

APPENDIX I – PROJECT COMPLETION REPORT

Implementing Organization Toledo Institute for Development and Environment (TIDE)

Project No.: MOU#:GCFI2009 CaMPAM 19

Project Title: Creating a marine protected area joint working group on risk and threat management in Belize.

I. TECHNICAL REPORT AT COMPLETION OF THE PROJECT

<p>1. Summarized description of the project and mechanism for its implementation</p> <p>- Description of original project.</p> <p>TIDE will convene a meeting of managers/key staff of all marine protected areas in Belize, the Fisheries Department and Coastal Zone Management Authority and Institute. The marine protected areas in Belize include Bacalar Chico, Hol Chan, Caye Caulker, Glover’s Reef, Gladden Spit, Laughing Bird, Sapodilla, and Port Honduras. The two day meeting will combine learning and shared planning for future and current threats to marine protected areas. Training will focus on climate change and the potential impact. A facilitated session will allow each marine protected area to identify the threats the each faces individually and single out the common threats. The group will then prioritize three of the threats based on factors including potential of high impact, potential of current/early impact and potential for considerable damage.</p>
<p>- Summarized description of the project implemented and the mechanisms for its implementation, including explanations of modifications made on the original project.</p> <p>The Toledo Institute for Development and the Environment (TIDE) organized the two-day Workshop on, “Climate Change Communication: Training for Trainers”, in Forest Home, Toledo District, in an effort to build capacity on the phenomenon of Climate Change among middle management and field personnel of the NGO community and other stakeholder groups in southern Belize with an emphasis on marine ecosystems and watersheds as they impact the marine ecosystem. TIDE is cognizant of the need to increase community awareness and education on Climate Change at all levels, so that Belizeans may develop the capacity to cope with the negative impacts, through cost-effective adaptation measures and initiatives to reduce emissions. It is envisioned that this Climate Change Communication workshop and other future training will enable participants to better communicate the message of Climate Change to the communities in which they work. It will also arm them with the technical knowledge required to help implement future adaptation and mitigation projects that will build resilience among communities of southern Belize against the increasing tide of environmental degradation, extreme climatic events and sea level rise; all related to the projected warming of the climate system.</p> <p>It proved difficult to gather key staff from all marine protected areas. Areas represented by staff included Gladden Spit and Silk Cayes Marine Reserve, Laughing Bird Caye National Park, Port Honduras Marine Reserve, Sapodilla Cayes, Payne’s Creek National Park (bordering the Gulf of Honduras, and the watershed areas of Deep River and Payne’s Creek impacting the Gulf of Honduras represented by SATIIM (Sarstoon and Temash Rivers Watersheds), Ya’axche Conservation Trust (Golden Stream Watershed) and TIDE (Port Honduras Marine Reserve, Rio Grande River and Monkey River Watersheds) and SEA (representing Gladden and Spit Cayes Marine Reserve and the Laughing Bird National Park).</p>

Through the presence of Plenty Belize, Ya'axche Conservation Trust, Sarstoon Temash Institute for Indigenous Management, the Toledo Institute for Development and Environment, and local fishermen, all of the coastal communities were represented and virtually all of the villages and towns of southern Belize.

2. Proposed objectives, results and activities and level of completion		
General Objective Anticipated Indicators	General Objective Achievement of Indicators	% Level of Achievement
Combine learning and shared planning for future and current threats to marine protected areas	Through presentations by Ramon Frutos and Dr. Joseph Palacio and group work with participation, learning and shared planning for future and current threats took place for inland communities, coastal communities, coastal and marine ecosystems.	100% Although not as many marine protected areas were involved, the inclusion of related inland and coastal communities enhanced the learning and planning.
General Objective Anticipated Indicators	General Objective Achievement of Indicators	% Level of Achievement
Facilitated session that will allow each marine protected area to identify the threats faced individually and single out common threats.	A summary of small group discussion on creating specific tools for inland communities, coastal communities, coastal and marine ecosystems is attached. This summary highlights the identification of the challenges of communicating climate change in various settings.	100% The achievement was enhanced by the inclusion of a full range of participants from related and coastal communities.

II. RESULTS

Expected Results Anticipated Indicators	Results Obtained Achievement of Indicators	% Level of Achievement
Increased understanding of climate change and impact on marine protected areas allows managers to better prepare for current and future changes	The first activity conducted by the Facilitators was a brief, two-page survey on Climate Change with the objective of measuring the participants understanding of the issue. A short discussion followed on each of the 21 questions and responses. The following is a summary of the survey result: Seventeen persons filled out the questionnaire including Mr. Frutos and Dr. Palacio. All except two of the questionnaires were answered completely. The two that were incomplete had only one or two responses, showing that the participants probably had little awareness of the topic. One participant had difficulty with the English language and this could have been the reason for one of the incomplete	100%

	<p>questionnaire.</p> <p>In his first presentation Mr. Frutos spoke on the science of Climate Change, in which he explained the process of greenhouse gas emissions and the greenhouse effect; the observed warming of 0.7°C over the past 50 years; the natural and anthropogenic influences on the climate system, and the negative impacts on the different sectors with protracted, future increases in surface air temperature. His presentation stressed on the urgent need to halt Climate Change, but this can only be achieved if all countries and individuals reduce their carbon foot prints and move away from a fossil-fuel based economy, which is easier said than done.</p>	
<p>Increased understanding of the Threats and Opportunities of Tourism to marine protected areas allows managers to better prepare and manage this area.</p>	<p>In his second presentation entitled: “Belize: Impacts of Climate Change on Biodiversity”, Mr. Frutos discussed the temperature and rainfall projections under different Climate Change scenarios for the country of Belize. He noted that analysis of rainfall and temperature data for the past 40 years for the Airport and Central Farm showed that the annual rainfall trend depicts a slight increase at the Airport, but has remained steady at Central Farm. Temperature wise however, a warming trend is detected, with warmer night time minimums and warmer day-time maximums. The models project a 10 to 20% decrease in monthly average rainfall to the year 2020 and 2050, particularly over northern and central Belize. Meanwhile, temperature will be increasing from 1.5 to 2.0°C by 2050, becoming more accentuated towards the end of the 21st century. The Climate Change Severity Index, which is a measure of the stress of increasing temperature and rainfall variability on biodiversity, indicates that the index will be approaching significant change for most forested areas of Belize by 2020, particularly so in the vast expanse of the Chiquibul forest.</p> <p>Next, participants were divided into three small groups and deliberated on the threats and impacts from climate change on: a) Inland communities; b) Coastal communities; c) Cayes/coral reefs/marine protected areas.</p>	100%
<p>Threat identification at an individual MPA and country-wide level</p>	<p>The presentation by Dr. Joseph Palacio and discussion focused on the perception of Climate Change at the community level indicates that:</p> <ul style="list-style-type: none"> • Climate Change is insignificant compared to 	

	<p>unemployment, cost of living, burglaries, excessive illegal fishing, drugs;</p> <ul style="list-style-type: none"> • We are too small and we are not causing the problem; • We are not receiving help to understand what is climate change; and • NGO's rarely come to work with us. If they come, it is only for their specific projects. <p>Some impacts observed by villagers include the following:</p> <ul style="list-style-type: none"> • Rainy and dry seasons now unpredictable; • More rain and more thunder and lightning; • The beach is eroding faster as the sea level rise; • Sun is getting warmer; and • Farming becoming more unpredictable. <p>Dr. Palacio turned to the challenges facing agents of change in getting the message of Climate Change across to their communities. Agents will have to be cognizant of the following:</p> <ul style="list-style-type: none"> • The social and economic conditions of our sub-region because of fluidity in movement; • The bread and butter issues; • The mix between cultural values and the use of natural resources – very important especially for traditional peoples; • Climate Change effects within given micro-environments <p>SEE ALSO Table 1 Some threats and Impacts of Climate Change on vulnerable areas in Belize (appended)</p>	
Drafts of risk identification and risk management plans for three priority areas	See Table 2 Summary of result of Small Group Discussion on creating specific tools for communicating Climate Change (appended)	100%

III. PLANNED ACTIVITIES AND LEVEL OF ACHIEVEMENT

Planned Activities	Achieved	Not Achieved	Partially Achieved (%)	Rejected
Day One, Morning <input type="checkbox"/> Registration and checkin	Thursday, 12 November 2009			

All activities were accomplished

<p>(TIDE Staff)</p> <p>Day One, Afternoon</p> <ul style="list-style-type: none"> <input type="checkbox"/> Introductions and Welcome (Celia Mahung, Executive Director TIDE) <input type="checkbox"/> Presentation on Climate Change (Ramon Frutos) <input type="checkbox"/> Facilitated workshop on identification of threats (Joseph Villafranco to facilitate, Ruth McLean Dawson as recorder) <input type="checkbox"/> Break into three groups to begin work on risk identification and risk management plans. As a resource each group will have a facilitator and recorder <input type="checkbox"/> Group One– Ramon Frutos, Facilitator with Angelica Williams, TIDE as recorder; <input type="checkbox"/> Group Two– Ruth McLean Dawson, TIDE, Facilitator with intern as recorder; <input type="checkbox"/> Group Three– Joseph Villafranco, Facilitator with intern as recorder. <input type="checkbox"/> Dinner on their own <p>Day Two, Morning</p> <ul style="list-style-type: none"> <input type="checkbox"/> Continuation of group work <input type="checkbox"/> General work session to present each of the work products from the groups <input type="checkbox"/> Discussion <input type="checkbox"/> Lunch <p>Day Two, Afternoon</p> <ul style="list-style-type: none"> <input type="checkbox"/> Presentation on the Threats and Opportunities of Tourism to Marine Protected Areas <input type="checkbox"/> Discussion <input type="checkbox"/> Plans for a next meeting <input type="checkbox"/> Evaluations <input type="checkbox"/> Conclusion 	<p>8:30 am - 9:00 am Registration</p> <p>9:00 am - 9:15 am</p> <ul style="list-style-type: none"> • National Anthem • Invocation • Welcome and introduction: Celia Mahung, Executive Director, TIDE <p>9:10 am - 10:00 am Overview of Global Climate Change: Ramón Frutos</p> <p>10:00 am - 10:20 am Coffee Break</p> <p>10:20 am - 12:00 pm Focus on Belize – anticipated hazards and impacts of Climate Change Ramón Frutos</p> <p>12:00 pm – 1:00 pm Lunch</p> <p>1:00 pm – 3:00 pm Group work – identification of threats from climate change</p> <ul style="list-style-type: none"> • Inland communities • Coastal communities • Cayes/coral reefs/marine protected areas <p>3:00 pm - 3:20 pm Coffee Break</p> <p>3:20 pm – 4:20 pm Presentations based on Group Work; identification of three highest threat areas; prioritize areas of greatest threat</p> <p>4:20 pm – 5:00 pm Challenges in communicating climate change, overcoming the barriers Dr. Joseph Palacio</p> <p>Friday, 13 November 2009</p> <p>9:00am – 10:00am Tools for communicating climate change Joseph Palacio and Ramón Frutos</p>			
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	<p>10:00am – 10:20am Coffee Break</p> <p>10:20am – 12:00pm Resources for communicating climate change:</p> <p>12:00 pm – 1:00 pm Lunch</p> <p>1:00pm - 3:00 pm Group Work – creating specific tools to communicate climate change</p> <p>3:00 pm - 3:20 pm Coffee Break</p> <p>3:00 pm - 4:00 pm Presentation of group work</p> <p>4:00 pm - 5: 00 pm Discussion – ongoing networking, education, planning</p>			
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IV. OBJECTIVES, RESULTS, AND ACTIVITIES REALIZED, BUT NOT ANTICIPATED IN THE ORIGINAL PROJECT

<p>Unanticipated objectives:</p> <p>Inclusion of inland and coastal communities. Focus on communicating climate change as a priority need.</p>
<p>Unanticipated results:</p> <p>Development of training to fully embrace Communicating Climate Change: Training for Trainers and participation of the inland and coastal communities and an exchange of planning and communication between those focused on watersheds and those focused on marine protected areas.</p> <p>Two resolutions were promulgated by the participants. Be it resolved that we, the participants of the Climate Change Communication Workshop organized by TIDE during the period November 12-13, 2009 in Forest Home, Toledo District, proposed the establishment of an Alliance on Climate Change among NGOs of Southern Belize.</p> <p>Be it resolved that we, the participants of the Climate Change Communication Workshop also proposed the formation of a Climate Change Network among members of NGOs and other Stakeholders in southern Belize, for the exchange of data, information and experiences related to adaptation and mitigation of Climate Change.</p>
<p>Unanticipated activities:</p>

The activities basically remained the same but with an increased focus on communication.
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V. OBSERVATIONS ABOUT THE ACCESSIBILITY, RELIABILITY, AND SCOPE OF THE PROPOSED SOURCES TO VERIFY OBJECTIVES AND RESULTS

Source for Verification	Observations
Objectives: The source for verification includes the materials prepared for the workshop, feedback, formal report from Ramon Frutos and Dr. Joseph Palacio (incorporated here) and results.	See Tables 1 and 2, appended. The report prepared by Frutos and Palacio is incorporated within this document.
Results: The source for verification includes the materials prepared for the workshop, feedback, formal report from Ramon Frutos and Dr. Joseph Palacio (incorporated here) and results.	See Tables 1 and 2, appended. Two resolutions were promulgated by the participants. Be it resolved that we, the participants of the Climate Change Communication Workshop organized by TIDE during the period November 12-13, 2009 in Forest Home, Toledo District, proposed the establishment of an Alliance on Climate Change among NGOs of Southern Belize. Be it resolved that we, the participants of the Climate Change Communication Workshop also proposed the formation of a Climate Change Network among members of NGOs and other Stakeholders in southern Belize, for the exchange of data, information and experiences related to adaptation and mitigation of Climate Change.

VI. RECOMMENDATIONS

Recommendations about other similar projects presented to the UNEP-CAR/RCU Program:

CONTINUE with similar proposals, but review the following points:

Justification for the problem

Objectives

Methodology

Budget

DO NOT CONTINUE with similar proposals

VII. LESSONS LEARNED

Participants should now have a much better understanding of the issues related to Climate Change, and are more capable of addressing this very important phenomenon in their areas of operation. Training does not end with this workshop. Training must be an on-going process and participants endeavor to learn more on the subject as new information, data and methodology for communication become available.

The most important part of this project was the ability to be flexible and incorporate a growing need for climate change communication training and foster the connection between watersheds and marine protected areas.

The key resources utilized were Ramon Frutos and Dr. Joseph Palacio who led an interesting and challenging workshop. The participants are also a key resource in bringing the needs of the communities served to the fore of the training and developing resolutions for next steps.

Table 1 Some threats and Impacts of Climate Change on vulnerable areas in Belize

Threats	Inland Communities	Coastal Communities	Cayes/Coral Reef / Marine protected areas
Sea level rise		Retreat freshwater lens; increased wave actions and coastal erosion	Increased wave actions; inundation of Cayes; reduced economic activity
Increase in average surface temperature	Heat waves and droughts affecting agricultural production; water scarcity	Heat waves and droughts; increased water stress	Reduction in capacity of perch aquifers; heat stress
Significant rainfall variability/ increased intense hurricanes	Increased frequency of catastrophic floods; damaged infrastructure	Damaging coastal floods; increased vulnerability all sectors to hurricanes	Water scarcity, impact on infrastructure and tourism, damage to reef
Increased forest fires and deforestation	Increased emissions and land degradation, increase sediments to rivers, loss of biodiversity	Fire damage to coastal savannahs; loss of biodiversity	
Loss of riparian and mangrove forests	Increased erosion, sedimentation and pollution to water bodies	Expose coastal regions to increased wave action; exposure to the damaging effects of storms, loss in marine habitat	Loss in marine habitat; increased beach and coast erosion
Decreasing sediments to the coast	Loss in soil fertility and increased land degradation	Increased beach and coastal erosion; degradation of marine and wet land biodiversity	
Warmer Sea/ocean temperatures		Migration of native species of flora and fauna	Coral Bleaching, algal bloom, fish migration

**Table 2 Summary of results of Small Group discussions on creating specific tools for communicating Climate Change
Inland Communities, Coastal Communities, Coastal and Marine Ecosystems**

Methods	Resources	Tools for communication.
Implement CC projects	Resource persons Donors, GOB, Private Sector, community	Transport, computers, audio visuals Stationary, Adequate office space and furniture, Internet facility, fax, telephone
Meetings with leaders and village councils	Good speaker	Adequate transportation
Organize visits among villages	Field personnel, advocacy groups	Audio visual aids, fliers, CDs, radio, computers
Organize environmental exhibits/ variety shows, writing and painting competitions	Funds, small working group including villagers, gifts for winners	Construction tools and material
Connecting Climate Change impacts with issues affecting communities	Resources persons, funds	Audio visual aids, transport, whit board or black board, computer, flip charts and stand
Radio/TV talk show	Involve village leaders, funds for travel	Transport, stationary, information on Climate Change
Organize field trips to impacted areas	Private sector cooperation, GOB, food	Adequate transport

