 The territories face similar social issues to those in many other small island states including low populations, and limited human resource capacity and economic opportunities. Furthermore, the narrow ecological basis of livelihoods in the territories gives an added impetus to increase the capacity of communities to adapt to the negative impacts of climate change.

2.2.20 The potential impacts of climate change are intimately linked to the provision of ecosystem services and will ultimately impact on human livelihoods. For example, increased temperatures may impact on human health and disease regimes and communities need to be prepared to manage the impacts. The project will consider ecological and social resilience as part of the vulnerability assessments and the resulting adaptation strategies will include mechanisms to support human livelihoods.

2.2.21 Climate change should be considered as both an inter- and intra-generational issue. In recognising this, Stern highlighted the moral obligation that high emitters of GHGs (such as metropolitan UK) have in supporting the most vulnerable communities in adapting to climate change. Communities in

² Ecosystem services are conditions and processes through which natural ecosystems, and the species that make them up, sustain and fulfil human life. They include supporting, provisioning, regulating, cultural services that link to constituents of human well-being. Examples include provision of clean water, maintenance of liveable climates (carbon sequestration), pollination of crops and native vegetation, and fulfilment of people's cultural, spiritual, intellectual needs. Source: Millennium Ecosystem Assessment www.maweb.org

the UK territories are especially vulnerable to the impacts of climate change. This project will assist them in addressing this issue locally.

2.2.22 In addressing climate change adaptation strategies, the project will take account of the interdependence of social and human livelihood impacts of climate change, economics, and the provision of ecosystem services. Delaying or failing to address adaptation has greater social, environmental and economic risks for the future than adaptation action now.

Institutional Appraisal

2.2.23 A team comprising DFID/OTD's Senior Natural Resources Adviser and the Programme Officer for this project, accompanied by the JNCC's Climate Change Adviser, visited the CCCCC during January 2007 to gain a better understanding of the institutional context within which this project will be implemented.

2.2.24 The establishment of the CCCCC was endorsed by CARICOM Heads of Government in 2002 on condition that it should be financially independent and that it would take responsibility for coordinating the regional response to climate change. The institution developed incrementally, becoming fully operational in January 2005. In 2006 the Centre reached a minimum critical mass of staffing acceptable to the World Bank for the execution of GEF-funded programmes, at which time management of the MACC project was transferred to it.

2.2.25 The Centre - located in Belmopan, Belize - is a specialised agency of CARICOM with an independent management comprising: (a) a Governing Council of Ministers of CARICOM Member Governments with responsibility for environmental policy matters; (b) a Board of Governors responsible for strategic planning; and (c) a Technical Secretariat, headed by a Director, with responsibility for tactical planning, operations and management.

2.2.26 The Centre has full juridical personality and is recognised by the UNFCCC, the United Nations Environment Programme (UNEP) and other international agencies, as the focal point for regional climate change activities. It is also the repository and clearing house for regional climate change data, and it provides advice and guidance to CARICOM Member States through the Secretariat. Of relevance to this project, Article 20 of the Agreement Establishing the CCCCC allows it, among other things, to: '... enter into agreements with Members, third states and other international organisations for the achievement of its objectives.'

2.2.27 The Centre's financial management framework is governed by a Financial Procedures and Accounting System Manual and a Procurement Manual. Centre staff members have received training at World Bank facilities in both financial management and procurement. Prior to the signature of the SPACC Grant Agreement in October 2006, the CCCCC passed the World Bank's assessment of its financial management systems.

2.2.28 The Centre's operating revenue is derived from grants from governments and international agencies and organisations, and from management fees for services provided. Currently 85% of the Centre's operating costs are funded by the governments of Belize, Barbados and Italy: these are secure until at least 2010. Income from management fees come from climate change projects in the region, and projects funded under the UNFCCC. The Centre may, in due course, also be able to raise income from certification services provided under the Clean Development Mechanism.

2.2.29 As of November 2006, the staff of the Technical Secretariat consisted of a central core of sixteen, headed by a Director, including 5 senior technical staff, 3 financial management staff, 2 procurement staff and 6 administration staff. The core staff is complemented by an extended core of regional experts and institutions, constituting a Regional Technical Advisory Team. Regional institutions include the University of the West Indies, the Universities of Belize and Guyana, the Caribbean Institute of Meteorology and Hydrology, and other CARICOM institutions. The Centre also has institutional alliances in the USA, Germany, the UK and Japan.

2.2.30 In addition to the MACC and SPACC projects noted above, the Centre is also currently executing projects funded by the Japanese Trust Fund, the UNFCCC, United States Agency for International Development (USAID) and the World Bank.

Environmental Appraisal

2.2.31 The sectoral assessments in other Caribbean islands under the MACC programme have focused on tourism, water resources and agriculture. Whilst environmental elements are embedded within these sectors there is the risk that assessments are developed without explicit consideration of the interdependencies between biodiversity and ecosystem services and those of economics and human livelihoods. There is a risk that the role of ecosystem services is not yet sufficiently recognised as underpinning all human activity.

2.2.32 In addressing this risk, this project will draw on elements from the SPACC programme with the aim of:

- a) examining the potential impacts of climate change on different sectors from an ecosystem approach using tourism as a means of reflecting additional sectors;
- b) using the ecosystem approach as the key mechanism for establishing sectoral vulnerability assessments;
- c) structuring the resultant adaptation strategies using the ecosystem approach.

2.2.33 This will result in adaptation policies that fully reflect the ecological, social and economic cost of action, and indeed of inaction. The environmental impact of this project will therefore be positive.

2.3 Lessons and Evaluation

2.3.1 Apart from the project funded under the OTEP noted in paragraph 2.2.5 above, this is the first climate change project to be funded by DFID in the Caribbean. The CCCCC is, however, now well placed to apply best practice based on the lessons learned from the implementation of the various regional projects³ dating back to 1997 that preceded its establishment.

2.3.2 Project progress and success will be measured at output and purpose level against the logical framework in accordance with routine DFID practice.

3 IMPLEMENTATION

3.1 Management arrangements

3.1.1 The project will be managed by the CCCCC, who will appoint a project team for the purpose. CCCCC will work closely with national coordinators, to be appointed by the participating territories, and will also draw on their network of institutional partners as necessary.

3.1.2 DFID will approach the governments of participating territories, confirming approval of the project. The CCCCC will then require each territory to sign a Participation Agreement, setting out joint expectations for cooperation.

3.1.3 The DFID Project Officer will be OTD's Programme Officer for Regional Programmes and the Pitcairn Islands.

3.1.4 The DFID Lead Adviser will be OTD's Senior Natural Resources and Environment Adviser.

3.1.5 As part of its wider remit, JNCC is expected to engage with DFID and the CCCCC in the context of the project. All DFID correspondence with the CCCCC should be addressed to:

- Dr Kenrick Leslie, Executive Director (k.leslie@sbcglobal.net);

with copies to:

- Ms Ethlyn Valladares, Executive Assistant (climatechangecentre@yahoo.com);
- Deputy Director, Mr Carlos Fuller (cfuller@btl.net);
- Scientific Adviser, Dr Ulric (Neville) Trotz (utrotz@yahoo.com).

³ Caribbean Planning for Adaptation to Climate Change (CPACC) 1997-2001
Adaptation to Climate Change in the Caribbean (ACCC) 2001-2004
Mainstreaming Adaptation to Climate Change (MACC) 2004-2008
Special Programme for Adaptation to Climate Change (SPACC) 2007-2010

3.2 Timing

3.2.1 The project will operate for a period of three years, with a planned starting date of April 2007. There will be an inception workshop in mid-2007, at which the CCCCC and participating territories will agree a costed work plan for each territory, to be cleared with DFID and to include target dates for achievement of key milestones.

3.3 Funding

3.3.1 DFID will allocate a sum of up to £300,000 from its regional budget line, under arrangements to be set out in a Memorandum of Understanding (MoU) with the CCCCC. Administration of the grant will be subject to standard DFID procedures.

3.3.2 Additionally the project will benefit from the regional outputs of other CCCCC programmes, particularly MACC and SPACC.

3.3.3 Project administrative overheads are minimised by support (eg office accommodation) provided by the Government of Belize.

3.3.4 Local inputs to this project from the territories will be mainly in the form of the time of those professional/technical officers with responsibility to their governments for taking forward climate change issues within the context of national development planning processes.

3.4 Contracting and procurement

3.4.1 Purchase of equipment and the recruitment of technical assistance to facilitate project activities to the benefit of the Overseas Territories will be the responsibility of the CCCCC Project Manager, supervised by the CCCCC's Executive Director.

3.5 Accounting / audit

3.5.1 Accounting requirements will be set out in the MoU. Payments will be made at six-monthly intervals.

3.5.2 The standard DFID MoU requires an annual audited statement for the project, the cost of which will be met from within DFID's contribution. Following a competitive process, CCCCC have identified an external auditor. The first external audit of the Centre's accounts is scheduled in the first quarter of 2007.

3.6 Monitoring and reporting

3.6.1 CCCCC routinely produce monthly project progress reports for internal purposes. While these could be made available to DFID on request, it is not envisaged they would normally be required.

3.6.2 CCCCC must, however, provide DFID with narrative reports and certified financial statements every six months, coinciding with requests for funds. Narrative reports must measure progress against logical framework outputs and against activities in the agreed work plan. Every second report should take an annual overview.

3.6.3 The CCCCC will also submit to DFID:

- a) within 3 months of completion of the project a final progress report;
- b) within 3 months of completion of the project a final financial report detailing Project expenditure;
- c) an annual financial statement for the project audited by CCCCC's external auditors.

3.6.4 Within 6 months of project inception, CCCCC and DFID (supported by a representative of the JNCC) will jointly assess progress to date and make any adjustments to operational procedures or the work programme that may be considered necessary in the light of early experience.

3.6.5 Between 12 and 18 months after project inception, there will be a formal review of the project by DFID (supported by a representative of JNCC), the CCCCC, and the participating Overseas Territories.

4 RISKS

4.1 The principal risks to the success of the project are that some territories may either lack the capacity to be able to participate fully in it, or, in view of the long-term nature of the threat, may not maintain consistent policies towards the immediate priority it increasingly demands in strategic planning processes. This risk will be mitigated by early action on the part of the public education and outreach component of the project and the assignment of clear lead responsibility for taking forward climate change issues within the relevant government departments.

4.2 Apart from possible human resource capacity constraints (which vary from territory to territory) the implementation of the project itself is judged to be of **low risk**. But the impact of a failure to make effective use of its outputs (ie vulnerability assessments and national climate change adaptation strategies) in long term planning process could have a high negative impact on outcomes.

4.3 Conversely, prudent strategic planning based on these project outputs could have significant positive socio-economic impact and environmental benefits in the medium to long term.

5 CONDITIONALITY

5.1 The conditions applying to the Grant are set out in the Memorandum of Understanding.

Overseas Territories Department
Department for International Development
March 2007

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LOGICAL FRAMEWORK

Project:	Enhancing Capacity for Adaptation to Climate Change in the Caribbean UK Overseas Territories
Country:	Caribbean Regional (Anguilla, British Virgin Islands, Cayman Islands, Montserrat, Turks & Caicos Islands)
Date of Preparation:	12 January 2007
Design Team	Dick Beales (DFID/OTD), Steve Arthur (DFID/OTD), Dr Kenrick Leslie (CCCC), Dr Ulric Trotz (CCCC), Carlos Fuller (CCCC), Karen Dickinson (JNCC)
Latest Date of Revision:	12-15 January 2007

Narrative Summary	Objectively Verifiable Indicators (OVI)	Means of Verification (MOV)	Assumptions
<p>Goal: UK Overseas Territories (UKOT) in the Caribbean adapt to climate change and climate variability within the context of sustainable development.</p>	<p>Climate change adaptation measures integrated into strategic planning processes. Decrease in number of communities at risk in each territory.</p>	<p>National reports. Project progress reports. CCCCC reports. Physical monitoring.</p>	
<p>Purpose: UK Caribbean Overseas Territories' engage with regional climate change adaptation programmes and initiate the integration of adaptation measures into their national development planning processes.</p>	<p>(End of project) Project completed on time and within budget. National adaptation strategies developed and implementation initiated. Active participation by UKOTs in regional / international climate change programmes and institutions.</p>	<p>Annual progress scoring snapshots. Annual review report. Project completion mission report.</p>	<p>Commitment by, and capacity of UKOTs to implement national climate change strategies and to participate in regional processes on an ongoing basis, can be maintained.</p>
Outputs:			
<p>1) Project management arrangements in place and operational.</p>	<p>MoU agreed with DFID and CCCCC Strategic plan and work programme available.</p>	<p>Project Manager's progress reports. Physical monitoring.</p>	<p>UKOT governments maintain commitment to process.</p>
<p>2) Climate change focal points identified and national coordinating mechanisms for implementation in place and operational.</p>	<p>Named individuals notified to CCCCC.</p>	<p>CCCCC records. Minutes from national coordination mechanism meetings.</p>	<p>Human resource capacity maintained.</p>

Narrative Summary	Objectively Verifiable Indicators (OVI)	Means of Verification (MOV)	Assumptions
3) Public education and outreach (PEO) programmes developed and implemented.	National PEO strategic plans. Stakeholder outreach and events held.	National PEO strategic plans Resource materials disseminated. Media and other reports.	
4) National capacities to undertake environmental monitoring, vulnerability and risk assessments in key environment and socio-economic sectors enhanced.	National vulnerability assessments completed. Monitoring systems in place and operational.	Documentary outputs including: Workshop reports, national climate change scenarios, vulnerability assessment	Regional capacity continues to be available to support national activities.
5) National climate change strategies and action plans developed and implementation initiated.	Climate change strategies and action plans: 1) endorsed by national authorities; 2) integrated into national development planning processes.	UKOT governments. National strategic plans. Media reports.	
6) Mechanisms for sharing information and experience established and functioning effectively.	UKOTs included in regional mechanisms. Enhanced communication and collaboration between UKOTs on climate change issues.	Documentary outputs. UKOT governments.	

Indicative activities and associated inputs (£ GBP)

Project activities across the five Caribbean UKOTs will vary depending on capacity, resources and demand. Indicative activities are set out below. Specific costed programmes of work will be agreed for each territory following the initial planning workshop.

	£
Workshops (training, planning) – Outputs 3, 4, 5 & 6	75,000
Public education and outreach – Output 3	60,000
Vulnerability assessments – Output 4	75,000
Climate change adaptation strategies – Output 5	30,000
Coordination and liaison – Outputs 2 & 6	10,000
Equipment – Output 4	10,000
Monitoring, evaluation and audit – Output 1	10,000
Project management (10%) – Output 1	30,000
<u>TOTAL</u>	<u>300,000</u>

CLIMATE CHANGE: THE ISSUES AND THE OVERSEAS TERRITORIES

1. The UK's Caribbean Overseas Territories, as with other small island states, share many common features that increase their vulnerability to the projected impacts of climate change. The potential impacts of climate change are intimately linked to the provision of ecosystem services and will ultimately impact on livelihoods.

2. The characteristics which make the territories vulnerable to climate change include, variously, their small physical size, high ratio of coastline length to land area, limited natural resources and narrow ecological basis for livelihoods, proneness to natural disasters and extreme events, relative isolation, openness of their economies that are highly sensitive to external shocks, poorly-developed infrastructure, and limited funds, human resources and skills. These characteristics limit the capacity of small island states to mitigate and adapt to future climate change.

Global climate change

3. The global climate is changing rapidly. The most recent Intergovernmental Panel on Climate Change (IPCC) report concluded that an average global temperature rise of between 1.1 and 6.4°C can be expected by the end of this century. This projected range is dependent on future emissions and remaining scientific uncertainty, however temperature increases towards the higher end of this range would be unprecedented in the last 10,000 years.

Future changes in the climate will include: sea level rise, ocean acidification, changes in precipitation cycle, changes in intensity and frequency of storms reduction of thermo-haline circulation and melting of ice and permafrost, all of which will impact on ecosystem functioning and human livelihoods.

4. Global assessments have consistently identified small island states as one of the most high-risk groups as a result of climate change. It has been further established that due to past GHG emissions, the planet is already unavoidably subject to the consequences of climate change. Regardless of any agreement to reduce further emissions, small islands such as the UKOTs are likely to suffer disproportionately from the enhanced effects of climate change and sea-level rise. Hence, the identification and implementation of effective adaptation measures is critical for small islands.

Inter-relationships

5. Climate change transcends political boundaries and an enhanced global momentum is required to address the issue equitably. There are multiple inter-dependencies, socially, economically and environmentally, in addressing climate change and these potential synergies should be capitalised on in developing adaptation policies. The ecosystem approach

provides one such mechanism to facilitate joined-up adaptation policies. Possible benefits from a joined-up approach include:

- reduced impact of climate change on coastal areas through the role of biodiversity (in particular, intact coral reefs, mangroves and coastal ecosystems) in buffering the impact of, for example, storminess and sea level rise;
- reduced GHG emissions through protecting ecosystems that are significant sinks of carbon dioxide (including oceans, peatlands, wetlands and tropical rainforests) against loss or degradation;
- increased opportunities to reduce poverty and support human development by protecting, from climatic changes, the ecosystems upon which communities depend for their livelihoods;
- economic gains by diversifying industry and developing innovative technologies to increase efficiency and support GHG reductions.

6. Whilst not all of these multiple benefits are explicit to UK territories there is the underlying potential for other social, environmental and economic gains to be had in addressing climate change. But, most importantly, adaptation to climate change should include sustainable management of ecosystems to confer possible social and economic benefits.

7. There are numerous interdependencies and interactions between biodiversity, ecosystem services and climate change – many which impact on human livelihoods. This is particularly important for UKOTs since they contain high levels of globally important biodiversity and have a narrow ecological basis for livelihoods. The Millennium Ecosystem Assessment (MA) cites climate change as one of the most important direct drivers of global biodiversity loss and changes in ecosystem services, and predicted that its impact would increase over the coming century. Furthermore, interactions between climate change and other direct drivers of biodiversity loss (including habitat transformation, invasive alien species, over-exploitation and pollution) are likely to exacerbate the impact of climate change on global biodiversity. The MA also illustrated that biodiversity, which underpins ecosystem services, provides a critical climatic regulating function, thus benefiting human well-being.

8. For example: The livelihoods of territories (social and economic) are dependent on ecosystems such coral reefs, sea grass beds, mangroves and other coastal areas which are threatened by changes and variations in the climate. Conversely, resilient and healthy ecosystems can buffer against the deleterious impacts of climate change and thus confer beneficial livelihood benefits on otherwise vulnerable territories.

Overseas Territories and climate change

9. As with other Caribbean islands, the territories are of global importance for their biodiversity. They hold significant numbers of globally threatened species, many of which are endemic and are found nowhere else

in the world. They also hold regionally or globally important assemblages of species, including seabirds, turtles, cetaceans and corals. However, because of their environmental characteristics, limited human capacity and sector-restricted economies, they are particularly vulnerable to the effects of climate change, including sea level rise, coral bleaching, increased storminess and other extreme weather events. This is likely to severely impact on the UK's ability to contribute to international biodiversity commitments such as the World Summit on Sustainable Development (WSSD) biodiversity target, as well as having damaging social and economic consequences for the territories.

9. Given this high vulnerability and low adaptive capacity to climate change, communities in small island states, including the UK Overseas Territories in the Caribbean and elsewhere, have legitimate concerns about their future on the basis of the past observational record and climate model projections.

10. The following table, adapted from the IPPC and the draft European Commission environmental profiles for Caribbean Overseas Territories, outlines key issues in the face of climate change.

[see next page]

Issue or resource vulnerable to climate change	Potential effect of climate change	Impact on global commons	Sectors at greatest risk	Severity of impact in Territory (Low, Medium, High)	Comment on impact
Freshwater availability	Reduced precipitation; increased evaporation and saline intrusion from sea-level rise	Endemic coastal and near coastal habitats	Water resources; tourism; agriculture; forestry	Anguilla M British Virgin Islands M Cayman Islands H Montserrat L Turks and Caicos M	Water supply is anticipated to be a bottleneck for economic activity and a serious health concern. All water-using sectors would be affected. Groundwater salinisation is likely in low lying areas.
Degradation of marine and coastal ecosystems	Sea-level rise, changes in sea temperature and pH can affect ecosystems such as mangroves, fishing grounds and coral reefs. Coral bleaching and changes in ecosystem composition are likely.	Mangroves and coral reefs of global importance	Fisheries; tourism	Anguilla H British Virgin Islands H Cayman Island H Montserrat M Turks and Caicos H	Fisheries account for a sizable share of GDP in some territories and sport fishing is important to tourist industries. Tourism accounts for high proportion of GDP and is highly dependent on the marine ecosystem. Coral bleaching is becoming more frequent and severe. In 2005 over 90% of BVI coral reefs experienced bleaching.
Land flooding	Sea-level rise will result in flooding of coastal areas	Unique coastal wetlands and inter-tidal areas	Tourism; agriculture; forestry	Anguilla H British Virgin Islands M Cayman Island M Montserrat M Turks and Caicos H	Most tourism activities are located in the coastal zone. Significant capital investment assets and infrastructure could be affected. Loss of beaches and submergence will impact on coastal breeding ground for species such as turtles.
Impacts of land ecosystems	Climatic extremities. Heavy rainfall increases the potential for pest and diseases and causes excessive soil erosion. Drought conditions affect productivity.	Regional and globally significant species and ecosystems	Agriculture; tourism	Anguilla M British Virgin Islands M Cayman Islands M Montserrat M Turks and Caicos M	Erosion will impact on territories coastal land developments, particularly tourism infrastructure. Agriculture sectors are limited in scope but land tourism is an important element of GDP.
Increased climate variability	Climate change may increase extreme events such as precipitation intensity, tropical storms or droughts.	Regional and globally significant species and ecosystems	Multi-sectoral	Anguilla H British Virgin Islands H Cayman Islands H Montserrat H Turks and Caicos H	The cost of hurricanes and other natural disasters in the Caribbean have been estimated at hundreds of million dollars. These costs continue to increase and there will be knock-on impact on tourism.

SOURCES OF ADDITIONAL INFORMATION

This document was developed by DFID/OTD in consultation with JNCC and the CCCCC. Additional information and documentation used in support of this document includes:

CCCCC

www.caribbeanclimate.bz/news.php

Defra Climate Change

www.defra.gov.uk/ENVIRONMENT/climatechange/

DFID

www.dfid.gov.uk

Hadley Centre

www.metoffice.gov.uk/research/hadleycentre

IPPC

<http://www.ipcc.ch/>

JNCC

www.jncc.gov.uk

MACC Project Appraisal Document, March 2003

http://web.worldbank.org/external/projects/main?menuPK=51447259&pagePK=51351007&piPK=64675967&theSitePK=40941&menuPK=64187510&searchMenuPK=51351202&theSitePK=40941&entityID=000094946_03040504062283&searchMenuPK=51351202&theSitePK=40941

Millennium Ecosystem Assessment

www.maweb.org

SPACC Project Appraisal Document, August 2006

[www-wds.worldbank.org/external/default/main?pagePK=64193027&piPK=64187937&theSitePK=523679&menuPK=64187510&searchMenuPK=64187283&siteName=WDS&entityID=000160016_20060823100658](http://wds.worldbank.org/external/default/main?pagePK=64193027&piPK=64187937&theSitePK=523679&menuPK=64187510&searchMenuPK=64187283&siteName=WDS&entityID=000160016_20060823100658)

Stern Review

www.hm-treasury.gov.uk/independent_reviews/stern_review_economics_climate_change/sternreview_index.cfm

Tyndall Centre

www.tyndall.ac.uk

UK Climate Challenge
www.climatechallenge.gov.uk

UKCIP
www.ukcip.org.uk/

UNFCCC
www.unfccc.int

ENVIRONMENTAL SCREENING NOTE

Section A – Basic Information
Project Title: Enhancing capacity for adaptation to climate change in the Caribbean UK Overseas Territories
Project Cost: £300,000
Duration: 3 years (2007/08-2009/10)
Country: Overseas Territories (Regional)
Department: Overseas Territories Department
Lead Project Officer: Martin Rapley, Programme Manager, OTD
Officer(s) responsible for environmental screening: Dick Beales, Senior Natural Resources & Environment Adviser, OTD
Brief description of intervention: A project to facilitate the participation of the five Caribbean UK Overseas Territories (Anguilla, British Virgin Islands, Cayman Islands, Montserrat and Turks & Caicos Islands) in regional climate change adaptation activities largely funded through the Global Environment Facility and managed by the Caribbean Community Climate Change Centre, a CARICOM specialised agency, which became fully operational in Belmopan, Belize in January 2005.

Section B – Assessment**Environmental issues:**

This is intended to be an environmentally beneficial project, full justification for which is set out in the project memorandum. Its impact on the environment is intended to be wholly positive in that it will help to build the territories' capacities to plan and implement measures to adapt to climate change and climate variability within the context of national development planning processes.

Sectoral assessments in other Caribbean islands under current regional programmes have focused on tourism, water resources and agriculture. Whilst environmental elements are embedded within these sectors there is the risk that assessments are developed without explicit consideration of the interdependencies between biodiversity and ecosystem services and those of economics and human livelihoods. There is a risk that the role of ecosystem services is not yet sufficiently recognised as underpinning all human activity.

In addressing this risk, this project will draw on elements from a further, recently approved, GEF-funded project 'Special Programme for Adaptation to Climate Change' which aims to:

- examine the potential impacts of climate change on different sectors from an ecosystem approach using tourism as a means of reflecting additional sectors;
- use the ecosystem approach as the key mechanism for establishing sectoral vulnerability assessments;
- structure the resultant adaptation strategies using the ecosystem approach.

This will result in adaptation policies that fully reflect the ecological, social and economic cost of action, and indeed of inaction.

Next steps: No further environmental assessment is required. A project planning workshop will be held at project inception at which the individual needs and circumstances of the five territories will be taken into account in the preparation of work programmes.

Any other comments: None.

Section C – Sign off

Environment adviser: *Original signed by Dick Beales, Senior Natural Resources & Environment Adviser, OTD*

Date: *20 March 2007*

Lead project officer: *Martin Rapley, Programme Manager (Regional and Pitcairn Islands), OTD*

Date: *20 March 2007*