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CBA Country Programme Strategy Template and Guidelines

I Overall CBA Country Programme Strategy (CCPS)

Summary:

1. Jamaica is a small island developing state situated in the Caribbean Sea. Climate Change poses serious risks to the island both to the natural and built environments. Climate change scenarios were generated under the initial and second national communication to the United Nations Framework Convention on Climate Change (UNFCCC) ranging from “business as usual” to a doubling of the Carbon Dioxide concentration levels. These scenarios and reports by the Intergovernmental Panel on Climate Change (IPCC, 2007) have indicated that there is 90% likelihood that temperatures will increase in the greater Antilles (Jamaica area). Estimates are that annual temperature could increase by between 1°C and 1.6°C by 2050. Scenarios have also indicated that sea levels will rise, with projected increases near the global average of 0.2m -0.5m (relative to 1999 levels) by 2090 (though IPCC scenarios omit major ice-flow dynamics, and are thus considered very conservative). Most recent climate model outputs (2007) have also shown general agreement that there is likely to be a drying out of (or reduction in) rainfall in the June-August period, by 2050.
2. Other predictions by the IPCC indicate that there is a more than 50% chance that severe weather events could be more intense in the Caribbean. These will have many lasting negative adverse impacts on Jamaica. These include but are not limited to: increased storm surge, coastline erosion, saline contamination of coastal aquifers, and adverse impacts on all socio-economic sectors especially the agriculture sector and coastal zone related activities such as tourism. The Community-based Adaptation (CBA) initiative will seek to address a number of these challenges at the local level through both capacity building initiatives and improved natural resource management in the context of climate change. This will be accomplished primarily through the implementation of 8-10 demonstration projects that simultaneously generate global environmental benefits (GEBs), and make ecosystems resilient to climate variability and change. The focal areas for attainment of GEBs are biodiversity conservation and the prevention of land degradation.
3. The CBA will also work closely with current national adaptation interventions of the 2nd national communications of the UNFCCC to utilize the most current and accurate information to guide adaptation priorities and options. This collaboration will also allow for lessons learnt from community-based interventions to be scaled up at the national level, thereby providing opportunities for incorporation into national adaptation and planning policies. The coastal zone and agriculture sectors will be targeted for project interventions. The CBA will be implemented in Jamaica using the mechanism of the Global Environment Facility Small Grants Programme (GEF SGP) and in the context of the SGP national country programme and under the overall guidance of UNDP.

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a. Objectives and Impact Indicators:

4. The objective of the community-based adaptation (CBA) programme in Jamaica is to integrate climate change risks into sustainable community management of natural resources.
5. The attainment of this objective will be measured by three impact indicators. These are namely:
 1. The number of measures that address the additional risks posed by climate change deployed as part of sustainable resource management activities;
 2. Percentage of area concern in which climate change risk management activities, in the context of sustainable resource management are implemented; and
 3. Number of local and national level policies adjusted as a result of lessons from CBA projects”

b. Sectoral Focus:

6. On the basis of priorities identified in the initial and second national communications to the UNFCCC, the CBA will focus on the coastal zone and agriculture sector. In addition to vulnerability and adaptation assessments done during preparations of the communications, these sectors were also examined by the National Capacity Self-Assessment Project (NCSA) of the GEF. A special focus was also placed on one aspect of the coastal zone (coral reef monitoring) by the Caribbean Planning for Adaptation to Global Climate Change (CPACC) project. This was a regional initiative in which Jamaica participated (1997-2001).

c. Vulnerability Assessment:

7. The threats posed to the sectors to be addressed under the CBA are those that are in keeping with the eligibility criteria of the Strategic Priority on Adaptation (SPA) fund. Accordingly the interventions should improve the resilience of ecosystems to climate change including variability. In this context a subset of the threats identified by the national communications will be addressed, and these are outlined below.

- I. Coastal Zone: Jamaica’s coastal zone is a narrow strip consisting of 18 natural regions along the island’s approximately 1,200 kilometres of shoreline. Accelerated sea-level rise resulting from climate change will physically impact these natural coastal regions. Among the likely effects are increases in coastline erosion, and saline contamination of coastal aquifers. Further, higher sea levels will also magnify the natural forces such wind, waves, tides and currents and the destructive potential of storm surges generated during the passage of extreme weather events such as hurricanes. Increases in the intensity of severe weather events (tropical cyclones) suggested by the Intergovernmental Panel on Climate Change (IPCC) under climate change scenarios, could further exacerbate these threats. Higher sea surface temperatures driven by increases in global surface temperatures will increase incidence of coral bleaching. These will threaten the survival of costal

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ecosystems like coral reefs, mangroves, sea grass beds, and fisheries, and have adverse impacts on marine biodiversity.

- II. Agriculture Sector: Cultivated lands in Jamaica are about a quarter of the country's total land mass, and this sector employs a significant portion of the national labour force and contributes significantly to the country's gross domestic product and foreign exchange earnings (Mahlung, 2006). Climate change poses a number of threats to this vital sector. The IPCC predicts a mean annual decrease in rainfall, and reductions in the June-August rainfall period. This will have a deleterious effect on crop survival and yield, especially since the vast majority of Jamaica's agricultural production is rain-fed. The climate scenarios used for the national communications have also suggested that there will be an increase in the number of hot days and a reduction in the number of cool nights. This will result in a reduction of the diurnal temperature range (Taylor et al, 2007) and is likely to increase the need for irrigation and heat stress on crops and plants, and also affect the germination process of current seed varieties and species. New pests and diseases could also emerge, which could occasion the need for greater application of inorganic chemicals including herbicides and pesticides, and could contribute to soil acidification and lead to degradation of land. Furthermore, changes in wind patterns and increased storm activity could have damaging impacts on soil stability and agriculture crop yields, particularly on cash crops and native species. Recent extreme events have resulted in devastating losses of agricultural crops and erosion of farmlands, indicating that climate change will exacerbate soil losses and land degradation.

d. **Baseline-additionality reasoning:**

8. A number of untenable baseline practices are negatively impacting on the coastal zone and agriculture sector, which will be exaggerated by climate change. In the coastal zone, deforestation of mangroves is rendering sections of the coastline more vulnerable to erosion. This practice removes nature's buffer against the storm surges and strong winds associated with tropical cyclones. Furthermore, mangroves provide a natural filtering for debris and waste, preventing them from reaching and affecting sensitive ecosystems such as coral reefs and sea grass beds, which support fisheries and other marine biodiversity. Removal of mangrove for farming and development therefore increases pressure on coastal ecosystems. Further, as referenced by the INC, sand mining and inappropriate construction of structures near to the shoreline further stresses the coastal zone. These affect the dynamics of coastal morphology, and can cause disruption in beach nourishment and sand and debris transport. Near shore construction also contributes to increased deposition of untreated waste into coastal water bodies that further threaten the survival of coastal ecosystems.

9. There are a number of unsustainable farming practices in the agriculture sector, particularly in watersheds. Overuse of fertilizers, pesticides and insecticides, as well as slash and burn agriculture, degrades soil, decreases nutrient content and increases erosion. Mining of bauxite also removes fertile topsoil which is often not replaced. This increases susceptibility to soil erosion and land degradation, and the availability of fertile lands. Increasing deforestation and other land use changes have also degraded lands.

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Crop productivity decreases with nutrient and soil losses resulting in progressively larger application of fertilizers and other inorganic chemical, and in other cases the abandonment of farm lands.

10. Climate change will compound these non-climate change pressures, by imposing an added level of stress, as well as new threats, on sectoral ecosystems. Climate change in 50 to 100 years will depend on the rate at which (global) greenhouse gas emissions continue to grow. Because it is impossible to predict this with precision, climate scientists working with the IPCC, have come up with different scenarios of increases in emissions on which to base predictions of future climate. Each scenario is premised on a 'storyline' of how the world might develop (i.e. changes in population, energy use, economics and technology). Based on these emission scenarios it is possible to generate future "climate scenarios". Climate scenarios are plausible representations of the future climate based on these greenhouse gas emission scenarios. They are not predictive, but present alternative representations of future climate (Taylor, et al 2007). Hence a range of possibilities exists, as represented in ranges of projected changes in climate parameters, including temperature, and rainfall. The following indicates possible ranges for changes in Jamaica and the wider Caribbean.

- **Increases in Temperatures:** Estimates by the IPCC and scenarios of Jamaica's National Communications project that annual temperature could increase by between 1°C and 1.6°C by 2050. Further annual warming in the Caribbean by the 2080s of between 1° and 5°C (depending on the region and scenario) are also projected (Taylor, et al, 2007). Greater warming is anticipated in the northwest Caribbean territories (including Jamaica) than in the eastern Caribbean island chain. Warming of this magnitude will increase stress on coral ecosystems, resulting in increased incidence of coral bleaching. Consensus is emerging that global climate change may indeed threaten the long-term viability of coral reefs on a global basis (UNEP, 2006). Increased water stress will result from higher evaporation rates (INC, 2000), reducing available surface water and accentuating extractions from ground water sources. Pests and diseases could become more rampant with temperature changes while soil conditions could be affected as more pesticides are applied to combat these maladies (Mahlung, 2006)
- **Increases in sea level rise:** Scenarios have also indicated that sea levels will rise, with projected increases near the global average of 0.2m -0.5m (relative to 1999 levels) by 2090 (though IPCC scenarios omit major ice-flow dynamics, and are thus considered very conservative). This could accelerate mangrove retreat, and cause 'coastal squeeze' as mangroves become trapped between rising seal levels and hard structures situated near the shoreline. Sea level rise may also prompt saline intrusion into coastal aquifers, which will reduce freshwater sources, and further compound water shortages. Incidence of coastal flooding will also increase with higher sea levels.
- **Rainfall variability:** Inter-annual and intra-seasonal rainfall variability in Jamaica is set to increase, while continuing to be heavily influenced by the ENSO phenomenon. This increased variability will increase the frequency and magnitude of droughts and floods. Most of Jamaica's agriculture is rain-fed, and crop yields are consequently very dependent on reliable supply of rainfall. In

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particular, predictions for reduced rainfall in the June-August period will seriously affect crops which have growing seasons falling in this period.

- **Increased tropical storm activity:** With the likelihood for increases in intensity of hurricanes and other tropical cyclones (as projected by the IPCC, 2007), there are likely to be significant losses in agricultural production, and increased risk of both landslides and soil erosion. These will add to that imposed by the adverse impacts of unsustainable farming practices. Coastal erosion will also be increased by changing storm activity, thereby further affecting the survival of coastal ecosystems and marine biodiversity.

11. CBA project activities will seek to reduce the stresses imposed by long-term climate change impacts by providing funding for activities that reduce climate change risks in the context of natural resource management. CBA activities will therefore make ecosystems more resilient to climate change including variability. Co-financing secured at both the project and programme levels will address baseline, non-climate change risks, ensuring that the long-term interventions targeted by the CBA are not undermined by current non-climate challenges and risks.

e. Focal Area(s):

12. CBA interventions in Jamaica will deliver global environmental benefits in the focal areas of biodiversity conservation and the prevention of land degradation. Climate change impacts will result in higher rates of erosion and saline intrusion, thereby requiring alterations to land management practices and land use. Climate change impacts could also result in habitat loss or habitat fragmentation, increasing risks of extinction for endemic and threatened species. For example, important globally significant forest ecosystems (e.g. the Cockpit Country and Blue and John Crow Mountains) are areas very rich in endemic, rare and threatened species, including the Giant Swallowtail butterfly (IUCN, 2007). Simultaneously, many rely on these ecosystems for livelihoods, water supply and recreation. Increased erosion from extreme events is a real threat and climate change will amplify these events, posing even greater risks to livelihoods and to species survival. Other threats include increases in temperature, rainfall variations and sea level rise, which will significantly alter living conditions for both marine and terrestrial species, resulting in significant species loss. This could be particularly so in north-eastern and southern coastal areas of the island.

13. In order to make such global benefits more resilient to climate change, project initiatives under the CBA will support new approaches for land management, taking into account the increased erosion and land loss risks associated with climate change. Biodiversity conservation efforts under the CBA will seek new ways of protecting and improving habitats in a way that make them less susceptible to coastal and terrestrial erosion. Conservation efforts should also render species more capable of coping with the impacts of more intense extreme events, including hurricanes and other tropical cyclones.

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f. **Local Priorities:**

14. Projects under the CBA will be geared towards involving coastal communities, women, farming groups, and agencies working in biodiversity conservation. In addition, project selection will also be influenced by the availability of suitably qualified NGOs and CBOs with capacity to carry out project activities successfully and in a timely manner. These agencies should also have sufficient ecological knowledge of the local communities in which CBA projects will be implemented. A number of donor agencies have geographic focus areas where projects are funded in the focal areas of land degradation and biodiversity. These areas present sites where the leveraging of project co-financing can be more easily achieved. To the extent possible, efforts will be made to *inter alia* secure this support for baseline activities and the securing of global environmental benefits (GEBs). The CBA funding can then support project activities that make these GEBs resilient in the face of climate change.

g. **Geographic Focus:**

15. The physical location of project sites will be selected based on two SPA objectives: addressing high vulnerability to climate change and securing global environmental benefits (in land degradation and biodiversity conservation). Initial project implementation will focus on areas in the Portland Bight Protected Area in south central Jamaica. Later project implementation could reach other areas including – but not limited to – the Cockpit Country, the Dolphin Head mountains, the Blue and John Crow Mountains, and the Black River Morass, and the Port Royal Palisades protected areas which are RAMSAR sites. (see Map in Appendix 1)

h. **Community Project Typologies:**

16. Projects to be funded under the CBA will be generated by communities and reviewed by the national coordination committee. This will ensure that there is a bottom-up approach to project development and strong community ownership of projects. Project types suggested here are not meant to be prescriptive, but to act as guide for proponents.

17. Activities in the agriculture sector could include:

- Slope stabilization methods, and erosion control mechanisms. These will reduce the adverse impacts of erosion and land degradation which are likely from more intense weather systems. These interventions should provide adequate adaptation for changes anticipated up to 2015.
- To counteract reductions in rainfall anticipated by 2030, and saline intrusion, the planting of drought and saline resistant crops could be explored, to avert risks of land degradation, farm abandonment, etc, that may increase with higher soil and groundwater salinity.

18. Biodiversity conservation efforts will seek new ways of protecting and improving habitats for both marine and land species, in the context of more intense hurricanes. For example, reforestation of mangroves could be attempted (taking into account requirements under a changing a climate) in areas where coastal erosion will be enhanced by climate change and increasingly extreme events of climate variability. Methods of

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improved pest control, using environmentally friendly substances could help species cope with increased temperatures.

19. Two set of indicators will be monitored at the project level. One will be qualitative and will allow for vulnerability reduction assessment (VRA). The other will be quantitative and will measure the extent to which global environmental benefits have been secured by the project.

i. Policy Strategy:

19. The CBA programme will document all lessons learnt progressively and will share these with sectoral stakeholders, through a systematic knowledge management strategy. Outputs will take many forms, including written, and audio-visual. These will form part of semi-annual reports that will be prepared by the country programme. Feedback will also be solicited from these stakeholders, and these will be used to make adjustments to future project implementations. By using relevant adaptation priorities from the second national communications to the UNFCCC, CBA projects will be provide the means by which on the ground measures can be tested and results assessed. Success stories will be widely circulated, and policy makers will be invited to participate (where possible) in field trips to have hands-on experience in community-led interventions. This will promote adoption of lessons learnt into policy development. Additionally, reports will be provided to the planning institute of Jamaica (PIOJ) to allow for direct consideration of project results into sustainable development and adaptation planning. An overall programme report will also be generated and widely circulated to include stakeholders outside of Jamaica.

II. Development of the CBA team

a. NCC Formulation

20. The National Coordination Committee (NCC) will be responsible for programme development, selection and monitoring of CBA projects. The NCC will comprise some members of the National Steering Committee of the Global Environment Facility Small Grants Programme (GEF SGP). The SGP NSC has experience in climate change adaptation with sitting members including environmental and policy experts from the United Nations Development Programme (UNDP), the United Nations Environment Programme (UNEP), and the World Bank. The committee also has representatives from environmental NGOs, gender-based groups with experience in implementing community-based projects. In to these, two additional members with expert knowledge in climate change adaptation will be added. One of these experts will come from the National Meteorological Service, which focal point agency for the UNFCCC and the IPCC in Jamaica. The other expert will be a member of the Climate Studies Group (CSG), from the University of the West Indies, Mona. The head of this institution is a lead author for the Nobel Prize award winning IPCC. The CSG is also generating climate change scenarios for the second national communications to the UNFCCC.

III. Identification and Capacity Building of Potential NGO/CBO grantees

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a. NGO/CBO identification

21. All CBA project will be implemented by registered NGOs/CBOs that have the ability to deliver community projects that fit within this programme strategy. These institutions should operate within the geographic focus area and should demonstrate the capacity to work effectively in the focal areas of biodiversity conservation and the prevention of land degradation. Agencies should also be capable of implementing projects that will advance the objectives of the CBA in coastal zone and agriculture sector. These agencies could include the Panos Institute, the Caribbean Coastal Areas Management Foundation, Southern Trelawney Environment Agency, Dolphin Head Trust, Jamaica Conservation and Development Trust, Portland Environment Protection Agency, to name a few. The list is not exhaustive or absolute.

b. NGO Capacity Building:

22. Training and capacity building will be targeted under the CBA. Eligible agencies will be invited to training sessions in project development, and monitoring and evaluation, including indicator measurement. Field visits will allow for assessment of implementation and to the extent possible grantee exchange will allow for sharing of lessons learnt. All grantees will be required to maintain a photo library to showcase project impact, allowing for 'before and after comparisons. A 'Lessons learnt' manual will be produced from the composite of all projects and this will be circulated to a wider set of stakeholders. This will allow for sharing of knowledge and exchange of information which can then be used in future CBA initiatives for climate change.

Appendix 1: Map of Potential Sites for CBA Projects



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