



UWI
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CAMPUS



SIR ARTHUR LEWIS
INSTITUTE OF
SOCIAL AND
ECONOMIC
STUDIES

Conference on
**The Sustainable Development
of Coastal Communities:
CHALLENGES
AND SOLUTIONS**

JUNE 1-3, 2011

*Hyatt Regency Hotel
Port-of-Spain, Trinidad*

bp



Trinidad and Tobago



TRINIDAD AND TOBAGO
HOUSING DEVELOPMENT CORPORATION
AN AGENCY OF THE MINISTRY OF HOUSING AND THE ENVIRONMENT

C-CHANGE



CANADA-CARIBBEAN
Coastal Climate Adaptation Strategies

JUNE 1, 2011
HYATT REGENCY HOTEL

4.00 p.m. – 5.30 p.m.

Registration

Venue: Diamond Room

5.30 p.m. – 7.30 p.m.

Opening Ceremony

Venue: Regency V

Chairperson

Professor Patrick K. Watson

University Director, SALISES

The University of the West Indies, St. Augustine

Formal Opening

The Honourable Roodal Moonilal

Minister of Housing and the Environment

Welcome

His Worship Alderman Louis Lee Sing

Mayor of Port-of-Spain

Remarks

Mr. Tyrone Kalpee

Vice President

Safety and Operational Risk

BP Trinidad and Tobago

Feature Address

Professor Daniel E. Lane

C-Change (Co-Director),

Telfer School of Management , University of Ottawa, Canada

Closing Remarks

Dr. Hamid Ghany

Dean, Faculty of Social Sciences

The University of the West Indies, St. Augustine

7.30 p.m. – 9.30 p.m.

Welcome Cocktail Reception

Venue: Foyer, Hyatt Regency Trinidad

JUNE 2, 2011
HYATT REGENCY HOTEL

9.00 a.m. – 10.20 a.m.

SESSION I (A)

Venue: Regency V

Natural Disaster Management

Presenters

*An Assesment of the Caribbean Catastrophe Risk Insurance Facility (CCRIF) – **Eric Strobl***

*The Economical and Environmental Management of the Coastal Zones in the Lesser Antilles - **Charley Granvorka***

*Protocols for Managing Adaptation to Environmental Change in Coastal Communities: The C-Change Research Process in Perspective – **Daniel Lane and Ilghelich Nadimi***

9.00 a.m. – 10.20 a.m.

SESSION 1(B)

Venue: Regency VI

Coastal Zones and Urban Planning

Presenters

*Policy Recommendations for Coastal Water Quality Improvements in Tobago: Evidence from an Economic Valuation Study – **Nesha Beharry-Borg***

*Failures to Integrate: Compelling Reasons for a New Perspective on Planning and Management of Coastal Landscapes - **Colleen Mercer Clarke***

*Coastal Hazard Assessment for Adaptation Planning in an expanding Arctic Municipality – **Scott Hatcher***

10:20 a.m. -10:40 a.m.

COFFEE BREAK

10.40 a.m. – 12.00 noon

SESSION II (A)

Venue: Regency V

Impact of Climate Change on Coastal Communities

Presenters

*Spatial Temporal Modelling of Coastal Communities Damages from Storm Surge and Sea Level Rise: Integrating GIS and Systems Dynamics – **Maxx Hartt, Sahar Pakdel, Phillipe Crebé, Yuan Liu and Daniel Lane***

*Coastal Communities under Environmental Threats: Estimating Impacts Vulnerabilities and Resilience from Storm Surge and Sea Level Rise - **Daniel Lane, Hooman Mostoffi and Phillipe Crebé***

*Studying Community Sustainability in the Context of Climate Change: Adaptive Capacity, Institutional Analysis and Governance - **Ralph Matthews***

*Evaluating the Impact of Environmental Change on Coastal Communities – **Sahar Pakdel***

JUNE 2, 2011
HYATT REGENCY HOTEL

10.40 a.m. – 12.00 noon

SESSION II (B)

Venue: Regency VI

Climate Change and Mitigation Strategies

Presenters

Climate Change and Physical Development Threats, Challenges and Adaptation Responses in Coastal Communities: Grande Riviere –
Michelle Mycoo and Michael Sutherland

Crop Protection Strategies to Adapt to Climate Change –
Julia C. Paris and Genevieve Lee Quay-Gill

Revisiting the Environmental Impacts of Droughts: Lessons for the Caribbean Community (CARICOM) Member States -
Jason Alexander

12.00 noon – 1.30 p.m.

LUNCH

Venue: Regency IV

1.30 p.m. – 2.30 p.m.

SESSION III (A)

Venue: Regency V

Impact of Climate Change on Coastal Communities

Presenters

The Vulnerability of Coastal Communities to Sea Level Rise: A case Study of Grande Riviere, Trinidad and Tobago -
Sandra Sookram and Michael Sutherland

An Assessment of Factors Affecting Vulnerability and Resilience in Caribbean Coastal Communities: A proposed vulnerability framework –
Chiedozie Osuala and Sherry Ann Ganase

The Role of Nature in Coastal Livelihoods of Small Island Developing States (SIDS): Community Perceptions in Grande Riviere, Trinidad –
Sonja Teelucksingh and Patrick Watson

1.30 p.m. – 2.30 p.m.

SESSION III (B)

Venue: Regency VI

Climate Change and Mitigation Strategies

Presenters

Mobilizing Local Knowledge to Bridge Information Gaps in Climate Change Adaption Planning –
Sue Nichols and Michael Sutherland

Climate Change Mitigation and Adaptation Strategies –
Hooman Mostofi

The Potential Impacts of Seasonal Beach Morphology on the nests of Dermochelys Coriacea at Grande Riviere Beach –
Alana Joseph

2.30 p.m. – 2.50 p.m.

DRINKS BREAK

Regency IV

JUNE 2, 2011
HYATT REGENCY HOTEL

2.50 p.m. – 4.10 p.m..

SESSION IV (A)

Venue: Regency IV

Governance, Institutional and Public Policy Analysis

Presenters

*The Future of International Law is Domestic -
Darceuil Duncan*

*Vulnerability to Sea Level Rise in an Urban Centre of
a Developing Country: A Case Study of Georgetown,
Guyana – **Gopnauth B. Gossai and Patrick Watson***

*Protecting the Caribbean Sea: International
Environmental Law and Governance Challenges for
Caribbean SIDS – **Michelle Scobie***

*Sustainable Energy Development in the West Indies -
Sally Radford*

2.50 p.m. – 4.10 p.m..

SESSION IV (B)

Venue: Regency V

Environmental Impacts in Coastal Zones

Presenters

*Complex Contradictions in Guyana's Ecological
Development – **Christopher Carrico***

*Environmental Issues in New Countries: Bangladesh
and Algeria – **Abdehafid Chalabi***

*The Impact of Light Pollution on the Sea Turtle Population
in the Caribbean – **Agustin Perez-Barahona***

*Shoreline Foraminiferal Thanatacoenoses around Five
Eastern Caribbean Islands and Their Environmental
Biogeographic Implications –
Brent Wilson and Jacqueline Wilson*

JUNE 3, 2011
HYATT REGENCY HOTEL

9.00 a.m. – 10.20 a.m.

SESSION V(A)

Venue: Regency V

Research Strategies in Turtle Conservation

Presenters

*Sea Turtle Conservation and Research on Developed Coastlines: Challenges and Lessons learnt on the Florida Coastline – **Raymond Carthy***

*Co-Consumptive Use and conservation of Marine Turtles in Pearl Lagoon Nicaragua: Implications of Historic Taste Preferences, Cultural Norms and Local Attitudes for the Human dimension of Turtle Conservations – **Katheryn Garland and Raymond Carthy***

*Conservation of Leather Back Turtle Nesting Sites – **Julia Paris***

*Tourism, Sea Turtles and the Environment as a Catalyst for Developing Sustainable Communities: The Grande Riviere Case – **Allan Bachan***

9.00 a.m. – 10.20 a.m.

SESSION V(B)

Venue: Regency VI

Community Based Eco-tourism Activities

Presenters

*Evolution of the Speyside Eco-Marine Park Rangers from a Community-Based Management: Contributions of the Global Environmental Facility - Small Grants Programme in Tobago – **Stacey-Marie Syne***

*Sustainable Resort Construction: a tool of Local Economic Development? – **Daniella Sachs***

*Economic Value of Marine Quality to SCUIBA Divers in Barbados – **Peter Schuhmann***

10:20 a.m. -10:40 a.m.

COFFEE BREAK

JUNE 3, 2011
HYATT REGENCY HOTEL

10.40 a.m. – 12.00 noon

SESSION VI (A)

Venue: Regency V

Research Strategies in Turtle Conservation

Presenters

Always Ask the Turtle: delineating Shell Beach -
Michelle Kalamandeen

Turtle Research and Outreach Node in Trinidad and Tobago – **Elie Moussalli and Kaija Metuzals**

Empowering Communities Enhances Long-Term Sea Turtle Monitoring –
Maleswalesi Laveti and Penina Solomona

10.40 a.m. – 12.00 noon

SESSION VI (B)

Venue: Regency V

Community Based Eco-Tourism Activities

Presenters

Community Based Tourism in Matura and Fishing Pond: The Residents Perspective -
Rhonda Thomas and Acolla Lewis Cameron

Mt Plaisir Estate Hotel: A Catalyst for Development in Grande Riviere – **Melanie Richards and Andrew Hosein**

Corporate Social Responsibility and Localized Economic Development: Community Based Tourism Founded on the Leatherback Turtles in Trinidad and Tobago -
Roger Hosein and Martin Franklin

12.00 noon – 1.30 p.m.

LUNCH

Venue: Regency IV

1.30 p.m. – 2.30 p.m.

SESSION VII (A)

Venue: Regency V

ROUND TABLE DISCUSSION

2.30 p.m. – 2.50 p.m.

DRINKS BREAK

2.50 p.m. – 3.50 p.m.

OPEN FORUM

Venue: Regency V

3.50 p.m. - 4.10 p.m.

WRAP UP SESSION

Venue: Regency V

SOCIAL EVENING

7.30 p.m. - 12.00 midnight

Venue:

*Faculty of Social Sciences Lounge,
The University of the West Indies, St. Augustine*

ACKNOWLEDGEMENTS

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**Trinidad and Tobago
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an Agency of the Ministry of Housing and the
Environment**

C-Change

ABSTRACTS**AN ASSESSMENT OF THE CARIBBEAN
CATASTROPHE RISK INSURANCE FACILITY
(CCRIF)****Eric Strobl,***Ecole Polytechnique, France*

Among the challenges facing the governments of small island states in the aftermath of natural disasters is the need for immediate access to cash to implement urgent recovery efforts and maintain essential government services. This challenge is particularly acute for Caribbean countries whose economic resilience is limited by the combination of mounting vulnerability and high levels of indebtedness. In response to the liquidity gaps in the face of hurricane strikes in the region 16 members of CARICOM in conjunction with the World Bank set up the Caribbean Risk Catastrophe Insurance Fund (CCRIF), arguably the world's first multi-country joint reserve mechanism for governments and is arguably unique as an insurance operation in that it offers parametric insurance policies to its participants rather than the traditional indemnity policy. While the CCRIF must be applauded for its innovative nature in dealing with liquidity gap due to hurricane destruction faced by countries in the Caribbean, it needs yet to be assessed in terms of its current and potential effectiveness. This is the aim of the current paper. As such it will first review the workings of the insurance scheme. It will then use the current policy parameters chosen by members to assess how the CCRIF would have succeeded in alleviating the liquidity gap faced by countries in the past. To do so we will implement CCRIF's underlying windfield model to assess potential damages due to hurricanes, as derived from historical track data.

**THE ECONOMICAL AND ENVIRONMENTAL
MANAGEMENT OF THE COASTAL ZONES IN THE
LESSER ANTILLES****Charley Granvorka and Pascal Saffache***The University of the French West Indies and Guyana*

Due to their geographical localisation the Lesser Antilles are naturally exposed to tremendous hazards such as earthquakes, hurricanes, floods or tsunamis. They share together the same characteristics as there are Small area, open economies with narrow coastal lines where are concentrated both the population and the main activities such as tourism, and agriculture among others... For all these reasons they have to face challenges comprising both their environment protection and their economical development. We propose to expose how natural hazards are managed in this particular Caribbean area before to introduce the particular case of the coastal lines which are steadily eroded due to the sea level rise as an impact of the climate change. Then, we expose the preventive public Policies at work for finally reporting the social and economical impacts of these latter.

ABSTRACTS**PROTOCOLS FOR MANAGING ADAPTATION TO ENVIRONMENTAL CHANGE IN COASTAL COMMUNITIES: THE C-CHANGE RESEARCH PROCESS IN PERSPECTIVE****Daniel Lane,***University of Ottawa, Canada**Ilghelich Nadimi, University of Ottawa, Canada*

This paper describes the work of the C-Change International Community University Research Alliance (ICURA) that brings together researchers in Canada and the Caribbean under the leadership of the Telfer School of Management, University of Ottawa and the Sir Arthur Lewis Institute of Social and Economic Studies (SALISES) of the University of the West Indies, St. Augustine, Trinidad and Tobago. This paper presents the C-Change research framework directed toward increasing local coastal community capacity to adapt their own efforts through the C-CATS, Community Adaptation Teams to anticipate and plan for climate impacts to their environmental, economic, social, infrastructure and cultural well-being. Alternative frameworks are discussed toward enhancing community adaptive management with respect to: (i) global or regional development contexts, e.g., CARE Community-based adaptation program; (ii) delivery by central or regional organizations, e.g., the Partners for Climate Protection of the Federation of Canadian Municipalities (FCM); and (iii) mitigation versus adaptation strategies, e.g., the ICLEI Climate Program. The C-Change research protocol is presented in comparison to these alternative protocols toward improving planning for adaptation through new local policy, new legislation and governance, and new management measures. We describe how policies and measures are built based on established planning theory and guidelines applied locally through the use of tools and the identification and evaluation of practical local alternatives for coastal resource management. Finally, we outline the C-Change Community Adaptation Action Plans (CAAPs) as a project legacy outcome for improving preparedness to the changing coastal climate.

POLICY RECOMMENDATIONS FOR COASTAL WATER QUALITY IMPROVEMENTS IN TOBAGO: EVIDENCE FROM AN ECONOMIC VALUATION STUDY.**Nesha Beharry-Borg***University of Leeds, United Kingdom**UNDP (GEF-SGP)*

Tourism is Tobago's main source of income and beach recreation is the most popular tourist activity. This paper reports the results of a valuation study to determine the willingness to pay (WTP) for an improvement in coastal water quality for beach recreation in Tobago. Responses from 284 respondents were analysed and the results show that these values vary between locals and tourists who participate in beach recreation. Finite and continuous mixing of preference specifications were used in the analysis of discrete responses to account for the inevitable taste heterogeneity. The results indicate significant differences between the WTP estimates for two important segments of users, snorkelers and non snorkelers. Finite mixing results from the snorkelers' responses identified two subgroups with distinct preferences. It also revealed that non snorkelers have more homogeneous preferences than snorkelers. By linking the coastal zone management recommendations to WTP values, policy makers can gain an understanding of how different recommendations will be valued by different segments of users. This gives managers a measure of how well potential policies will be accepted if they are implemented.

ABSTRACTS**FAILURES TO INTEGRATE: COMPELLING REASONS FOR A NEW PERSPECTIVE ON PLANNING AND MANAGEMENT OF COASTAL LANDSCAPES.**

Colleen Mercer Clarke,
University of Ottawa, Canada

For over thirty years, despite widespread efforts in support of more integrated approaches to coastal management (ICM), conditions in coastal environments throughout the world have continued to decline, sometimes dramatically. This research undertook a forensic review of the published and unpublished literature, seeking out the shared barriers that have impaired effective implementation of ICM in an array of regional and national initiatives. Barriers were assessed in the context of the requisite time frames needed to institute positive change and the rapid and continuing declines in biodiversity, coastal ecosystem health and coastal services. The research presented an alternative perspective to coastal governance, based on an operational definition of the coast as a borderless landscape of linked terrestrial and aquatic ecosystems, and their associated human communities. A new framework for collaborative coastal management, that relies on existing institutional frameworks, local planning resources, and open sharing of information through the Internet, was proposed.

COASTAL HAZARD ASSESSMENT FOR ADAPTATION PLANNING IN AN EXPANDING ARCTIC MUNICIPALITY

Scott Hatcher,
Memorial University at Newfoundland, Canada

Iqaluit (population 6802 in 2007, projected ~13,000 in 2030) is the expanding political and logistical capital of Nunavut in Arctic Canada. The city is experiencing a population influx with associated housing demand, planning and infrastructure pressures, and a growing volume of marine freight landed by barges across flats with a tidal range of 11 m. In addition, the city is faced with environmental changes which need to be better understood for appropriate planning in the waterfront area. The 2010 General Plan calls for a precautionary approach to climate change and special protection for culturally important coastal sites. In support of these objectives, we assess and map present and future flood probability and other hazards such as wave and ice impacts in the context of changing climate, including relative sea-level trends, possible changes in storm climatology, and changes in sea-ice break-up and freeze-up dates (associated with longer open-water seasons and increased exposure to waves and storm surges). Using climate-change scenarios, updated projections of changing sea level, digital topography from satellite imagery and field surveys, supplemented by historical investigation of past storm events using instrumental and anecdotal data, this research is providing one element of a broader assessment to support informed waterfront planning in Iqaluit.

ABSTRACTS**STUDYING COMMUNITY SUSTAINABILITY
IN THE CONTEXT OF CLIMATE CHANGE:
ADAPTIVE CAPACITY, INSTITUTIONAL
ANALYSIS AND GOVERNANCE****Ralph Matthews,***University of British Columbia, Canada*

This paper reports on a C-Change research project that investigates the capacity of coastal communities to respond to ocean related climate change exposures and vulnerabilities. Focusing on the Town of Gibsons, British Columbia, Canada, it sees adaptive capacity as related to the capacity of local governments to respond effectively to the new challenges presented by a changing climate. However, while the focus is on governance institutions and organizations, the unit of analysis is the role of actors within them.

We employ a conceptual framework that we have developed across several other studies that incorporates an approach known as “new institutional analysis”, combined with elements of a perspective developed by the UN International Human Dimensions Program (IHDP) on Climate Change. In this paper, we explain this framework and the methodology that we are employing in Gibsons and its surrounding region. This includes both a web-based citizen questionnaire and in-depth interviews with elected representatives and local administrative officials. The paper concludes with a discussion of the relevance of the methodology and tools developed for research in Gibsons to other communities in Canada and the West Indies that are the focus of the C-Change research program.

**EVALUATING THE IMPACT OF ENVIRONMENTAL
CHANGE ON COASTAL COMMUNITIES****Sahar Pakdel,***University of Ottawa, Canada*

Undeniable impacts of climate change are globally more visible. Coastal communities like Isle Madame in Cape Breton, Nova Scotia, Canada, are vulnerable to the changing climate hazards from events such as sea level rise and storm surge (IPCC 2007).

This research focuses on identifying vulnerable areas in the community of Isle Madame to sea level rise and storm surges via geographical modeling using ArcGIS as well as simulating and modeling storm surge scenarios via system dynamics. The objective of the research is to describe spatially, using maps and the ArcGIS software, the area of interest (Isle Madame) with respect to its environmental, economic, social, and cultural pillars. In addition to identify the vulnerable areas of the Isle Madame coastal zone affected by rising sea level and applying storm surges using the ArcGIS software, also to prepare spatial scenarios for modelling sea level rise and storm surge facing the community using ArcGIS and system dynamics (the STELLA software). Moreover to evaluate the impacts and estimate damage valuation on the community components from sea level rise and storm surge scenarios on the community by the use of system dynamics modeling.

ABSTRACTS**CLIMATE CHANGE AND PHYSICAL DEVELOPMENT THREATS, CHALLENGES AND ADAPTATION RESPONSES IN COASTAL COMMUNITIES: GRAND RIVIERE, TRINIDAD****Michelle Mycoo and Michael Sutherland***Dept. of Surveying and Land Information**The University of the West Indies, St. Augustine Campus, Trinidad*

Climate change and physical development pose threats to the sustainability of coastal communities in the Caribbean if immediate steps are not taken to adapt to these challenges. This paper, using the coastal village of Grand Riviere, Trinidad, first investigates the challenges of climate change, associated sea level rise, beach erosion and physical development on leatherback turtle nesting and eco-tourism. It then explores physical planning and eco-design adaptation responses to minimise negative effects on the coastal environment and its community. Finally, it makes recommendations for building the coping capacities of coastal communities affected by climate change and physical development. A key finding of this paper is that when a projected minimum sea level rise scenario employing a geographic information system model is applied, the beach area which is essentially the nesting habitat of leatherback turtles may be altered. Another important finding is that the fragile habitat zone is further disturbed by physical development such as resorts and their activity that are located in close proximity to these sites. The mapping output from this research is useful as a communication tool for building adaptation capacity among affected coastal communities. It also serves to inform policymaking and regulatory stakeholders in the preparation of physical planning and design guidelines aimed at promoting sustainable coastal communities.

REVISITING THE ENVIRONMENTAL IMPACTS OF DROUGHTS: LESSONS FOR THE CARIBBEAN COMMUNITY (CARICOM) MEMBER STATES**Jason Alexander,***Graduate Student,**The University of the West Indies, St. Augustine Campus, Trinidad*

The most frequently occurring natural disasters in the Caribbean Community (CARICOM) member states are wind storms, floods and earthquakes, respectively (Rasmussen 2004; EM-DAT Database; Alexander 2007). Consequently, much of the disaster risk reduction strategies undertaken therein specifically target these three types of natural disasters. Notwithstanding that such a focus is warranted based on previous occurrences, there was a marked shift in the profile of natural disasters in the Caribbean region in 2010. One, which if overlooked or minimized, could present a challenge for Sustainable Development.

For the first time, CARICOM member states located in countries of the Southern Caribbean archipelago (Barbados, Grenada, St. Lucia and Trinidad and Tobago) were adversely affected by Drought Conditions of the magnitude to be considered natural disasters. To the extent that these and other member states (such as Haiti, Jamaica and Guyana) continue to experience droughts in the future, then each Sovereign State has to revisit its focus on Climate Change and Natural Disaster Management to explicitly include national and community Drought Risk Management Approaches. Using one of the pillars of Sustainable Development Theory and Practice, the environmental perspective, this paper outlines the profiles of droughts in the Caribbean and revisits the literature on the environmental impacts of droughts.

ABSTRACTS**CROP PROTECTION STRATEGIES TO ADAPT TO CLIMATE CHANGE****Julia C. Parris and Genevieve Lee Quay-Gill,***The University of the West Indies, St. Augustine Campus, Trinidad*

The agriculture sector has been hit another blow due to fluctuation in the weather patterns. Dry and wet spells have all taken its' effect on food production. Globally the world's climate is changing, the temperatures are raising and there is a greater chance of extreme weather events. These events will impact greatly on pest outbreaks and food security. Pest outbreaks are likely to become more unpredictable and there will be a higher event of it happening. Planned adaptation methods which conserve soil and water are critical components to alleviating the stress of climate change. Consequently, improving crop varieties by making them tolerable to droughts and floods is considered to be climate proofing plants.

AN ASSESSMENT OF FACTORS IMPACTING VULNERABILITY AND RESILIENCE IN CARIBBEAN COASTAL COMMUNITIES; A PROPOSED VULNERABILITY FRAMEWORK
Sherry-Ann Ganase and Chiedozie D. Osuala,*Graduate Students,**The University of the West Indies, St. Augustine Campus, Trinidad*

The purpose of this study is to assess and analyze factors (social, economic and environmental) that impact vulnerability/resilience in Caribbean coastal communities with emphasis on the Caribbean region. A framework for assessing vulnerability/resilience in Caribbean coastal communities is proposed in this study. This study seeks to address the issue of identifying relevant vulnerability indicators encapsulated within social, economic and environmental factors that are endogenous to the Caribbean coastal community in question and their estimation via the proposed vulnerability framework. Vulnerability indicators should accurately capture the vulnerabilities of these communities to climate change. Different models and frameworks have been proposed over the years to accurately measure vulnerability and resilience to climate change but this study differs in that it seeks to capture or account for varying indicators within Caribbean coastal communities that aid in the estimation of their vulnerability/resilience to climate change.

ABSTRACTS**THE VULNERABILITY OF COASTAL COMMUNITIES TO SEA-LEVEL RISE: A CASE STUDY OF GRANDE RIVIERE, TRINIDAD AND TOBAGO****Sandra Sookram and Michael Sutherland,***The University of the West Indies, St. Augustine Campus, Trinidad*

The community of Grande Riviere in Trinidad and Tobago was the subject of a multidisciplinary study that employed a combination of geomatics, i.e., the use of field surveys and Geographic Information Systems (GIS), and economic data to evaluate the susceptibility of the community to floods and storm surges due to sea-level rise. An examination was made of the level of risk that the critical facilities and properties in the community could face in the future by using projections of sea-level rise presented via spatial GIS models. Micro-data on socio-economic characteristics of the community was collected through a face-to-face administered questionnaire. The results of this study may have important policy implications since policy- and decision makers will have to act to reduce and/or eliminate risk of exposure of specific areas of the community by implementing adaptation or mitigation measures and directing development away from future high-risk areas.

THE ROLE OF NATURE IN COASTAL LIVELIHOODS OF SMALL ISLAND DEVELOPING STATES (SIDS): COMMUNITY PERCEPTIONS IN GRANDE RIVIERE, TRINIDAD**Sonja Teelucksingh and Patrick Watson,***The University of the West Indies, St. Augustine Campus, Trinidad*

SIDS face a particular set of economic, environmental and developmental challenges that may cause environmental shifts such as ecosystem changes and climate change impacts to have extreme economic and welfare effects. As a result, there is an increasing need to better understand the linkages between the environment and human livelihoods within these vulnerable communities where impacts are likely to be most strongly felt. Within this context, this paper empirically investigates this relationship in Grande Riviere, Trinidad, a community characterised by low income levels but particularly rich in environmental resources: in particular as the location of one of the major nesting sites of the endangered leatherback turtles. A two-step empirical methodology of Factor Analysis and Ordered Probit modelling is used to evaluate the role of nature in this coastal community, and to determine what are the significant components that influence community perceptions of the use of nature in their daily lives.

ABSTRACTS**MOBILIZING LOCAL KNOWLEDGE TO BRIDGE INFORMATION GAPS IN CLIMATE CHANGE ADAPTATION PLANNING****Sue Nichols et al,***The University of New Brunswick, Canada*

Over the last 10 years, Canada has helped to lead the way in terms of modelling sea level rise and storm surge threats for coastal communities. Coastal climate adaptation projects have benefitted from the use of high precision LiDAR data to develop digital elevation models (DEMs) of the coast. Used with sea-level data, ocean modelling, and coastal geomorphology, these DEMs provide a strong scientific base for visualizing the spatial extent of threats under various sea-level rise scenarios.

The challenge for many communities, however, is that they do not have a strong information base and may not be able to afford new data collection and processing technologies. Therefore part of the C-Change ICURA project is to design approaches for threat identification that can be applied in data-rich and data-poor settings.

This paper addresses the need for flexible approaches in Canada and the Caribbean and illustrates what can be accomplished using local knowledge to supplement science. A Coastal Collaborative GIS (CCGIS) has been developed, using best available data, open-source software and web imagery (Google/Bing) as a background. CCGIS then allows participants to add spatial and non-spatial notations, as well as various multi-media, to track storm events and to identify threatened areas based on local knowledge. Potentially it can also be used to validate scientific data and as a platform for Volunteered Geographic Information.

CLIMATE CHANGE MITIGATION AND ADAPTATION STRATEGIES**Hooman Mostofi,***University of Ottawa, Canada*

Coastal hazards including inundation, salinisation of the water supply, and erosion, threaten vital infrastructure that support coastal communities. In the case of Canada, little work has been conducted on impacts and adaptation in the coastal zones, despite having the longest coastline in the world. The current research which is part of an International Community-University Research Alliance (ICURA) project develops a multicriteria decision evaluation for the systems analysis of adaptation options of small islands and coastal communities toward adapting to environmental changes. This study estimates the vulnerability of coastal communities with respect to their environmental, economical, social, and cultural dimensions. This study develops a methodological framework that will be applicable to various coastal and small island contexts. The application of such framework is further discussed in a case study conducted on the community of Little Anse located in Isle Madame, Nova Scotia.

ABSTRACTS**THE POTENTIAL IMPACTS OF SEASONAL BEACH MORPHOLOGY ON THE NESTS OF DERMOCHELYS CORIACEA AT GRANDE RIVIERE BEACH****Alana Joseph,***Graduate Student,**The University of the West Indies, St. Augustine Campus, Trinidad*

The Leatherback Turtle (*Dermochelys coriacea*) is identified on the IUCN Red List of Threatened Species, as being critically endangered. Leatherback turtles face both natural and anthropogenic threats throughout all stages of their life cycles. Beaches play an important role in the reproductive stage of this species by facilitating mature females during the nesting season which extends from March to August annually. However, beaches are a component of highly dynamic coastal systems which suggests an increased unpredictability of their morphological patterns, particularly where rivers play great roles in sculpting the beach landscape. Beach and river dynamics are strongly influenced by seasonal weather changes throughout the year. Observations of these changes have been made over a two year period from 2009 to 2011 at the Grande Rivière beach. Maps of approximate turtle nest locations along the beach have also been generated for this duration. One major potential impact has been the loss of nests in close proximity to the rivers at this beach due to increased erosion of beach sediment following significant precipitation events. Measures need to be taken to ensure that nest loss at the Grande Rivière beach is minimal in an effort to maintain one of the most important leatherback nesting sites not only in the country but the wider region.

THE FUTURE OF INTERNATIONAL LAW IS DOMESTIC**Darceuil Duncan***The University of Trinidad and Tobago*

“Progress in the application of environmental legislation is a function of the regulatory, institutional, administrative and public participatory arrangement that exist for implementation. Although some progress has been made, much of Caribbean environmental law may be characterized as ‘book’ law rather than being actually enforced and implemented.” This assessment paper canvasses the issue of “...the future of international law [as being] domestic”. The Commonwealth nations are cradled in a common thread of history as they are former colonies of the British Empire and share a framework of similar values and goals for their respective nations. These post-colonial states also share a “legacy of colonial resource management policies [and] when colonies obtained ‘flag’ independence, the environment they inherited was severely damaged from years of exploitation by colonial administrations.” Hence, the traditional concept of international law being separate from domestic law must be remodelled to meet the challenges posed by the international community. The role of international law must be clearly defined if it is to embark on effective implementation in the era of globalization. “To offer an effective response to these new challenges, the international legal system must be able to influence the domestic policies of States and harness national institutions in pursuit of global objectives.” It is only in this manner would environmental law truly transition from “book law” to a law that is tangible within today’s society.

ABSTRACTS**VULNERABILITY TO SEA LEVEL RISE IN AN URBAN CENTRE OF A DEVELOPING COUNTRY: A CASE STUDY OF GEORGETOWN, GUYANA.****Gopnauth Bobby Gossai and Patrick Watson,***The University of the West Indies, St. Augustine Campus, St. Augustine*

The impact of changing climate is nowhere more evident nor more intense than in the coastal regions. Rising temperatures, thermal expansion of water and subsidence of the land base are contributing to sea level rise, changing precipitation patterns, more frequent intense weather events, storm surges and flooding, salinisation of fresh water, coastal erosion, increased sedimentation of coastal waters, and pollution from flooded or destroyed infrastructure and storm runoff. This paper presents a framework for integrating the multiple dimensions of the problems facing selected coastal communities in Georgetown, Guyana, towards managing adaptation and understanding vulnerability to the changing environment. Multiple dimensions in the coastal system include the bio-physical, economic, social and institutional arrangements of coastal communities. The methodology captures and profiles community data via primary and secondary features that identifies sensitive areas to sea level rise. Preliminary vulnerability indices of the various Georgetown communities are calculated and interpreted.

PROTECTING THE CARIBBEAN SEA: INTERNATIONAL ENVIRONMENTAL LAW AND GOVERNANCE CHALLENGES FOR CARIBBEAN SIDS**Michelle Scobie,***The University of the West Indies, St. Augustine Campus, Trinidad*

Caribbean States have recently been more active in the development of systems to ensure environmental sustainability in the region's fragile marine ecosystem. An important area of inquiry is whether international environmental law as it now stands is sufficient to protect the area or whether a greater level of protection is needed to guarantee sustainable use of the seas and coasts. Customary and treaty based international environmental law have evolved tremendously over the last century and do afford several levels of legal protection to the uniquely sensitive and complex Caribbean Sea marine ecosystem. The challenge lies in the implementation and enforcement of the law, to ensure that state and non-state actors alike comply with their obligations under international law. Many Caribbean States are Small Island Developing States (SIDS) - with their own internal and regional governance challenges and priorities. Their sustainable development depends on their finding ways to harness limited resources and energies towards regional-seas environmental governance.

ABSTRACTS**COMPLEX CONTRADICTIONS IN GUYANA'S ECOLOGICAL DEVELOPMENT**

Christopher Carrico,
University of Guyana, Guyana

Last year, Guyana's President received UNEP's 'Champion of the Earth' award. Research conducted here indicates that Jagdeo's environmental policies are 'sleight-of-hand' solutions. Market-based incentives for corporations to responsibly manage the environmental impact of economic activities cannot address what Foster calls 'The Ecological Rift' that is inherent to capitalism.

This paper mainly examines the opposition between coast and interior, and the attention that each receives regarding the environmental priorities of the Government of Guyana and international funding agencies. Guyana's interior has always had a low level of deforestation, and has managed to develop industries such as forestry and mining in ways that are less destructive than these industries in neighboring countries like Brazil.

Meanwhile, Guyana's coast is an unmitigated environmental disaster. There is chronic flooding, serious problems with solid waste management, and a majority population that lives below sea level during a time when rising sea levels will likely lead to serious disasters for the coastal population. While it is home to Guyana's most ecologically vulnerable people, the coast is nearly completely ignored in the discussion about sustainable development.

The purpose of this paper is to introduce the sustainable development of coastal communities to the discussion about the future of environmentally responsible development strategies in Guyana.

ENVIRONMENTAL ISSUES IN NEW COUNTRIES. EXAMPLES OF ALGERIA BANGLADESH

Abdelhafid Chalabi and Rashed Nabi,
Fisheries and Oceans, Ottawa, Canada

What are the new approaches to the environment that might simultaneously address its degradation and the development of the rural community and economy?

New States have gained their independence from the 60s and 70s, after centuries of colonial ruling. They have since made headway in some areas of economic development but have still struggling with their environmental resources management.

Despite the geographic and cultural differences that separate the two countries, Algeria and Bangladesh present commonalities when it comes to governance and environmental management. As young nations, Algeria and Bangladesh still rely on their colonial inherited structures which have hampered them from developing their own. Furthermore, the relationship between local communities and their environment has been, in some cases, completely severed when land and productions assets were confiscated by colonial authorities.

The paper will present two cases studies, one from each country, highlighting natural resource management strategies adopted by each nation, with a special focus on natural and/or renewable resources (especially agriculture, fisheries and aquaculture). These studies indicate there is an emerging trend in partnership building between public and government stakeholder to tackle environmental management while minimizing the political sensitivities surrounding these issues. This multi-stakeholder approach would offer an opportunity to build a trade-off between social responsibility and environmental protection and would therefore warrant further development.

ABSTRACTS**THE IMPACT OF LIGHT POLLUTION ON THE SEA TURTLE POPULATION IN THE CARIBBEAN**

Agustin Perez-Barahona, Eric Strobl, Christine Lavour and Michael Brei,
INRA and Ecole Polytechnique, France

Marine biodiversity is and continues to be a growing point of attraction for the Caribbean tourism sector. At the same time it is also well known that coastal pollution can severely affect marine biodiversity and is thus of considerable concern. One largely neglected aspect in this regard has been what role increased coastal lighting due to the development of tourism facilities and housing on or near the coast may play. More specifically, while a number of studies in the natural sciences have already pointed out that some marine species are particularly sensitive to light pollution¹, the impact of the rising degree of light pollution in the Caribbean has gone largely unexplored.² In this paper, we set out to study how light pollution in the Caribbean coastal areas may have affected one particular aspect of biodiversity in the region, namely the sea turtle population. Arguably, light pollution maybe particularly important for marine turtles, where their beach nesting and mortality rates of the newborns are negatively affected by coastal lights. Our approach to quantitatively estimate the impact of light pollution on turtle populations is to combine a number of unique data sets.

SHORELINE FORAMINIFERAL THANATACOEANOSES AROUND FIVE EASTERN CARIBBEAN ISLANDS AND THEIR ENVIRONMENTAL AND BIOGEOGRAPHIC IMPLICATIONS

Jacqueline I. Wilson and Brent Wilson,
The University of the West Indies, St. Augustine Campus, Trinidad

Foraminifera are small, shelled protists that abound in marine environments. The Caribbean Sea forms a single biogeographic province with respect to nearshore (< 3 m water depth) foraminifera, which live primarily on marine vegetation. On death, they become incorporated into the sediment. The assemblage at a site reflects susceptibility to pollution and transport during storms, which have implications for land use development.

Foraminiferal thanatocoenoses were examined in 65 nearshore sediment samples from around five eastern Caribbean islands: St. John (US Virgin Islands), St. Kitts, Nevis, Bequia and Tobago. Cluster and principal components analyses distinguished the following environments (indicator species in parentheses):

1. Sediment associated with a *Rhizophora* mangle (*Ammonia sobrina*),
2. Bays subject to organic matter enrichment (*Quinqueloculina poeyana*, *Triloculina rotunda*, *T. trigonula*),
3. Areas subject to moderate sediment flux during storms (*Quinqueloculina auberiana*, *Nodobacularella mexicana*, *Peneroplis proteus*, *Archaias angulatus*),
4. Locations subject to high sediment flux during storms (*Amphistegina gibbosa*),
5. Sites little stressed by organic matter enrichment or storms (*Discorbis rosea*).

The majority of samples were from sites in the last category. The data from this study could form the nucleus of a catalogue of Caribbean beaches and their environmental influences.

ABSTRACTS**SEA TURTLE RESEARCH AND CONSERVATION ON DEVELOPED COASTLINES: CHALLENGES AND LESSONS LEARNED ON THE FLORIDA COAST.**

Raymond Carthy,
The University of Florida, USA

The Florida coastline hosts some of the most important nesting beaches for the loggerhead sea turtle in the western hemisphere. The last decade has seen increased nesting by tropical species like leatherbacks and green turtles. While strong legislative protection is afforded these animals by the U. S. Endangered Species Act, in practice, conservation efforts are often at odds with human activities and coastal development. In addition, the effects of climate change and associated responses aimed at protecting coastal infrastructure may result in habitat loss and degradation. This presentation highlights some current sea turtle conservation and research efforts in Florida, with a special focus on the effects of development and climate change on nesting and foraging habitats. Issues discussed will include beach nourishment, lighting disorientation, and the impacts of recreation and eco-tourism.

CONSUMPTIVE USE AND CONSERVATION OF MARINE TURTLES IN PEARL LAGOON, NICARAGUA: IMPLICATIONS OF HISTORIC TASTE PREFERENCES, CULTURAL NORMS, AND LOCAL ATTITUDES FOR THE HUMAN DIMENSIONS OF TURTLE CONSERVATION.

Kathryn A. Garland,
The University of Florida, USA

Our research is grounded in theories from ecological anthropology and the human dimensions of wildlife ecology, which focus on how human populations shape their environment and how the environment in turn shape the social, economic, and political culture of the local society. This study explores the (1) local consumptive use of sea turtles: a tradition with deep cultural ties to taste preferences, (2) attitudes of community members toward sea turtle conservation and conservation programs, and the influence of these attitudes and knowledge of local conservation laws on behavioral intentions to conserve the species, and (3) the importance of cultural context in designing a conservation initiative that will garner local support and participation. The largest foraging population of green turtles (*Chelonia mydas*) in the Atlantic Basin, and one of the longest-running legal green turtle fisheries both exist off the Caribbean coast of Nicaragua. Green turtles have become a focus of conservation initiatives in the last century, however programs in Caribbean Nicaragua have been in place less than 20 years. This case study on cultural preferences focuses on a community of mixed Miskito and Creole ethnicity based in the 5200km² Pearl Lagoon Basin (RAAS).

ABSTRACTS**CONSERVATION OF LEATHERBACK TURTLE
NESTING SITES****Julia C. Parris, Genevieve Lee Quay-Gill, Darceuil Duncan and
Ria Rodriguez***The University of the West Indies, St. Augustine Campus, Trinidad*

The sea turtle that visits the shores of Trinidad and Tobago the most frequently each year is the leatherback turtle, *Dermochelys coriacea*. This ancient species of sea turtle is endangered and thus, deserves our care. Coastal erosion, rise in sea level, increase in global oceanic temperatures and limited beach space are some of the major hurdles this animal must overcome in order to survive on this planet. Coastal erosion is highly prevalent on the north coast of Trinidad and hence, the beach space for the nesting population has become limited. This has resulted in many incidences with turtles digging up other turtles' nests. Temperature increases within the nesting chambers can cause the nests' populations to become predominantly female, leading to gender imbalances within the species as a whole. Such problems as these can be alleviated in many ways, for instance, by protecting the coastline to avoid beach erosion and introducing the uses of many engineering strategies to prevent and deal with any current threats to the nesting sites.

**ALWAYS ASK THE TURTLE: DELINEATING SHELL
BEACH****Michelle Kalamandeen,***University of Guyana, Turkeyen Campus, Guyana*

In June 2009, the Guyana Marine Turtle Conservation Society (GMTCS) began the process of delineating the proposed Shell Beach Protected Area (SBPA). Shell Beach, a 120 km stretch of beach and mudflats along the Northwestern coast of Guyana, is synonymous with the yearly nesting grounds of four species of sea turtles. The primary objectives of the project were to increase the level of awareness among stakeholders on protected areas and on the issues surrounding the proposed SBPA; facilitate the formation of a Community Representative Group (CRG); update and collect information on the proposed SBPA; and propose one or more boundary options for submission to the Government of Guyana.

The consultative and participatory techniques utilised to garner support from stakeholder communities; non-governmental organisations and state agencies can be deemed a model for future terrestrial and marine protected areas. As such, this paper outlines the process used and some of the lessons learned from delineating the proposed SBPA.

ABSTRACTS**TOURISM, SEA TURTLES AND THE ENVIRONMENT AS A CATALYST FOR DEVELOPING SUSTAINABLE COMMUNITIES: THE GRANDE RIVIERE CASE****Allan Bachan,***Turtle Village Trust, Trinidad*

Eco-tourism and agro-tourism which are important categories of sustainable tourism and relevant economic drivers; are being recommended as effective vehicles for sustainable community development in Trinidad and Tobago. Adopting sustainable tourism practices is increasingly being promoted as an important strategy for achieving benefits in economic, social and environmental dimensions of national development.

This paper identifies a unique model adopted by an NGO called Turtle Village Trust and examines its impact through a case study of the community of Grand Riviere. The main objective of this paper is to document and evaluate the model and strategies utilized to address the triple objectives of social, economic and environmental benefits of sustainable development. This is of particular importance for Trinidad and Tobago where an imbalance in any one of these three developmental pillars can result in negative fall-out much more rapidly than in countries with larger land masses.

The economic perspective on ecotourism and agro-tourism in the community would also be looked at as this provides insights into the types of choices and decisions which consumers, private sector suppliers, government agencies, and policymakers make. It also provides a structure for identifying which types of data should be gathered, organized, and interpreted for purposes of better understanding tourism markets, constructing forecasts, and aiding in policy choices involving resource allocation.

EVOLUTION OF THE SPEYSIDE ECO-MARINE PARK RANGERS FROM A COMMUNITY-BASED MANAGEMENT: CONTRIBUTIONS OF THE GLOBAL ENVIRONMENT FACILITY - SMALL GRANTS PROGRAMME IN TOBAGO**Stacy-Marie Syne,***UNDP*

A community-based management project in Tobago carried out scientific surveys of the coral reef ecosystems in the Speyside Marine Area, assessing them as relatively robust and resilient with consistently high conservation management values. However, anthropological activities such as over-fishing and deforestation, along with climate change threaten the reefs and ecosystem services they provide. Concurrent community sensitization and capacity building proved to be essential to the sustainable management of the marine area as it is not legally protected. Concepts in coral reef ecology and coastal zone management were integrated into many aspects of the residents' lives with activities such as family fun-days, training programmes and scholarship opportunities. 42% (450/1064) of the community, including students (200/1064), tour guides and families participated. The project inadvertently led to the formation of the Speyside Eco-Marine Park Rangers, dedicated to protecting the marine area and continuing conservation efforts. They in turn, embarked on the project, "My Island-My Community" and network among twelve other Caribbean countries and local organizations to develop communication initiatives. These facilitate learning exchanges and enhance community-based climate change adaptation activities. These two case studies, along with their challenges and lessons learnt can be used as a model to replicate successive sustainable development initiatives.

ABSTRACTS**SUSTAINABLE RESORT CONSTRUCTION: A TOOL OF LOCAL ECONOMIC DEVELOPMENT?****Daniella Sachs,***University of the Witwatersrand, South Africa*

Tourism has been hailed as an important tool of development, yet has led to great social and environmental destruction, especially in many coastal areas. This has resulted in the advent of ‘responsible tourism’ which purports to be a sustainable, environmentally-based, tool of local economic development. The purpose of this research is to evaluate the contribution of the sustainable/green construction phase of responsible resort development to this goal.

This evaluation will be conducted by means of a comprehensive literature review and qualitative and quantitative case study analyses. This research is currently on-going, and therefore this paper will seek to present the initial findings from one of the case studies under analysis which is Rosalie Bay Nature Resort, in the Commonwealth of Dominica, in the West Indies.

The case study analysis will focus on an evaluation of the actual and potential socio-economic impacts, and supply chain linkages and leakages of the construction phase of resort development. The aim and significance of this approach is to provide both an assessment of the potential value of this development phase, and suggestions for how it could be planned to ensure maximum local economic benefit. It is further hoped that this research will open the door to further discussion on this topic.

ECONOMIC VALUE OF MARINE QUALITY TO SCUBA DIVERS IN BARBADOS**Peter Schuhmann,***University of North Carolina at Wilmington, USA*

The objective of this research is to estimate the economic value of coral reef quality as it relates to SCUBA diving. This value is derived using a stated preference (choice modeling) survey of resident and tourist divers in Barbados conducted in 2007. In addition to a variety of demographic variables, divers were asked about their level of experience, expenditures related to travel and diving, and encounters with specific species. Divers also completed a choice experiment, selecting between alternative dives with varying characteristics including price, crowding, fish diversity, encounters with marine turtles and coral reef quality. Coral reef quality was represented via a series of photographs representing a known range of live coral cover. Results indicate that willingness to pay for marine quality variables are significant, and may vary with diver experience, nationality and the quality of their most recent dive. The results of this study can be used to inform management decisions regarding reef use and marine turtle management and can aid in the development of policies aimed at maximizing the returns from diving while reducing the negative impacts of tourism activities.

ABSTRACTS**TURTLE RESEARCH AND OUTREACH NODE IN TRINIDAD AND TOBAGO****Elie Moussali and Kaija Metuzals,***University of Ottawa and Fisheries and Oceans, Ottawa, Canada*

Six of the seven marine turtle species live in the wider Caribbean. After a brief review of the biology, ecology and current status of sea turtles in wider Caribbean, this paper will review the various conservation efforts and programs throughout the Caribbean currently operating including their objectives and outputs. These generally fall into population tracking, census, conservation and outreach programmes (such as ecotourism). The paper will propose an integrated project for the local conditions and capacities. This proposal is meant to complement and extend efforts of conservation and sustainability currently underway.

Best practices and lessons learned from the Canadian Sea Turtle Network will be presented and their usefulness will be analysed. The leatherback turtle is an endangered species in Canada and has been studied for a number of years. Bycatch mitigation measures, such as Turtle Excluding Devices (TEDs) and their effectiveness will be discussed where data are available and compared in certain areas of the world.

This presentation will recommend setting up a visitor centre cum research node at the conservation area that can serve as an outreach programme to increase awareness and turtle conservation. The Caribbean Conservation Corporation in Florida already has tagging and satellite tracking programmes in place. This node in T&T is then to become part of the wider network of Sea Turtle conservation. The paper will explore and discuss how best this may be accomplished.

The Wider Caribbean Sea Turtle Network already has some contacts and projects underway in Trinidad and Tobago. These will be explored with the idea of setting up a node in Trinidad and Tobago.

EMPOWERING COMMUNITIES ENHANCES LONG-TERM SEA TURTLE MONITORING IN FIJI**Merewalesi Laveti and Penina Solomona,***University of the South Pacific, Fiji*

Local fishermen of the identified ten turtle nesting sites along the Great Sea Reef are now turtle monitors. These fishermen were once turtle hunters with immense traditional knowledge in sea turtles habitat, sea turtles recipe and hunting skills. Establishing turtle monitoring programme along the two provinces of Bua and Macuata have enhances initiative in the long-term protection of sea turtles. The 25 turtle monitors in place are now spearheading sea turtle conservation and protection along the Great Sea Reef. Baseline information unveiled an increase in tagging, protection of nesting and feeding sites, decrease in illegal harvesting of sea turtles, submission of detailed information of nesting beaches and even advocacy on sea turtles protection, its biology, ecology and existing turtle moratorium at village, districts and provincial level meetings. The granted mandate as fish warden enabled turtle monitors to better its role by means of enforcing existing legislations. The existing turtle monitoring programme is creating vast sea turtle conservation awareness throughout Fiji. Maintaining support from regional organizations, government, non government organizations and institutions is a continuing challenge in this early stage of establishing community based turtle monitors.

ABSTRACTS**CORPORATE SOCIAL RESPONSIBILITY AND LOCALIZED ECONOMIC DEVELOPMENT: COMMUNITY BASED TOURISM FOUNDED ON THE LEATHERBACK TURTLES IN TRINIDAD AND TOBAGO.****Roger Hosein and Martin Franklin,***The University of the West Indies, St. Augustine Campus, Trinidad*

Trinidad and Tobago a small hydrocarbon rich economy has just experienced its 12th year of persistent real economic growth. However, there still remains widespread differences in geographic poverty, unemployment and income rates within the economy. This study reviews the economic attributes of the St Andrew/ St. David geographic region (SASD) which carries the highest incidence of poverty in Trinidad and Tobago and thus makes the suggestion that the intervention by large foreign multi-national corporations MNCs operating in T&T through their corporate social responsibility can help to create sustainable development through localized economic development in this geographic block. The catalyst for change, this study argues, should be the leatherback turtle, an endangered species that has been nesting the shoreline of this geographic block for hundreds of years.

COMMUNITY BASED TOURISM IN MATURA AND FISHING POND: THE RESIDENTS' PERSPECTIVE**Rhonda Thomas and Acolla Lewis-Cameron,***The University of the West Indies, St. Augustine Campus, Trinidad.*

Trinidad and Tobago lies within one of the world's most tourism-intensive regions, the Caribbean. Yet, unlike its neighbours, it has not relied heavily on income from tourism since its economy is dominated by the energy sector. However, within recent times, tourism has been identified as one of five sectors that should be developed to contribute to the country's economic development. More specifically, Community Based Tourism (CBT) is a niche product that has been earmarked for further development. The focus of CBT is to create a more sustainable tourism industry, focusing on the host community in terms of planning and maintaining tourism development.

It is against this background that this study focuses on two turtle nesting, rural communities in Trinidad involved in CBT, Matura and Fishing Pond. The sustainability of CBT in these communities depends heavily on the attitudes of the residents towards its development and management. To this end, the primary aim of this paper is to examine residents' attitudes towards CBT in the two communities and to determine the factors contributing to these attitudes. A survey was conducted in both communities through the use of personally administered questionnaires. The findings indicated that the residents have positive attitudes toward tourism which are influenced by their economic dependence on tourism and the level of community participation in tourism.

ABSTRACTS

MT. PLAISIR ESTATE HOTEL: A CATALYST FOR DEVELOPMENT IN GRAND RIVIERE

Melanie J. Richards and Roger Hosein,
CSR Solutions Limited, Trinidad

Today the community of Grand Rivière offers a relatively developed and diverse eco-tourism offering with many options for accommodation, and eco ‘delights’ including turtle watching, hiking and many other outdoor activities. This however was not always the case near a decade ago, in the early nineties, Mt. Plaisir Estate Hotel offered the only idyllic retreat of this kind in Grand Rivière on Trinidad’s North Coast and in its 14 years of operation (the date at which this case was written), the hotel has helped transform a poor rural village into a vibrant, self-sustaining community. Meanwhile, the hotel enjoyed steadily increasing revenues from 1995 – 2001, earning \$238,000 by 2001. The case outlines the background of the organization and the challenges and opportunities it faced in building a viable business while developing, empowering and training a community to become self-sufficient and sustainable. It also highlights the inspiring human narrative of the founder, Piero Guerrini.

The Sustainable Development of Coastal Communities:

CHALLENGES AND SOLUTIONS