THE NATURE AND ROLE OF LOCAL BENEFITS IN GEF PROGRAMME AREAS




CASE STUDY

BELIZE

GEF

GLOBAL ENVIRONMENT FACILITY
OFFICE OF MONITORING AND EVALUATION
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List of Acronyms

BAS	Belize Audubon Society
BBR	Belize Barrier Reef
BBRC	Belize Barrier Reef Committee
BTB	Belize Tourism Board
CAC	Coastal Advisory Committee
CBD	Convention on Biological Diversity
CBO	Community-Based Organization
CITES	Convention on International Trade in Endangered Species
CZMAI	Coastal Zone Management Authority and Institute
FAMRACC	Forest and Marine Reserve Association of Caye Caulker
FoN	Friends of Nature
GEF	Global Environment Facility
GIS	Geographical Information System
GOB	Government of Belize
ICZM	Integrated Coastal Zone Management
IUCN	International Union for the Conservation of Nature
LBC	Laughing Bird Caye
MBRS	Mesoamerican Barrier Reef System
MNREI	Ministry of Natural Resources Environment and Industry
MOU	Memorandum of Understanding
MPA	Marine Protected Area
MPAAC	Marine Protected Area Advisory Committee
NEAC	National Environmental Appraisal Committee
NGO	Non-Governmental Organization
PA	Protected Area
PACT	Protected Areas Conservation Trust
PADI	Professional Association of Diving Instructors
PfB	Programme for Belize
SATIIM	Sarstoon Temash Institute for Indigenous Management
SMPR	Secretariat Managed Project Review
TASTE	Toledo Association for Sustainable Tourism and Environment
TEA	Toledo Ecotourism Association
TIDE	Toledo Institute for Development and Environment
UB	University of Belize
UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
WB	World Bank
WCS	Wildlife Conservation Society
WWF	World Wildlife Fund - US

Acknowledgements

This report has been prepared with the assistance of many people, to all of whom great thanks are extended. Particular thanks are due to my two co-authors, Stacey Noel and Rachel Graham, for their tireless efforts, detailed insights and great patience throughout this process. Shaun Finnetty and his colleagues in the UNDP office in Belmopan assisted throughout and provided invaluable insights into the process of implementation of the two projects. Many officials of the Government of Belize, and especially Patricia Mendoza**,** Osmany Salas and Sharon Lindo of the Ministry of Natural Resources and the Environment, Commerce and Industry and Nancy Namis, Chief Executive Officer, Ministry of Economic Development, assisted us in all aspects of the work and proved to be welcoming and helpful hosts however much we pestered them. The same is true of Imani Morrison and her colleagues in the CZMAI. Kanta Kumari of the GEF Secretariat and Kathy MacKinnon of the World Bank accompanied us as resource persons during part of the first mission and were forthcoming with their views and opinions at all stages of the study. Finally, the many people of the different communities with whom we consulted and where we stayed should receive special thanks for making our work such a pleasure and so full of special insights.

Introduction: Local Benefits in Global Environmental Programs

This report presents the findings of a study that has looked at the nature and role of local benefits in two Global Environment Facility (GEF) projects in Belize. It is part of a wider study of the GEF system that looks at the issue of local benefits in the three GEF focal areas (biodiversity, climate change and international waters). The two Belize projects analyzed here are the Conservation and Sustainable Use of the Barrier Reef Complex Project and the Community-Co Managed Protected Areas Project. The overall study will explore the inter-relationship between global environmental gains and local benefits in the GEF portfolio.

The GEF mandate incorporates the role of local benefits through its emphasis on sustainable development: *"The GEF shall fund programs and projects which are country-driven and based on national priorities designed to support sustainable development" (P6).* The GEF Beijing Assembly recognized "that sustainable development is essential to secure poverty eradication and greater welfare for all people". Furthermore, both the UNDP and the World Bank, as GEF Implementing Agencies, have policies that formally link their environmental activities to poverty reduction.

The GEF has provided nearly US$ 4.1 billion in grants for over 1200 projects during the last 10 years of its operations. A preliminary desk analysis of documents concerning 220 projects in the GEF portfolio showed that slightly more than half the projects indicated an intention or expectation of providing local benefits. Enhancing local benefits is a strategic premise towards building enduring sustainability of the projects' outcomes related to global environmental gains.

The study will explore the following dimensions of selected projects in the GEF portfolio:

- The nature of links between attaining **global environmental benefits and generating local benefits**. This will be based on an analysis of how global environmental benefits can affect benefit streams at the level of project area communities and how the generation of local benefits can affect the attainment and sustainability of global environmental goals.

- **Global environmental benefits** of the projects will be assessed in relation to specific project objectives, outputs and monitoring indicators in the context of applicable GEF focal area strategies and programs.

- The types and scale of **local benefits and of any negative impacts**, intended or unintended, which have resulted from GEF projects, including local perceptions of these impacts. The concept of **local benefits** is defined as including those project outcomes which, directly or indirectly, have positive impacts upon people and ecosystems within or adjacent to project areas, and which provide tangible gains, present and future, in the livelihoods of communities and to the integrity of ecosystems

- The extent to which project design and the environmental management options selected in the project **can maximize opportunities** to generate greater levels of local benefits, or can **miss** out on or insufficiently exploit such opportunities.

The reason for examining these issues is to assist in increasing the long term sustainability of global benefits in sensitive areas by enhancing the level of direct and tangible gains accruing to local communities and actors in future GEF policy, strategies and programs, within the requirements of the GEF mandate. This reflects a widely-held understanding of the intimate links that often exist between the attainment of global environmental goals and the dynamics of local-level development processes.

Specifically, the overall purpose of the study is to contribute towards:

- Enhancing GEF policies, strategies and project design and implementation**,** in order to fully realize the potential for local gains in global environmental programs, to mobilize local actors for long term support of sound environmental management, to reduce local costs incurred by local communities for supplying global environmental goods, and to ameliorate possible negative impacts.

- Strengthening GEF M&E policies and processes to identify indicators for and strengthen the tracking of local benefits and negative impacts.

- Expanding the body of existing operational knowledge about good practices and experiences germane to pursuing global environmental issues, and of constraints or fallacies to be avoided in operations.

The study has a multi-phased methodology. In its preparatory phase, a detailed desk review of more than 125 GEF projects was completed, as well as a review of international donor and NGO experiences of local benefits in sectors covered by the GEF portfolio. In the second phase, detailed field-based case studies of 20 GEF projects will be undertaken in 12 countries and a further 30 projects will be examined through existing project documents, evaluations and external studies. In the third phase, analysis of all of the desk and field studies will be

synthesized and conclusions and recommendations will be drawn. As such, the assessment presented here identifies conclusions that are specific to the two projects examined, but these conclusions are part of a wider process of analysis and the approach taken has emphasized the need to draw out lessons that have a wider generic significance than the specific situation in Belize.

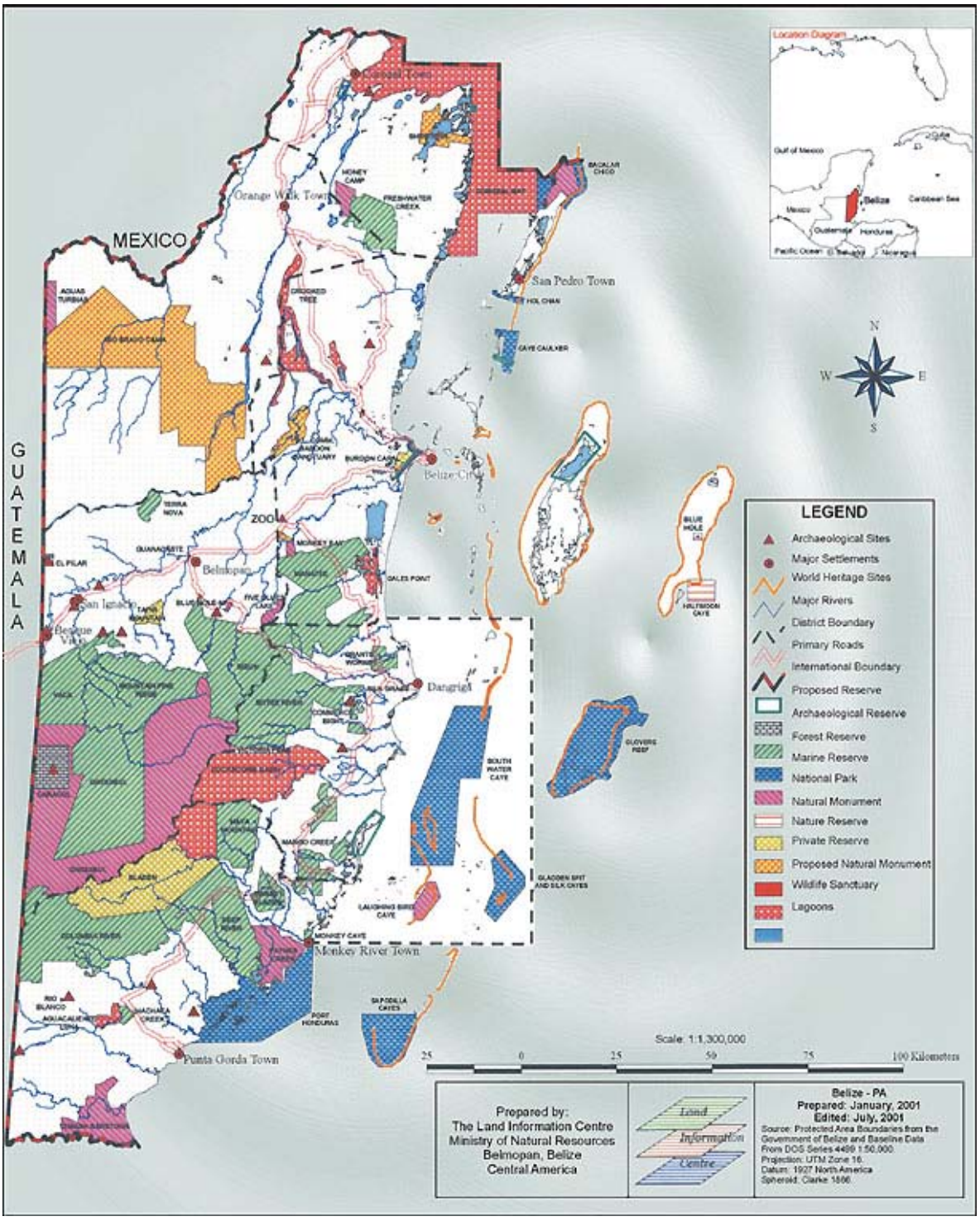
Environment and development trends of Belize

The country of Belize is located in Central America, bordered by Mexico on the north, Guatemala on the south and west, and the Caribbean Sea to the east. Belize contains 22,806 square kilometres, making it the second smallest country in the region, and enjoys a coastline of 231 kilometres (see Map 1). With a population of 274,000, Belize is the least densely populated country in the region.

Belize supports a wide range of ecosystems and is internationally recognised as regards biodiversity. Roughly 60% of the country consists of forest, including subtropical moist forest, subtropical wet forest, and open pine forest. These forests host 4,000 species of plants, 150 mammal species, and 151 species of amphibians and reptiles. Belize is home to the Belize Barrier Reef, the largest barrier reef in the Western Hemisphere and the second largest in the world, covering an area about 22,800km² (Kramer et al. 2000), approximately 10-35 km wide and 250 km in length. The reef is ecologically varied, encompassing reef flats, three offshore atolls, seagrass beds, mangroves and 1,060 cayes. The structure is further linked to several estuaries, wetlands and littoral forests that are located along the coastline. The coast and reef provide a habitat for 65 species of coral, over 600 species of reef fish, 40 species of mammals and 350 species of resident and migratory birds. In 1996, the Belize Barrier Reef was declared a World Heritage Site.

The country's population is comprised of a number of ethnic groups, including Creole, Garifuna, Mopan Maya, Q'eqchi' Maya, East Indian and individuals of European, Middle Eastern and Asian descent. According to Belize's 2000 census, the country's population is young: 41% of the population is less than 15 years of age. Further, the country's population density doubled between 1970 and 1998, moving from 5.2 persons per square kilometre to 10.4. Over half of Belize's residents (52%) live in rural areas.

Belize's main economic activities are agricultural cultivation and related processing; harvesting of forestry products; harvesting and production of marine products; and tourism. The country's primary exports are agricultural products, and the main export markets are the U.S. and the European Union. The economy is expanding: during the period 1997–2002, the country's GDP growth rate averaged 7%. Further, preliminary estimates for 2003 suggest Belize's GDP grew at a rate of 4.9%, driven primarily by increases in the tourism, banana, and



Map 1. Belize's network of terrestrial and marine protected areas (courtesy of the Land Information Centre).

shrimp industries. The 2000 census found that 50% of the country's working-age population was employed, although there was a gender disparity: 70% of working-age males were working, compared to only 30% of working-age females. With a relatively open economy, Belize is dependent on external markets and resources for growth, and thus fluctuations in the world economy represent a significant source of volatility. Poverty rates vary widely in Belize: the 2002 Poverty Assessment Report found that 79% of the population were poor and 56.1% were indigent in the southernmost district of Toledo, while the poor population in the other districts ranged from 24.8%-34.8% and the indigent population ranged from 4.8%-7.1%.

Key biodiversity issues and the policy and institutional context

Belizeans have traditionally had great respect for their natural heritage; this value for the environment is reflected in the fact that approximately 41% of Belize's land and waters has been designated protected areas. The Government of Belize has honoured its residents' regard for the country's natural resources, and Belize has deservedly received international recognition for its commitment to environmental conservation. Biodiversity conservation falls primarily under the edict of the Ministry of Natural Resources and its Departments of Forestry and Environment, whilst the responsibility for protection of marine resources falls under the Department of Fisheries located in the Ministry of Agriculture and Fisheries; this fragmentation of responsibilities has implications for the coherence and effectiveness of conservation efforts in Belize.

Following independence in 1981, the country enacted the Wildlife Protection Act, designed to protect specific species, such as the jaguar, and the National Parks System Act, which created the current system of protected areas and their categories (see Tables 1 & 2). However, as is not unusual for a young nation, Belize has had to make difficult allocation decisions. Faced with a number of competing priorities, government officials have often had inadequate resources to actively manage their extensive system of national parks and reserves, and governmental departments charged with the responsibility for protected areas have frequently lacked sufficient human and financial resources to perform their stewardship duties.

Seeking a strategy to overcome this challenge, the Government of Belize has chosen in some cases to devolve authority for day-to-day administration of protected areas to the voluntary sector, through the negotiation of co-management agreements with both non-governmental organizations (NGOs) and community-based organizations (CBOs). The first such co-management agreement was established in 1981 with an NGO, the Belize Audubon Society. This same organization was also the first to be granted authority over a marine protected area, when a co-management agreement was signed in 1995 for the

Blue Hole and Half Moon Caye National Monuments on Lighthouse Reef. Other co-management agreements have since followed, with a number of NGOs being given co-management over both terrestrial and marine areas (including TIDE, SATIIM, PfB, BAS, FoN, TASTE).

Regardless of whether stewardship for a protected area is currently administered by a government department or granted to an NGO or CBO, all protected areas in Belize are facing increasing pressures from a number of sources. Belize's 1998 National Human Development Report highlighted this issue, noting 'there are some indications suggesting that, unless more is done now, the natural capital of the country is likely to deteriorate as in other countries in the region.'

On the terrestrial side, significant pressure comes from agricultural development (both commercial and small farming), residential housing, and commercial development, all of which have led to the clearing of land. This problem is not limited to urban areas either: the 1998 Human Development Report describes a 'cycle of poverty and deforestation' existing among small farmers of Mayan and Central American origin in the rural areas of Cayo, Stann Creek, and Toledo districts. Many of the farmers in this region practice 'slash-and-burn' or milpa farming, negatively impacting the environment.

Table 1. Comparison of categories of protected areas

IUCN Categories	**Belizean Categories**
Category Ia Strict nature reserve, managed mainly for science	Nature Reserve Managed strictly for research and education (e.g., Bladen Nature Reserve)
Category Ib Wilderness area, managed mainly for wilderness protection	Belizean equivalent is the Nature Reserve
Category II National Park, managed mainly for ecosystem protection and recreation	National Park Managed for protection of scenic values and recreation (e.g., Blue Hole National Park)
Category III Natural Monument, managed mainly for conservation of specific natural features	Natural Monument Managed for protection and preservation of significant features (e.g., Victoria Peak Natural Monument)
Category IV Habitat/Species. Management areas managed mainly for conservation through management intervention	Wildlife Sanctuary Managed for protection of nationally significant species, habitat or physical feature (e.g., Cockscomb Basin Wildlife Sanctuary)
Category V Protected Landscape/Seascape, managed mainly for conservation and recreation	Marine Reserve Managed for protection, research, recreation, education and controlled extraction of marine and freshwater species (e.g., Bacalar Chico)
Category VI Managed Resource Protected Area, managed mainly for sustainable use of natural	Forest Reserve Allows sustainable extraction and use of natural ecosystems

ecosystems	

(Source: the National Tour Guide Training Program -BTB, Christ *et al.* 2001)

Belize is consequently a country with an almost unique richness and diversity of ecological resources, both terrestrial and marine, given its small size. There are a number of pressures upon these resources and many have experienced differing levels of degradation. The government and people of Belize, with significant levels of support from the international community and both local and international NGOs, have made sustained efforts to resist these pressures and put in place a systematic structure for conservation. In this they have had varying levels of success. Two of the key recent approaches to this are reviewed in this study, with the focus on the extent to which the projects have been effective in generating local benefits. The discussion presented in this section is intended to set the overall environmental and policy context within which these efforts have taken place.

Table 2. Coastal and marine protected areas

	Protected area	Type	Area (acres)	Management
1	Bacalar Chico*	Marine Reserve	15,529	Fisheries Department
2	Glover's Reef*	Marine Reserve	81,200	Fisheries Department
3	Hol Chan	Marine Reserve	2,578	Fisheries Department
4	Sapodilla Cayes*	Marine Reserve	38,500	Fisheries & TASTE
5	South Water Caye*	Marine Reserve	117,874	Fisheries Department
6	Caye Caulker	Marine Reserve	9,670	Forest and Marine Reserves Association of Caye Caulker & Fisheries Department
7	Port Honduras	Marine Reserve	101,100	Toledo Institute for Development and Environment & Fisheries Department
8	Gladden Spit	Marine Reserve	25,600	Friends of Nature and Fisheries Department
9	Blue Hole*	National Monument	1,023	Belize Audubon Society
10	Half Moon Caye*	National Monument	9,700	Belize Audubon Society
11	Laughing Bird Caye*	National Park	10,119	Friends of Nature & Forest Department
12	Corozal Bay	Wildlife Sanctuary	180,500	Forest Department
13	Swallow Cayes	Wildlife Sanctuary		Forest Department

Designated by UNESCO as World Heritage Sites.

On the marine front, development is also an issue, with both commercial and residential development leading to mangrove destruction, dredging, erosion and

silting. Effluents represent a major category of threats to reef health; these include runoff from agriculture, aquaculture, and industrial entities and sewer discharge from communities on the coast and rivers. In addition, fishing and tourism are particularly significant impactors on the marine environment. Unsustainable fishing practices, such as environmentally-unsound techniques (use of hook sticks, gill nets, etc.), fishing out of season, and harvesting of juveniles degrade the marine environment. Overfishing is also a major problem, particularly of conch and lobster; conch is now on the CITES list. Although Belize has made great strides in limiting these types of activities among its own fishers, it continues to face significant transborder pressure from fishers coming from Guatemala and Honduras. Tourism has also had a significant impact on marine health: issues include exceeding the carrying capacity at popular sites, difficulties enforcing restrictions prohibiting the taking of souvenirs from the reef, disturbance and destruction of habitats and nesting sites, and problems with tourists interacting with the marine life in inappropriate manners.

In addition to development pressures, another issue of major concern is the 'de-reservation' of protected areas: government ministers can de-reserve any land, regardless of protected status, by ministerial fiat. One such example occurred in 2003, when a national park, Payne's Creek, was 'realigned': the park's boundaries were moved, thus clearing the way for development in an area previously designated protected land. In the past, other areas have had their protected status rescinded by a minister's signature, though in many cases with some level of consultation amongst key stakeholders taking place before this decision is reached. This practice has raised concerns with both national and international NGOs, and was given attention in UNDP's 2002 final evaluation for one of the two projects in this study: the evaluation stated that the de-reservation of protected areas was common in Belize and warned it 'makes conservation investment very risky indeed.'

Belize consequently faces a number of complex issues in managing its extensive network of national protected lands. Drawing on its reserve of environmental consciousness and its governmental commitment to conservation, it is attempting to address these issues in creative ways, while simultaneously pursuing economic development and poverty alleviation for its citizens. A positive development toward these aims is the recent creation of a National Protected Areas Ministerial Task Force, which is charged with undertaking 'the development of a coherent and comprehensive policy and system plan for the establishment, management and administration of protected areas (terrestrial and marine) in Belize.' It is intended that this task force's work will result in a clear and coherent blueprint for strategically managing the country's protected areas, and thus resolve a number of issues. Among the many important topics to be considered by this task force is the practice of de-reservation and the question of financial self-sustainability for protected areas.

Study Approach and Methods

To date, GEF evaluations and reviews of Biodiversity (GEF, 2000a), Climate Change (GEF, 2000b) and International Waters (GEF, 2001) have primarily focused on identifying impacts that produce global environmental benefits in accordance with the GEF Mandate (GEF, 1996a). No studies have had a primary focus on the assessment of local benefits and impacts, including the factors that facilitate or hinder them.

Building on the knowledge generated by these prior studies, the present review will carry GEF research further into the important, yet unexplored, terrain of community-level benefits emanating from interventions for the global good. To address this complex new area, the GEF M&E Unit and the review team have focused first on evolving a comprehensive methodology, covering 10 years of GEF project experiences both in breadth and depth, aiming also to involve a number of beneficiary countries in the review process.

The methodology for the review was designed and evolved in cooperation with implementing agencies, through close interaction. It incorporates suggestions received during the May 2003 workshop on the first draft methodology and the comments on a second draft circulated at the beginning of July. An Inception Report (Study Document Number Fourteen) gives more details of the theoretical model, which underpins this Methodology and the Study Work Plan.

The building blocks of the evaluation framework are presented below, to provide a ”bird’s eye” view on the review’s approaches and unfolding, while details on each block follow later. These framework components rely on a set of tools and analytical activities, which are carried out in sequence, with three main phases: (a) a preliminary stock-taking and portfolio analysis; (b) analytical and empirical field work on a set of selected projects; and (c) overall analysis of findings, preliminary report writing, country consultations on drafts and recommendations, and Final Review Report completion.

The review team have developed a conceptual/analytical framework for the evaluation exercise. It defines: the dialectic relationships between global and local benefits of environmental interventions; the potentials embedded in this relationship; the costs and trade-offs between environmental management and safeguards; and a number of other premises that will guide the review’s analytical work. This conceptual framework also sets out the current thinking on the linkages between poverty reduction and environmental management. Overall, it specifies the researchable issues and questions, the key performance indicators, data-sources and data generation techniques.

The review is based on a **typology of local benefits**. Specific local benefits inhabit a wide spectrum, given the variety of projects, sectors and involved populations. Therefore, classifying and grouping ex-ante these possible benefits

into a basic typology aims to facilitate on-the-ground benefit identification, measurability and comparability of observed impacts, between sectors, and geographically across countries. This typology tailors the analysis to distinctly defined program areas and will be the basis for analyzing local benefits in the field.

The typology identifies five generic categories of improvement to livelihood capital, which can be seen as the core of local benefits in global environmental projects:

- Improved access to **natural capital**, including plants and animals harvested from the local resource base, surface and ground water, fuelwood and environmental services such as safe waste disposal, clean water, disease-prevention, etc. Such changes **will increase global environmental benefits**, reflected in factors such as the reversal of ecosystem deterioration, retained biodiversity values, the regeneration of forests, rangelands and wetlands and improvements to water quality. Costs to local communities resulting from restrictive uses, and related remedies, will be considered.

- Improved **social capital** and **institutional capacities** in local communities. This reflects the enhancement of community-level institutional capacities and contact networks and improved ability in local communities to deal with outside agencies. It also reflects gender-sensitive improvements in social equity at the local-level, especially through the empowerment of women and minority groups in decision-making.

- Improvements to **physical capital**, including investments in tools and machinery, access to or ownership of buildings and access to infrastructure such as transport, telecommunications or water supply and irrigation.

- Improvements to **human capital** which include skills, knowledge, work ability and management capabilities of local community members. There is typically a need for a particularly strong gender focus in this area, in order to assess changes in such dimensions as the functional literacy and management skills of women, compared with those of men.

- The cumulative outcomes of the above four forms of capitals are to be identified in increased **livelihood opportunities and incomes.** This includes higher productivity of existing activities and new opportunities for farming, fishing or small businesses, increases in cash income and improvements to the ability to save, or access to micro-capital.

Increases in the livelihood capitals available to communities will promote improved **health** and **food security**, including improvements to key indicators such as child and infant mortality, reduced morbidity from diseases that reflect poor environmental conditions and improvements to both the absolute level of nutrition and a balanced diet.

Strengthened livelihood capitals and improved health and food security will, in turn, increase the **resilience** of local communities to withstand shocks from external factors that are beyond their effective control. Increased resilience promotes reduced **vulnerability** to, for example, natural disasters such as floods, droughts and cyclones, environmental degradation, loss of ecosystem integrity, deforestration and climate change and variability as well as to such forces as social, political and market disruption.

These patterns of increased livelihood capitals **(local benefits)** can be linked to enhanced **global environmental benefits** in four specific ways:

- Changes to **consumption patterns** such as switching to renewable energy sources, changes in diet or the acquisition of more sustainable consumer goods. Capabilities to move to more sustainable patterns of consumption are closely linked to the reduction of vulnerabilities and the overall prosperity and security of different stakeholder groups.

- Improvements to the **local resource base**, as global environmental processes in areas such as the hydrological cycle, land degradation and atmospheric pollution, measure the accumulation of local resource dynamics over larger areas. Anything that enhances the quality and sustainability of local-level resource management has positive global consequences.

- The **reduction of vulnerabilities** is important both directly and indirectly. Reduced vulnerability to hazards such as droughts, floods and storms at a local-level is a direct global environmental benefit as it means that global processes such as climate change and variability are less of a threat to vulnerable people. Reduced vulnerability and increased household resilience also means that people will be less risk aversive and more maximizing in their livelihood strategies, which in turn reduces pressures on the resource base and generates greater global environmental benefits.

- Changes to the **external institutional environment** is also an important consequence. In particular the development of better governance as a consequence of local-level empowerment and greater public awareness and political support for environmental issues will potentially foster changes in the balance of priorities as the urgency of poverty reduction and development pressures is reduced. This will create greater scope for direct environmental priorities in national policies.

Taken together, these four links between local and global benefit flows can mean that a focus on local benefits linked to local livelihood dynamics will not just generate gains in poverty reduction. They can also directly and materially contribute to the attainment of global environmental goals.

The typology will also be informed by, and in turn will infuse additional analytical power into, the stakeholders' analysis. The latter will help assess whether the interests of particularly vulnerable groups, including indigenous people, women, populations with only customary (not formal or legal) ownership of land and trees, are considered.

The review is focused upon issues that have surfaced during the design and actual implementation of GEF projects. It thus responds to real and major policy and operational needs, particularly to concerns that have been frequently expressed, both by local communities and by local authorities and organizations. Such questions can be summarized straightforwardly into one: *"What is in it (this project) for us?"*

The Conservation and Sustainable Use of the Belize Barrier Reef Complex Project

Overview of the investment

The analysis of local benefits in global environmental programs in Belize concentrated on the Conservation and Sustainable Use of the Barrier Reef Complex project as the major study. The project was still under execution when the study was undertaken, with an extension through to June 2004. As such, there were activities that were being finalized and it was not possible to determine their full status at project end. In addition, the full impact of many of the capacities developed under the project will only manifest themselves over a period of time as the character of coastal development in Belize evolves. Judgements as to their significance are made, but projects such as this can only really be fully assessed some years after their completion.

The Conservation and Sustainable Use of the Belize Barrier Reef Complex project grew out of a multi-sectorial vision for integrated coastal zone management, originally developed at a workshop in Belize in 1989. Subsequently, in 1990, a Coastal Zone Management Unit was established and made operational under the Department of Fisheries. The unit's activities were funded by the GEF in 1993. Following the success of this five-year pilot programme, further funding was granted by the GEF, resulting in the Conservation and Sustainable Use of the Belize Barrier Reef Complex project.

The current project has benefited from a grant of US$6.186 million and in-kind financing from the Government of Belize and the Wildlife Conservation Society of US$1.254 million. The project spans five years from April 1999 through April 2004. By building on a broad range of previous and current UNDP and GEF assistance to Belize, the project seeks primarily to protect the country's natural resources through research, policy formulation and the active management of some designated areas. In terms of local benefits, from this project were tied primarily to improving community involvement in planning and management of conservation area, creating opportunities for sustainable use of resources through appropriate zoning of conservation areas; and piloting alternative livelihoods. However, it should be noted at the outset that many of the project's activities were at the policy and institutional level. Their intention (which in large measure has been accomplished) was to create an enabling environment through which coastal resources could be protected. For this study, the key issue is whether this enabling environment also generated local benefits. The project's actions are designed to respond to the National Environmental Action Plan and the National Biodiversity Strategy and Action Plan funded by the GEF (BZE/97/G31).

The institutional foundation and legal framework for the project was developed during the project pilot phase from 1995 to 1999. The Coastal Zone Management Act (No, 5 of 1998) was passed in April 1998, providing the basis for the creation of the Coastal Zone Management Authority (CZMA). This multisectoral body fosters intersectoral coordination to mainstream biodiversity conservation issues into policy and guideline development and productive sector activities. A Technical Institute was established at the same time to provide reliable scientific data and information to CZMA members for decision-making with respect to the environmental benefits and impacts of economic activities. Development of a data centre enabled the compilation and housing of information on species and habitat inventories and distribution. The pilot project helped to identify forms of financial sustainability, including the identification of permit and license fees and other financial mechanisms that could help to support an integrated coastal and marine resource management program.

Originally conceived as a parastatal entity responding directly to the Prime Minister, the Coastal Zone Management Authority and Institute (CZMAI) was eventually located under the Ministry of Agriculture, Fisheries and Cooperatives. Therefore, the Government of Belize executes the project through the CZMAI. Decision-making benefits from the inputs of the Authority's broad multi-sectorial Coastal Advisory Committee and Board of Directors. The CZMAI project supports the active participation of the permitting line ministries, in particular the Government Ministries of Natural Resources and the Environment, Agriculture,

Fisheries and Cooperatives and Tourism, as well as NGOs and CBOs, research bodies and international agencies. The CZMAI is represented on the Government's National Environmental Appraisal Committee (NEAC), which reviews all development projects and is consulted on all new coastal development proposals, which follow standard procedures such as those for EIA. There is no doubt that the CZMAI is influential in the decision-making process but their recommendations are nonetheless advisory rather than obligatory.

The recent expansion of Belize's coastal population and a massive increase in visitor numbers (both from cruise ships and tourists who stay in coastal resorts) has compounded threats to the country's coastal zone; these include over-exploitation of coastal and offshore natural resources and unregulated development such as agro-industrial pollution, dredging, and land reclamation. As such, the goal of the Conservation and Sustainable Use of the Belize Barrier Reef Complex project is to "secure the conservation of options and existence values embodied in the second longest barrier reef system in the world": it is explicitly focused on biodiversity conservation rather than a broader vision of coastal development. As such, it can be anticipated that activities to regulate the management of coastal resources will have local benefits as an ancillary objective: their main rationale will be to protect the marine resource base.

To reach this goal, the project seeks to develop a Coastal Zone Policy Framework underpinned by direct actions that lead to benefits for the global environment. Many of the priority actions on which the framework is based are defined in the State of the Coastal Zone Report developed during the project pilot phase. The project encourages the "use of integrated marine and coastal area management as the most suitable framework for addressing human impacts on marine and coastal biodiversity and for promoting conservation and sustainable use of this biodiversity". Specifically, the project aims to achieve the following objectives:

1. Consolidated capacity of effectively integrated biodiversity conservation concerns into a Coastal Zone Policy Framework.
2. The Belize Barrier Reef Marine Protected Area Network is established and fully functional.
3. Caye development plans are integrated with marine biodiversity conservation concerns through a demonstration project.
4. Sustainable financing mechanism for marine biodiversity conservation is established and operational.
5. Legal and regulatory capacities for facilitating bioprospecting agreements are in place.

6. Training, awareness-raising and information dissemination activities garner public support for biodiversity conservation through coastal zone management and the barrier reef marine protected area network.

The project timeline originally focused on the completion of the CZM plan and the revision of five MPA management plans by year two. By year four, the project was expected to have established a streamlined system for collecting and earmarking user fees for CZMA and MPAs, with resources of the trust fund employed towards developing alternative livelihoods for communities affected by MPA regulations. In year four, eight Coastal Advisory Committees were expected to be operational and trained and the development guidelines for Caye Caulker formulated. All essential infrastructure of project MPAs was expected to be in place by year five.

To promote environmentally-friendly development along Belize's coastal zone, the project is currently completing a set of guidelines on shoreline development, waste disposal and water use with a focus on the formulation of a comprehensive development plan for Caye Caulker. To improve local participation and decision-making over the coastal development processes, the project is helping to create and train Coastal Advisory Committees (CACs) whose main function is to develop and implement guidelines for development in their jurisdiction. It is expected that at the end of the five-year project in April 2004, the Coastal Zone Management Policy Framework will be fully implemented, with detailed regional development guidelines prepared for the nine regions of the coastal zone designated by CZMAI planners. To ensure that the CACs are operational, the project is expected to train members in team and consensus building, leadership, planning, and conflict resolution, with a number of training sessions already implemented and others planned at the time of the fieldwork.

Belize's network of marine protected areas currently encompasses 13 sites, seven of which have been declared World Heritage Sites by UNESCO. A key objective includes the establishment of a fully functional Belize Barrier Reef Marine Protected Area Network. The project focuses on seven MPAs, five of which are designated World Heritage Sites (Sapodilla Cayes, Laughing Bird Caye, Bacalar Chico, South Water Caye and Glover's Reef) and two additional sites (Turneffe Atoll and Caye Caulker). This requires a broad range of activities to take place for its successful implementation, including the revision, updating or development of management plans for each site. To foster this, the project is expected to help establish a Marine Protected Area Advisory Committee (MPAAC) in each of the MPAs. In consequence, the local development plans and work of the community-based committees were primarily formed as an input into the conservation of the unique marine biodiversity of Belize, though it was

always recognised that these plans and committees would also have to address issues that were of more immediate importance to the communities living along the coast and on the islands that are part of the reef complex.

To ensure effective management of each site in the network, the project aims to foster the completion of management plans for all World Heritage Sites, several of which have been recently completed or revised. Integral to the management plans are steps to hire staff, create infrastructure, purchase equipment and establish a network of voluntary wardens to help protect the networks' MPAs, with this being implemented in the first instance through the project.

The sustainability of project activities and developed mechanisms was identified as a key objective during the project planning process. The creation of a Barrier Reef Trust Fund was further identified as the sustainable mechanism to be developed for the financing of the ICZM and MPAs and to help the project's transition to a long-term program for the management of the protected areas and development of the coast. To promote attitudinal changes and long-term conservation, the project seeks to disseminate a range of informational materials on the coastal and marine environments and to develop a degree course in Marine sciences at the Bachelor's level at the University of Belize.

Strengthening of human and institutional capacities and dissemination of information are considered key activities for project success. The CZMAI aims to foster a coastal and marine conservation mindset among private sector activities, based on the exploitation of the marine resources, and the public at large through broad information dissemination on its activities, research and a range of informational and training workshops.

Private sector tour operators, villagers, fishermen's cooperatives, NGOs and educational institutions are expected to benefit from this project through their active involvement in project activities recommended by the CACs and the MPAACs. In some instances, such as the role of Friends of Nature in the protected areas close to Placencia, NGOs have had a key role in the implementation of project activities. As we shall see, the effectiveness of the measures taken in these protected areas has been greatly strengthened by their inclusion. There has been no systematic process for identifying where NGOs should be involved or which NGOs are the most appropriate partners in specific circumstances. The process of NGO involvement has consequently been *ad hoc*, but is nonetheless significant.

Global benefit objectives and achievements

Global benefits from the project that also fulfil GEF's global goals are expected to accrue through the development of national mechanisms that enable the sustainable conservation of marine resources and their existence values in World Heritage Sites along the world's second longest barrier reef.

A mid-term independent evaluation in December 2002 viewed the project favourably, noting that it had considerable accomplishments and was expected to be successful in transitioning from a project to a permanent coastal management program. Although there were on-going discussions over the financial sustainability of the institutional structure set by the project at the time of this study, there is no doubt that many aspects of the project's activities were completed to a high standard and within a coherent framework.

The report specifically highlighted the political will that enabled the creation of the CZMAI and the subsequent mandate to produce a comprehensive management plan for the country's coastal zone. Given the focus on policy and institutional structures, this political will is essential to the successful realization of the project's goals. The evaluators also noted the project's successful implementation of activities designed to increase citizen awareness of issues affecting the coastal resources and communities of Belize. They further applauded the project's use of a range of participatory mechanisms to empower stakeholders in the planning and management of coastal resources. Specific successes were identified as:

- The creation of a "competent, committed and multi-disciplinary staff".
- Formulation of a comprehensive National Coastal Management Strategy.
- A network of MPAs that is staffed and equipped.
- Broad stakeholder participation in planning and management issues.
- Compilation and archiving of coastal and marine baseline data for Belize.
- Public outreach through education and information dissemination.
- Collaborative work with several NGOs that co-manage protected areas and leveraging of outside funds for research work on manatees.

The report highlighted the need to reorganize output priorities coupled with hiring of additional staff as key conditions to facilitate the transition from project to program. Without these, it was felt that the project would face a significant challenge to achieving the long-term sustainability of its objectives.

The earlier GEF Project Implementation Reviews (PIR) of 2001 and 2002 and the Secretariat Managed Project Review (SMPR) of 2002 were in line with, and

indeed had an influence on, findings from the evaluation. In addition to reinforcing the mid-term evaluation conclusions, the reviews noted that the development plan for Caye Caulker is an interesting example with potential for replication. The effectiveness of the monitoring program, in which routine data is collected indicating trends in the health of the reefs and coastal water quality, essential for informed management decisions, was also noted.

However, these reviews further noted that the project faced important challenges to achieving its goals and that several key issues needed to be resolved to put in place conditions for project success. There is not the space to repeat these in detail here, but they include some that have special implications for local benefits, including:

- The need to further secure and retain political support to the process.
- The need for a more systematic process to replicate local-level institutional development and management plans. This includes the need to further strengthen NGOs involved in the management of protected areas.
- Questions over the financial sustainability of local institutions and the on-the-ground management of the protected areas.
- Concerns that line agencies were not integrating coastal zone policy principles into their operations.

There are consequently some important caveats to the overall judgement that the project was effective in achieving its long-term goals. Although not yet completed at the time that this study was undertaken, the general finding is that the project's activities have on the whole been successfully implemented and that the global environmental goals are likely to be achieved if the issue of the sustainability of the project's institutional processes are resolved, and - critically - if there is a continued high level of political will to realize these goals. Given the wide range of development pressures on the resources, and the potential immediate economic benefits that some of these resources could bring, the latter point is one that can by no means be assumed secure.

Local benefits analysis

The analysis of local benefits in the Conservation and Sustainable Use of the Belize Barrier Reef Complex Project is based on a review of all available documentation on the project, field assessments at two primary sites and three secondary sites and interviews with a range of key stakeholders.

The project document states that local communities and individuals will benefit from project activities primarily through the implementation of the regional

Coastal Advisory Committees and Marine Protected Area Advisory Committees. Execution of these committees will provide local stakeholders with a platform and a voice on development issues affecting their communities.

Yet, with regard to the specific issue of local benefits that accrue from the project, the issue of "local" needs defining in this regard. Given that the project area is the whole coast of the country, and that the project has had a substantial focus on the national legal, policy and institutional environment, in this case "local" can also be equated to national-level changes that have implications for the relationship of communities living in coastal areas to the marine resource base. However, for the purposes of this study we have focused on the key project pilot sites: Caye Caulker, Placencia, Sarteneja, Monkey River and Punta Gorda.

However the issue of what constitutes local benefits in relation to the project is regarded, there is little doubt that the approach as set out in the project document was of limited scale and scope with a strong focus on community participation / empowerment in planning and management. This is even true with regard to activities that would directly and materially improve the management of the resources that the project aimed to conserve. For example, both fishing and tourism have the potential to be either sustainable and an active agent for conservation or unsustainable and a major factor in resource degradation: in both cases, it depends on how it is done. There is a great deal of scope for introducing more sustainable exploitation techniques within the context of a management regime in which the resource users are active participants. This will also generate higher levels of sustainable local benefits. This approach requires a long-term process that is likely to extend beyond an individual project such as this, but nevertheless it could still be expected that the project would have attempted to identify and promote such "win-win" solutions that go beyond the more traditional approaches that dominated in the project.

In consequence, the approach adopted by the project is one that meant there were many missed opportunities to increase local benefits whilst at the same time improving the likelihood of the conservation goals of the project being realized. These observations are developed in the rest of this section of the report, with the main findings reflecting the observations made in a number of field sites along the coast. These include both locations where there were activities that were a core part of the project and localities that were not the site of direct local-level actions but that could be expected to be influenced by the policy and institutional level changes that were the project's main focus.

Overview of findings on the ground

Primary sites

Caye Caulker

Caye Caulker is a low-lying island with small-scale developments, located 30 minutes away from Belize City by boat. The caye has transformed from a fishing community to a fully-developed tourist destination in the last 15 years. Primary pressures on Caye Caulker's environment come from coastal development, over-extraction of resources, tourism and dredging. Originally, Caye Caulker was covered in mangroves and inhabited by the Maya. Subsequently, the island was cleared to plant coconuts for the copra industry and fishers began using the caye in the 1850s. The caye's high level of vulnerability to natural disasters is evident from Hurricane Hattie, which bisected the island in 1961. Although development has been concentrated in the southern section of the island and few structures exist along the north shore, a large portion of the northern part of the island has been zoned for residential and commercial development. The island and its structures were further damaged by Hurricane Keith in 2000; fishing gear, tourism infrastructure and 28 permanent moorings were also destroyed. Consequently, recent construction has more often utilized concrete, potentially more resistant to heavy storms.

Although about 150 fishers are still active in the area, for many it is a secondary source of income; tourism is considered the primary economic activity on the island. Many households engage in more than one tourism-related activity: providing accommodation, tours, boat captaining, restaurants, bars, arts and crafts and other services. However, there are not many Belizean dive-masters or instructors, and only 5 out of 107 of the caye's registered tour-guides are women. There has been an influx of people from other parts of Belize and from abroad. The island's population has grown by 26.2% from 588 inhabitants in 1991 to the 742 inhabitants recorded by the 2000 census (CSO 2000). Although there has been a steady influx of foreigners to the island, there are few tensions and original Caye Caulker families own most businesses.

Development pressures are increasing and the island's infrastructure is struggling to keep pace. A carrying capacity for the caye and its environs has not yet been established. There has been no effective process to restrict the development pressures found in Caye Caulker, reflected in recent clearing of mangroves near the airstrip for the development of housing lots. Moreover, dredging is taking place on the western side of the island to enable increased water access to new foreign-owned and seasonally-inundated coastal lots. This dredging is impacting the lobster fishery that uses that zone to set traps and one fisher has already lost part of his fishing grounds; these activities may consequently impact **food security**. Moreover, the dredger is currently seeking a permit to dredge an additional 50,000 cubic meters to improve access to the

lots. Dredging was permitted by the Ministry of Natural Resources, the Environment and Industry through the Department of Geology and Petroleum, despite local protests and CZMAI's refusal to support the activity: a reflection of the limitations of the advisory, as opposed to the regulatory role of the coastal agency.

Water quality on the island was determined unfit for consumption following checks of vats in 2000 by the University of Chicago. The construction of a desalination plant is being discussed. Although CZMAI has undertaken water quality monitoring of Caye Caulker's coastal waters, stakeholders have not yet seen the results. Sewage and solid waste are becoming a serious problem that has not been adequately addressed and may impact local **health**. Solid waste is dumped at the southern end of the island and typically burnt; barges may be used to carry off solid waste to the mainland in the near future. There are no effluent disposal guidelines for the island and inhabitants are required to use septic tanks for sewage. Yet, the tanks are considered poorly constructed and inadequate for long-term liquid waste disposal, with sewage running into the sea at the south end of the island. This has led to fears of coastal contamination and the undermining of local tourism's resource base. Composting toilets have been suggested as a possible solution.

To address the boom in coastal development, CZMAI fostered the creation of a local Coastal Advisory Committee (CAC) that met for the first time in 2001. The committee continued the process of developing guidelines for the island that began in 2000 with the creation of a land use suitability map. Guidelines were fully drafted by the CZMAI in 2003 and have been reviewed by the local community but are not yet gazetted, perhaps reflecting a lack of political will. Although the need for guidelines is understood, e.g., building setback from the beachfront and height restrictions for new buildings, there was a lack of understanding about how the guidelines were formulated. Limitations on the number of docks, their spacing every 2000 feet and height restrictions to 32 feet are examples of guidelines that have left local stakeholders confused. There is little faith that guidelines will be enforced due to lack of political support and development pressures, and they are therefore considered of little use to the community.

There has been local frustration with the CZMAI over the CAC's composition and its unwieldy size. The committee includes 19 member organizations, but inequalities in representation exist. Several individual developers hold equal status with individuals representing large groups, such as the tourguide association of the island (which represents 110 people). This also resulted in developers acquiring information on recommended moratorium on certain developments, which were then used for the timely lobby of the Government against the imposition of restrictions. Repeated requests to the CZMAI to revise the CAC accordingly were ignored, leading to a lack of active participation in the committee by many of its constituents.

In consequence, though little was accomplished during the three years following the park's declaration due to conflicts within the park's advisory committee, the community has accrued a degree of **social capital, equity** and **institutional capacities** as a result of the project's creation of the CAC. However, it effectively duplicated some of the efforts of the local organizations and helped to create additional tensions between factions. The CAC may not survive the end of the CZMAI project and its functions may be taken over by the local village council, which would have greater authority and autonomy. However, the village council received no capacity building, and elections are imminent. Should a change of chair take place, it is not known whether the conservation-minded ethos of the current committee will be sustained. In nearby Ambergris Caye, the project's original plan to establish a CAC was discouraged because the caye already had a planning committee, which had been set up in 1992. Although several CZMAI staffers had input in Ambergris Caye's development guidelines, there is currently no formal tie between that committee and the CZMAI's network of CACs. Of all types of tourism, cruise tourism in particular is perceived locally as a significant threat to Ambergris Caye and the region's environment (see Box 1).

The Siwa-Ban Foundation initially spearheaded conservation efforts focused on establishing protected areas on Caye Caulker. Created in 1990, Siwa-Ban helped to establish a forest and coastal sanctuary for the protection of the Siwa Ban or black catbird (*Melanoptera glabirostris*), other wildlife and the littoral forest, with help from UNDP/GEF's Small Grants Programme. This set the stage for the designation of the Forest and Marine Reserve of Caye Caulker as a MPA in 1998; the first management plan was drafted shortly thereafter. The protected area comprises five zones that were arbitrarily designated and have not yet been regulated.

Sign on Caye Caulker's south island indicating Cay Caulker's Forest and Marine Reserve's location and proposed zoning.

Box 1. Cruise Ship Tourism in Belize

Cruise ship tourism in Belize developed in the 1990s and expanded rapidly from 2000 onwards. In 2002, cruise lines made 200 calls to Belize, which represents a capacity of 319,000 passengers. Expected capacity in 2003 was 560,000 passengers (BTB 2002); in 2004, original projections were for visitation to reach 10,000 passengers per day four times a week. Recognizing that such high visitation numbers could pose a threat to the resource base, the Government of Belize recently capped visitation at 8,000 people per day four times per week – still considered by many to exceed the carrying capacity of the country's natural resources. Local businesses on Caye Caulker and San Pedro perceive few benefits from the cruise industry, yet are burdened by the damage to natural areas on which they rely for their local tour income. There are currently no carrying capacity levels in place at specific visitation sites, such as the Hol Chan Marine Reserve and Shark Ray Alley. Each ferryboat used to transport tourists from Belize to Caye Caulker, San Pedro and the Hol Chan Marine Reserve and Shark Ray Alley (used by both islands) averages 40 people. However, catamarans capable of transporting 200 people at a time are being put into service, leading to a loss in local benefits from the cruise ship tourism industry. Local tourguides and conservation organizations believe that cruise ship tourism is impacting overnight visitation in San Pedro and limiting overnight guests from visiting MPAs and even land-based sites such as Altun-Ha, due to the density of cruise ship tourists.

In 2001, Belize developed a cruise ship policy with the help of several stakeholder ministries and agencies, including the CZMAI. The policy requests vessel and operator compliance with guidelines governing key activities, such as the anchoring of cruise ships, recreational activities and waste disposal. Although implementation of the policy is left to the cruise sector, the Departments of Environment and Fisheries will monitor the industry's compliance with the guidelines. The environmental impacts of cruise ship visitation are expected to be offset by revenue generated by the proposed increase to the cruise ship head tax, which will fund relevant marine conservation activities.

In February 1999, the Forest and Marine Reserve Association of Caye Caulker (FAMRACC) was created with strong community support, in part to save the remaining stands of mangroves. FAMRACC subsequently signed an MOU with the Department of Fisheries in 2001 to co-manage the MPA. Due to internal

conflicts, little was accomplished and the Department of Fisheries considered rescinding the co-management agreement. However, in June 2003, conflicts were resolved and FAMRACC began activities under new leadership. Moreover, the MPA has a new manager, who originally managed Bacalar Chico Marine Reserve and received CZMAI training in management skills during his time there.

The existence of the MPA is not obvious in the developed southern section of the island and indeed the terrestrial part of the MPA seems to have little function other than as a means to conserve the remaining mangroves. There must be severe doubts as to whether this will be successfully realized, given the development pressures on the island. Although there have been several improvements to **physical capital**, including the creation of a park sign near the tourist office in Caye Caulker and a visitor's centre/ranger station in the park in 2002, the sign offers no detail on the MPA, aside from the zone names. The Forest and Marine Reserve of Caye Caulker's management plan is currently being redrafted to include mooring buoys, trails and platforms. It appears that the project has not improved access to **natural capital** in Caye Caulker and its Forest and Marine Reserve, although the potential to do so is clearly there once the management plan is finalized and an effective management regime is established. Given the growth of tourism on Caye Caulker, with the associated pressures on the protected area, this can be seen as an essential step to ensuring the preservation of the MPA's biodiversity. It is also worth noting that, outside of the MPA's key founder, none of the local people interviewed had ever visited the park.

The project made several improvements to **human capital** that have further improved the sustainability of **resource management** on the island. At least 8-10 individuals of the Coastal Advisory Committee were trained in meeting management and leadership skills, which were considered useful by members interviewed. However, the training took place long after the committee was established. Moreover, the CAC could have greatly benefited from a short course on the environmental impacts of development, which would have better oriented the committee towards its tasks and fostered greater consensus among members.

Although the CAC may not prove sustainable following the end of the project, skills acquired through training have been used in other professional or business situations. Two rangers received training in enforcement activities and boat/engine maintenance. However, both have since left and two new rangers were recruited in February 2004. They have not yet received training, nor are there sufficient funds to undertake ranger duties. The current reserve manager is experienced in the management of MPAs and has received a range of training from CZMAI while managing Bacalar Chico, another of the project's point sites. The MPA's first biologist left and the second was hired in December 2003, after working in the same position for Friends of Nature at Laughing Bird Caye (another key project site). She has received a range of training in monitoring

techniques such as spawning aggregation, coral reef and fish stocks monitoring, some of which was funded by the CZMAI. As such, there are a number of instances in which the process of ensuring that adequate human resources are available for the management of the MPA has encountered some problems. Despite this caveat, the project (through the institutions it established) has made concerted efforts to recruit, train and support personnel. The problems found in Caye Caulker are a reflection of the wider issues of financial sustainability that affect the project.

Tourism is now the basis of the livelihoods of the growing population of Caye Caulker, with fishing still significant but no longer dominant. Both depend entirely on the quality of, and access to, the local ecosystems, both terrestrial and marine. There are many types of activities that exploit these resources, including harvesting and visits for snorkelling, sailing, etc. These activities are potentially a serious threat to the integrity of the ecological base of the protected area, as is the impact of development pressures from building (including dredging to provide access to moorings) and waste (especially sewerage and waste water) disposal. If developed within a sustainable management framework, however, these activities can generate development benefits without adverse environmental consequences. This would require a conscious effort to foster a sustainable management regime whilst at the same time ensuring that local people were able to take advantage of the opportunities created. No systematic efforts to build such a sustainable management regime were made through the project (though there have been efforts by the community themselves independent of the project). In consequence, it was felt that the project did not significantly increase **livelihood opportunities, income** and **financial capital** on Caye Caulker or its reserve.

Caye Caulker has only slightly reduced its **vulnerability** to natural disasters such as Hurricane Keith, which destroyed many of the caye's homes and businesses. Current construction practices favour concrete over wood, partly to weather future storms and also due to the current cost of wood and its lack of availability. As the majority of islanders increasingly rely on tourism as their main source of income, they have further made themselves vulnerable to the vicariousness of international tourism. According to tour guides, there are fewer American tourists arriving in Belize, caused in part by current international conflicts.

It was felt that CZMAI should have fought more to control the development of Caye Caulker and also should have helped to resolve the issues with the CAC's inequalities in representation. There was a need for greater analysis, write up and dissemination of data and information. Further strengthening of linkages with Caye Caulker locals, through additional field visits above and beyond those made every two months to meet with FAMROCC, was desired. CZMAI could have budgeted more for information dissemination. As such, the onus was on stakeholders to find and copy key documents required for decision-making. Additionally, access to CZMAI project document drafts and guidelines was

limited. Project and consultation documents were generally placed in the Village Council Chair's office and were not always made available upon demand. Another missed opportunity was the failure to support local conservation activities involved in work aligned with CZMAI research priorities, e.g. manatees. As such, the overall conclusions from Caye Caulker are that there have been some positive benefits in terms of local-level capacity development, but that there have been many missed opportunities to build sustainable management processes that would have brought considerable local benefits (especially in terms of ensuring the sustainability of the main livelihoods of local people) and would have been instrumental in securing the overall goal of biodiversity conservation of the Caye Caulker MPA.

Placencia

Since its inception, marine tourism in Belize has focused primarily on established coastal and island tourist destinations in the north, such as Ambergris Caye and Caye Caulker. However, tourists are increasingly seeking adventure in remote areas, and searching further south for less developed tourist sites. Placencia has become the recently discovered "unspoiled" destination for visitors escaping the north's established tourism infrastructure. This small village with a local population of 501 people (CSO 2000) is located at the end of an ecologically-fragile peninsula in the southern district of Stann Creek. Due to its coastal location and predominantly wood buildings, Placencia is **vulnerable** to natural disasters; this is one of the key concerns of the local community with regard to the process of coastal development. The most destructive storm in Placencia's recent history was the Category IV Hurricane Iris, which made landfall in Placencia on 8 October 2001, badly damaging much of the village and its infrastructure. Despite what the local community considered a lack of aid, the village recovered rapidly from the storm, with little decrease in visitation in 2002. The hurricane's destruction catalyzed development and improvement of infrastructure and also contributed to the shift in the village's character. There is now an emphasis on the construction of new structures partially or entirely made of concrete to resist future storms.

Traditionally a fishing village dependent on the lobster fishery, tourism as an economic activity has become increasingly important to the village in the last ten years. This switch – from fishing to tourism – is primarily a generational movement: older fishers have resisted branching out into tourism work, preferring to rely solely on fishing as their primary source of income, whereas the younger fishers have been more flexible about moving between the two industries, using their boats to conduct tours during the peak tourism months of January, February, April and May and returning to fishing activities during slower times. The lucrative lobster season closes in mid-February and does not reopen until mid-June, overlapping with the peak tourism season. In general, the younger fishers express a preference for tourism work over fishing, because tourism has proven more lucrative and is considered an easier occupation. For example, the

peak snapper spawning aggregation period of March to June coincides with the peak whale shark aggregation period (6 weeks duration over three months), an increasingly lucrative basis for wildlife tourism that was worth 39 times more than the fishery in 2002 (Graham 2003).

Placencia is rapidly developing to provide the infrastructure and resources required to meet the recent influx in visitors, with a three-fold rise in the number of facilities offering accommodations between 1991 and 2001 (BTB 2001). The tone of the village is beginning to change from tranquil to a more bustling atmosphere (though still tranquil when compared to fully-developed tourist areas). Once a favoured haunt of backpackers enjoying cheap "no frills" accommodation, the number of hotels with 11 or more rooms has increased in the village by 12.9% between 2000 and 2001 (BTB 2001) and is set to increase again, as greater numbers of visitors seek hotels with more amenities (such as air conditioning or a pool) or opt to stay in higher-end resorts. The majority of large-scale tourism enterprises are foreign owned. In addition, the recent paving of Placencia's main road from the village to the airstrip five miles away, along with the near completion of the southern highway joining the northern and southern regions of Belize, have further stimulated the development process. The project did not include the Placencia Lagoon in its strategy, leading to unregulated development, pollution from agro-industrial sources and clearing of mangroves. These aspects may well compromise the **health and food security** of Placencia's inhabitants. Although a water quality report has been generated for the lagoon, the results have not yet been made broadly available and do not include key aspects such as nitrites and phosphates.

A local NGO, Friends of Nature (FoN), is championing marine conservation in the region and has filled the gap in government management of two local protected areas (Laughing Bird Caye/Gladden Spit and the Silk Cayes). The organization represents five stakeholder communities (Hopkins, Seine Bight, Placencia, Independence/Mango Creek, and Monkey River) and was developed by the community following concerns that tourism was negatively impacting Laughing Bird Caye (LBC). FoN lobbied the Government of Belize for delegated authority to manage these two areas under a co-management structure. While the NGO receives some support from CZMAI in terms of equipment, infrastructure, training and salaries, the majority of its funds are raised abroad, and no other support from GOB accompanied this delegation of responsibility. The project provided much of the **physical capital** necessary for the efficient management of LBC, including the construction of a ranger station with composting toilets, a thatch shade for visitors and signs for the Caye and FoN's office in Placencia. Improvements to **human capital** were evident, with two rangers trained as PADI Open Water divers, and the four rangers from both reserves receiving training in enforcement as Fisheries Officers and in outboard engine maintenance. The former biologist (now in Caye Caulker's Forest and Marine Reserve) was trained in spawning aggregation, coral reef and fish stocks monitoring. Although the

park does not currently have a full-time biologist, a trained biologist working on a part-time contract undertakes punctual monitoring tasks.

FoN currently collects fees for visitors to its areas; these fees currently cover 15% of operating expenses for LBC. Even projecting to full capacity of these areas, it is not expected that fees will provide full financial sustainability. However, it is estimated that filling all available time and boat slots proposed for Gladden Spit during the whale shark tour season would cover the operating costs of the Gladden Spit and Silk Cayes Marine Reserve. It is clear that reaching conservation objectives requires subsidies, whether from GOB, the international community, or both. Further, this arrangement is in jeopardy due to Fisheries' plan to institute its own new fee system in 2004, which would involve the collection of fees from all protected areas, including co-managed sites. It is not yet clear whether or not the funds generated will be returned wholly or in part to these areas. What is clear is that the investments in infrastructure and training provided through the project have created conditions in which there is at least a potential for the sustainable management of the protected areas, with some form of fee collection as part of this process. Even if fee collections were to be maximised, they would only pay for operating expenses and not initial investment costs. That costs were provided through the project is a key step in ensuring that the resources are conserved whilst at the same time allowing local people to benefit from their use for tourism or fishing in a sustainable but still rewarding manner.

There is a high level of organization in the community, primarily led by the active village council. Several activities spearheaded by the council, such as the mechanism for garbage collection, have been very successful. However, rapidly increasing pressures on Placencia's limited infrastructure and natural resources set the stage for the formulation of development guidelines. The project proposed the creation of a CAC that would cover the area from the mouth of the South Stann Creek to the mouth of the Monkey River and extend out to the reef. However, FoN and the stakeholder communities recommended creating a subcommittee of its board of directors to act as a CAC to minimize duplication and ensure greater sustainability following the end of the CZMAI project. The project has helped to improve **social capital, equity** and **institutional capacities** through the training of several members of the CAC in leadership skills, conflict resolution and team building. A set of development guidelines were originally drafted in 2001 and further developed in the second half of 2002, but have not yet been approved and made legal and therefore are not enforced. Consequently, dredging and clearing of mangroves continues unchecked to make way for the creation of housing and hotels. Fines are considered nominal and infractions take place regularly, as the resulting enterprise will rapidly generate the funds to cover the fines.

Large-scale clearing of mangroves along the Placencia peninsula has facilitated the development of water-side developments servicing the expanding tourism industry.

A second issue in the shift from fishing to tourism is the decline in fish stocks: as discussed in the introduction, production in fishing, especially commercially-important conch and lobster, has fallen, and Belize faces possible international sanctions for exportation of conch under the CITES regulations. Fishermen interviewed have particularly noted a persistent problem with 'outsiders' – both Belizeans from other regions, particularly Sarteneja, as well as Guatemalans and Hondurans. As such, the community feels strongly that illegal fishing is harming its **food security** and the basis of key **livelihood activities.**

Fishers are conscious of the need to responsibly manage the resources. There is a consensus among Placencia's fishermen that fishing restrictions (closed seasons, restriction on juvenile catch, and no-catch zones) are necessary and appropriate. This has been illustrated by the fishers in the region (Placencia, Monkey River, and Punta Gorda) voluntarily moving away from unsustainable fishing techniques (lobster and gill nets, hook stick fishing, etc.) to more sustainable means such as lobster traps and shades. Even more surprising, Placencia's fishing co-op supports the Government of Belize's closing conch for a period of up to five years as a means to restore the population: the fishers simply realize that without such a recovery period, they will lose the ability to fish conch permanently. However, fishing on spawning aggregations continues with little enforcement of the recently drafted regulations.

The fundamentals for community management and conservation of marine resources are consequently here: the community has the capacity, the commitment, and the knowledge to accomplish this. As such, local fishers have even proposed setting up their own patrols with the financial support from a UNDP/GEF Small Grants Programme. What is a matter for concern is that the project has made no attempt to take advantage of these local concerns and

initiatives as a basis for defining sustainable management regimes. The traditional 'on-site conservation of protected areas' approach that is the basis of the project means that these potentials are not being realized.

This represents a lost opportunity that is fundamental in its implications for both local benefits and the conservation of resources the project is designed to protect. That local fishers have expressed their enthusiasm for more sustainable forms of fishing and have an interest in actively policing the resource base, should they be given secure rights, provides a more effective basis for conservation than the traditional "policing by officials" approach that the project has developed.

The unique nature of the whale sharks aggregating to feed on the spawn of reproducing snapper has led to the creation of **livelihood opportunities,** additional **income** and financial **capital**: over 50 fishers from the 5 stakeholder communities have become flyfishers, divemasters or whale shark tour guides through training initiatives developed through FoN and funded by a range of national and international donors, including the COMPACT and UNDP/GEF Small Grants Programme. It is hoped that the development of these lucrative alternatives will provide incentive to stop the unsustainable fishing of the fish spawning aggregation. There is consensus among Gladden Spit's five stakeholder communities on the need to control access to the site. The whale shark and fish-spawning site is no longer open access, whereby FoN and community stakeholders now require special licences and a range of other stipulations for access to Gladden Spit. This site restriction has been criticized by tour operators living and working outside of the stakeholder communities. However, the increasing use of open-access sites, such as Hol Chan and Shark Ray Alley, by the cruise ship industry suggests that the pre-emptive restrictions on tourism at Gladden Spit were timely and necessary.

A local conservation-minded resort suggested the establishment of a protected area around Laughing Bird Caye in the late 1980s. Consequently the site was designated a national park and declared a UNESCO World Heritage Site in 1996. Despite the daily visitation fee of US$4.00 fee per international visitor and US$1.00 for Belizean visitors, access to **natural capital** has increased and benefited local tourism through on-site protection of near-shore waters in the Laughing Bird Caye National Park.

Laughing Bird Caye National Park's ranger station enables the permanent presence on the caye that has increased conch and fish stocks in near shore waters.

The demonstrated benefits of Laughing Bird Caye's protection through increased conch stocks have helped to change attitudes towards marine conservation in many local guides and fishers. The strong conservation ethos held by FoN and the Village Council, coupled with the project development committee training, will ensure the mechanisms for sustainable **resource management**. However, financial sustainability of conservation initiatives is questionable, since levied entrance fees are not thought to be sufficient to cover FoN's operational expenses for both protected areas. If all fees revert to the Department of Fisheries, this will definitely be the case.

The findings in Placencia demonstrate both the strengths and weaknesses of the project, with effective actions to establish and manage protected areas (in this case with the delegation of responsibility to an NGO being critically important) but the potential of local stakeholders as active managers was not mobilized. The limitations of the approach to coastal development in coastal policy and CZMAI are also demonstrated by this case study. Although the project was perceived to have improved coastal and marine conservation awareness, there was frustration over the lack of focus on the Placencia Lagoon and the CZMAI's inability to influence or mitigate negative developments such as shrimp farming, mangrove clearing and dredging.

Secondary sites

Sarteneja

Sarteneja is one of the northernmost fishing communities in Belize, originally formed over 100 years ago as a small agriculturally-focused community. Currently, fishing is the primary economic activity. During a survey on

fishermen's perception of MPAs developed by CZMAI in 2001, 94% of fishers interviewed reporting fishing as their sole income earner (CZMAI 2003). Many fishers began the trade from the age of 10 years old and therefore have poor literacy and numeric skills. There are an estimated 800 fishers and 100 boats operating out of Sarteneja. This represents a three-fold increase in fishers compared to 12 years ago, according to those interviewed. The majority of fishers focus on lobster and conch fishing as these represent the most lucrative marine products; however, they also fish finfish and shark. The average fishing trip takes 8-10 days, usually 2 times a month, with a strong focus on fishing in central and southern Belize. Key fishing areas, such as Half Moon Caye, Glover's Reef, Gladden Spit, Laughing Bird Caye and South Water Caye, overlap with the current network of protected areas. Fishers have noticed that marine resource abundance has been declining. For conch in particular, fishers have suggested a 4-5 year fishing moratorium to help replenish stocks.

A traditional fishing boat and dories from Sarteneja combs the reef in search of lobster and conch.

Community members interviewed felt disenfranchized from many of the planning and conservation processes occurring in Belize. Detailed discussions with 47 fishers interviewed during the course of this study stated categorically that the current system of MPAs does not benefit them. Conservation measures such as enforcement of regulations was seen as a more effective means of protecting fishery resources. They highlighted their frustration at not having been involved in the MPA design, planning and management processes. Fishers categorically stated they want no more MPAs and in fact are keen to de-reserve traditional fishing areas such as Half Moon Caye and Glover's Reef. There is little community use of the closest project focus site, Bacalar Chico, although this may change in 2004 with COMPACT-sponsored snorkel and fish ID training for guides. In all cases, MPA designation was made without their knowledge and the boundaries are generally unknown to them, due to a lack of information and demarcation of the zones. Fishers perceive that, through the creation of marine reserves, CZMAI has reduced the community's access to **natural capital**. There has been no compensation for the restriction in traditional fishing areas through

the provision of alternative **livelihood opportunities**. Time away fishing, coupled with deep political divisions within the community, further frustrate attempts at ensuring that all members are informed of national legislation or training and economic opportunities.

Tourism has recently been promoted as one alternative with a COMPACT-funded tour guide training course, leading to the training of 21 tour guides. It is considered the only alternative capable of providing an income similar to lobster fishing. Ten individuals are currently guiding full-time out of Belize City and an additional five plan to move into the activity following the end of the 2004 lobster season. The guides are highly sought after by the cruise ship industry for their breadth of knowledge of Belize's reefs. The 2003 course proved so popular that another one is scheduled for 2004, with a funding commitment by the GEF Small Grants Programme. However, fishers possess additional hurdles, including low literacy levels and the fact that over 50% speak only Spanish. These issues need to be addressed to promote better conservation practices and economic alternatives, particularly in the context of tourism training and relations with MPA staff (many of whom do not speak Spanish).

However the potential of tourism based out of Sarteneja is limited and practically no other economic alternatives exist for Sarteneja fishers. The community is located two hours away from Orange Walk, the nearest large town. There are few improvements to **physical capital** as evidenced by the access road that is unpaved and subject to seasonal flooding. The community's isolation is further compounded by a lack of cellular phone access.

Aside from the tourism training, Fisheries have improved the community's **human capital** by training several fishers in sustainable fishing techniques in an effort to minimize impact on the reef, but it is not clear whether this training took place within the project context. There has been no evidence of improved **social capital, equity** and **institutional capacities** in the community or improved sustainability of **resource management**.

Although impervious to fluctuations in tourism, Sarteneja is highly **vulnerable** to the decline in fishery resources, which may also threaten its **food security**. Moreover, its northern location places it in the path of many hurricanes that make landfall in that region. For example, Hurricane Janet in 1963 completely destroyed the village, and the nearby community of Shipstern never recovered.

Overall Sarteneja represents a significant missed opportunity for the CZMAI project. By dividing the country into nine planning regions and placing Sarteneja in the northern region, the project did not take into account the community's use of, and impact on, the protected areas and marine resources in the south. Greater buy-in into MPAs could have been fostered with the community with little additional effort had consultations taken place from the start of the MPA planning process. As a result, the project and its successor will struggle to limit illegal

fishing in MPAs. Furthermore, fishers experienced great frustration from the lack of demarcation of no-take areas in the various MPAs, and complained of disrespectful and often unfair treatment by MPA rangers following unwitting infringements of no-take areas. In general, there was little to no knowledge about CZMAI among local fishers, despite manatee awareness activities in local schools. This suggests that the project could have greatly benefited from public relations activities designed to raise their profile in the community.

Monkey River

Monkey River is one of the last non-electrified fishing communities in Belize. The village is experiencing a continued emigration of its members to other areas of Belize and abroad due to lack of economic opportunities and currently counts a population of 170 people (CSO 2000). Lobster fishing provides the village's primary income, with tourism supplementing incomes for a handful of the village's fishers. Tourism is almost wholly dependent on visitors to Placencia with the majority being day-trippers who book tours in Placencia. To ensure that local benefits from Placencia-based tourism accrue to those who depend on Monkey River's resources, the village requires boats arriving from Placencia to pick up one village site guide for every seven visitors.

Illegal fishing by Guatemalan and Honduran fishers near the village and along the reef where fishers work presents a threat to the village's **food security**. Consequently, the village is lobbying for the creation of a community-managed protected area to help conserve local marine and terrestrial fauna from illegal and unsustainable exploitation. Pollution and sedimentation from the banana plantations and shrimp farms located upstream have led to a serious decline in the quality of the river's water and depth of the river, which present threats to local **health.**

Monkey River fishers and guides often use both the Laughing Bird Caye National Park and the Sapodilla Cayes Marine Reserve as a basis for income-generating activities. The project may have improved access to **natural capital** through the establishment of these protected areas, particularly the no-take area around Laughing Bird Caye. The project transferred no **physical capital** to the village. Although the village has produced several staff for Belize's protected areas, none have benefited from project training and therefore the village has not seen an increase in **livelihood opportunities, income** or **financial capital** as a result of the project.

Local fisher and tourguide guiding tourists along the Monkey River to jungle paths maintained by the village's Tourguide Association.

Monkey River possesses a strong and cohesive community that is directly and materially concerned with the conservation and development of coastal resources. Few if any alternatives exist to current patterns of livelihoods and there is a risk that the community could disappear altogether should they not longer be viable: the population is already in decline as younger people seek alternative opportunities elsewhere. It is also extremely vulnerable to natural disasters, as witnessed by the devastation wrought by Hurricane Iris. Few of these concerns are reflected in the approach to coastal development fostered by the project. There is little chance of promoting community-based stewardship of coastal resources if these communities cease to exist. Monkey River represents an example in which active community management in conservation and development would bring local benefits and be more likely to realize success in conservation goals. That this has not happened reflects a substantial missed opportunity.

Punta Gorda

Punta Gorda has the distinction of being the southernmost coastal town of Belize and the Toledo District's centre. Toledo District has often been termed the forgotten district due to its lack of development, a high level of poverty and distance from the country's commercial and political capitals. However, the local population has increased by over 25% since 1991, with a recorded population of 4,329 in 2000. Increased access to Toledo via the nearly-completed southern highway, coupled with relatively cheap land prices, has led to immigration and a

resulting rise in development in Punta Gorda. Although tourism has been proffered as having economic promise, it has developed poorly; the main economic activities in Punta Gorda include services and trade based primarily on agriculture and fisheries. Community member and fishers in particular have noted declines in fishery resources and water quality over the past decade. Use of unsustainable fishing techniques such as lobster nets, gillnets and fish traps and the overexploitation of fishery resources are seen as major threats by local fishers and tour guides.

Fishers and tour guides interviewed recognise the need and the use of MPAs as mechanisms to conserve critical habitat and fishery resources. The fishers believe that the spillover of fish from an MPA to adjoining areas open to fishing exists and benefits them, although this has not yet been proved in southern Belize. As such, Punta Gorda is a stakeholder of two marine reserves, Port Honduras and the Sapodilla Cayes, both of which are co-managed by local NGOs. The Port Honduras Marine Reserve was declared in 1999, due primarily to its importance as a nursery for many species of commercial fish and a productive fishing ground for local fishers and flyfishing guides practicing catch and release. An MOU was signed between the co-managers, Toledo Institute for Development and Environment (TIDE) and the Department of Fisheries in 2002. The Toledo Association for Sustainable Tourism and Environment (TASTE) signed a co-management MOU with Fisheries in 2001 to manage the Sapodilla Cayes Marine Reserve. This second agreement was unique in that TASTE was only given authority for the educational aspects of the MPA; Fisheries retained the role of day-to-day operations manager, and is responsible for conducting regular patrols in the marine reserve. This transboundary park is claimed by Guatemala and Honduras; its management therefore presents a challenge for Belize.

The project provided several improvements to **physical capital** through the construction of a ranger station on Hunting Caye in the Sapodillas and provision of a boat, engine and diving equipment to the rangers and biologist. However, illegal fishing continues unabated in the Sapodilla Cayes, where rangers lack the human and gas resources to effectively patrol the large marine reserve. This is consistent with the local perception that management of both MPAs is poor; it is recognized, however, that rangers wish to do their job but are undermined by lack of follow-through in enforcement of regulations. This negates any potential project improvements in local access to **natural capital** in terms of the long-term sustainability of these resources as a result of effective protection regimes.

Six years on, scars from dredging of sand for a tourism resort in the Sapodilla Cayes remain visible. Hurricane Mitch subsequently washed away most the beach created with the dredged sand.

The project has improved **social capital, equity** and **institutional capacities** in Punta Gorda through the creation of a southern CAC. Fishers have lobbied TASTE to impose a fishing moratorium in the Sapodillas to help counter illegal fishing and replenish fish stocks. The presence of two NGOs based in Punta Gorda that focus on coastal and marine conservation will help to foster sustainability of **resource management** in the region. This provides an important lesson: that the realization of project objectives is often dependent upon the existence of institutional capacities in civil society that are beyond project control. Where these exist, such as in Placencia and Punta Gorda, the prospects for project objectives being met are far greater. The challenge will be for these NGOs to complement and coordinate their conservation efforts in light of the limited pool of funding available.

CZMAI improvements to **human capital** have been few, with two rangers trained in enforcement techniques and boat and engine maintenance and two biologists trained in coral and fish monitoring techniques. Several initiatives outside of the project have focused on training local fishers in economic alternatives to unsustainable fishing. Courses such as scuba diving, tourguiding, flyfish guiding and hospitality training have been successfully promoted by TIDE, BTB and COMPACT and have readily increased the **livelihood opportunities, income** and **financial capital** of at least 12 fishers.

Punta Gorda does not show reduced **vulnerability** to natural disasters, environmental degradation and variability, social/political disruption, market disruption as a result of the CZMAI project implementation. That this was not an objective of the project reflects the limited approach to coastal zone management

adopted, as this is a key priority for all stakeholders in coastal communities such as Punta Gorda.

Conclusions on the typology of local benefits

With regards to each of the typology of local benefits, following are the general conclusions for the Coastal Zone Management project:

- *Improved access to **natural capital***: in most cases there were few demonstrated improvements in local access to marine resources as a result of the creation of the network of the Marine Protected Areas. There are potentials for improvement where effective management leads to long-term improvements to fish stocks (Laughing Bird Caye is an example where this may be happening). The protected area system also provides the potential for sustainable tourism. The lack of enforcement to curb illegal fishing meant that designated areas were not meeting the goal of protection of habitat and resources. Moreover, key stakeholder communities such as Sarteneja were marginalized from the MPA creation and management process, resulting in restrictions to their traditional fishing grounds without any concomitant development of economic alternatives.

- *Increased **livelihood opportunities, income** and **financial capital***: All project sites have seen rapid increases in the level of tourism. As a result, many local people have moved from traditional activities, such as fishing, towards tourism-related activities, including fly-fish guiding, dive guiding or ferrying people to tour sites. However, all alternative economic activities were developed outside of the project and occurred in places such as Caye Caulker and Placencia, where this would have happened in any case. Communities such as Monkey River have shown no improvements to livelihoods or income as a result of the overall coastal policy and planning framework that was the main focus of the project

- *Improved **social capital, equity** and **institutional capacities** in local communities*: Considerable social capital existed in the stakeholder communities prior to project implementation. In many cases, however, the project did not capitalize on existing social and institutional structures. Instead, it imposed new structures, such as the Coastal Advisory Committees, which often duplicated the role of village councils or existing NGO boards, taxing the limited local human resources available. This represents a significant missed opportunity by the project, whereby greater strengthening of existing structures would have increased cooperation and goodwill towards the project. It would have further fostered greater political will enabling the implementation of guidelines and sustainability of the mechanism following the project's end. Unless the

GOB confers legal status on the CACs, there is a strong likelihood that the CACs will dissolve post-project.

- *Improvements to **physical capital***: In all marine protected area sites, the project clearly demonstrated improvements to physical capital, with five MPA ranger stations built and furnished and MPAs equipped with boats, engines and dive equipment. Several signs indicating the areas' status as marine reserves or the presence of the MPA's management were erected, e.g., Caye Caulker and Friends of Nature/Laughing Bird Caye.

- *Improvements to **human capital***: This is where the project succeeded in providing the greatest degree of local benefits. At least 30 people in 3 Coastal Advisory Committees were trained in leadership and conflict resolution skills; additionally, at least 10 rangers were trained in enforcement duties and boat and engine maintenance. Stakeholders interviewed noted that additional capacity building of local NGOs managing the MPAs would have helped to provide sustainability to several of the project's monitoring activities.

- *Improved **health** and **food security***: Although this was not a primary project objective, coastal development plans for stakeholder communities and for the country's coastline were expected help minimize impacts from the rapid expansion of coastal populations. Yet the late implementation of development guidelines and lack of political will to enforce these suggests that development will continue to pose an ever increasing threat to local health and food security. Impacts to water quality from sewage and shrimp farms were highlighted as particular concerns. Specifically, in Caye Caulker, water stored in vats was deemed unfit for consumption, and ongoing dredging had destroyed local fishing grounds. Local concerns about agro-industrial pollution in the Placencia Lagoon was a major concern of Placencia stakeholders interviewed and identified as a major gap in the CZMAI project implementation.

- *Improved sustainability of **resource management***: This should have been a main focus of the project, and indeed actions were taken to establish local institutions, develop infrastructure and institute management plans. These have been partially successful, with some sites well developed but others far less so. The effectiveness of this approach is open to question, mainly because of the narrow on-site protection approach adopted and the failure to tap into the potential of local communities as active managers and protectors. Only one project site, Laughing Bird Caye, provided clear demonstration of the benefits of marine protected areas, according to local people interviewed; with its 24-hour presence of rangers, FoN has ensured that near-shore waters on this caye possess a higher abundance of conch and lobster than other areas. All other areas were poorly enforced, in part due to lack of human or financial resources. There is no

doubt that the management of the resources has improved, but not to the extent anticipated and with serious concerns over the sustainability of the actions taken.

- *Reduced **vulnerability** to, for example, natural disasters, environmental degradation and variability, social/political disruption, market disruption*: Stakeholder communities were not made additionally resilient to natural, political or economic impacts through implementation of project activities. This was not a project objective but it is a key issue for coastal development, again reflecting the limitations of the concepts used to develop coastal policy and the management framework.

Overall conclusions on local benefits and project concept, design and implementation

The Conservation and Sustainable Use of the Belize Barrier Reef Complex project has been instrumental in raising the profile of the coastal zone in Belize. Using a careful blend of policy, public awareness, training and coordination efforts, the CZMAI has navigated often difficult waters in its largely successful attempts to fulfil its objectives. Yet, changes in leadership, physical location, staff and political conditions coupled with a decrease in total funds available have posed challenges for the implementation of project activities. As such, these constraints have impacted the project's ability to produce a stream of local benefits. It is worth bearing in mind that direct local benefits were not the primary focus of the project and that "national" activities in this project's context also means "local" due to the creation of policies and activities that have impacts at the local-level.

The primary development pressures found in coastal Belize affect both local people and marine resources. There is, of course, geographical variation in the existence and severity of these development pressures along the coast but a number were repeatedly cited during the fieldwork. These pressures include over-harvesting of marine animals (including by foreign fishers), the impacts of the explosion of cruise ship visitors, other types of tourism pressures, the impacts of land development and large-scale construction along the coast, dredging, waste water and sewage disposal and the growth of the shrimp industry. Specifically, the project goal "to secure the conservation of options and existence values embodied in the second longest barrier reef system in the world" is critical to the sustainable management and use of marine and coastal resources by local communities. In this respect, the project was only partially successful at ensuring a flow of local benefits to communities, which would make them active participants in securing project objectives. Several setbacks impacted project implementation: the project changed leadership twice and relocated to new offices. A change in key people in the government and the effects of elections

diminished political support. Counterpart funding from the GOB was reduced and the exchange rate fell, both of which reduced project funding. MPAs suffered from high staff turnover. And to all of these pressures must be added vulnerability to hurricanes, with two major hurricanes hitting coastal Belize in the last three years (one in the north and one in the south).

Some of these pressures are reflected in the approach taken under the project, others less so. Given that the project worked largely in a paradigm that focused on the on-site conservation of protected areas, this is hardly surprising but still has important implications in terms of both local benefits realized and opportunities missed where greater flows of benefits could have accrued. Despite this, there are a number of important potentials that the project has created or played a significant part in generating, but the limited scope of the approach adopted by the project has meant that these not inconsiderable flows of local benefits are less than they could have been.

Firstly, effective management and control regimes have been established in a number of project sites (especially where NGOs are involved). This has been instrumental in establishing mechanisms for the protection of the resource base, with benefits to both local fishers and tourism operators. However, the project's focus on protected areas means that the many existing potentials for instituting more sustainable management regimes in other parts of the coast (including through the engagement of local communities) have been largely ignored. This is both a missed opportunity in terms of local benefits and a concern in meeting the project's conservation goals, as resource degradation elsewhere will inevitably increase pressures on marine protected areas.

The broad scope of the project denied individual MPA sites the depth of attention needed to function efficiently as protected areas. This is due partly to significant geographical distances between the reserves, located from the most northern end to the southern tip of the barrier reef, which makes logistical arrangements difficult, and also to the limited human resources available in terms of project personnel. There were problems with developing and maintaining infrastructure in these isolated locations, finding and retaining staff and sustaining the level of patrolling and monitoring required to ensure that the protected area fulfilled its function. As suggested by a GEF project review, it may have been more useful to focus on two or three strategic reserves, providing more support, oversight, and assistance in planning for long-term sustainability and to then replicate successes in other sites. The project could have cleared up much local confusion and reticence towards MPAs through the development of a broad grassroots campaign to promote the known benefits of MPAs, coupled with detailed information on Belize's MPAs.

Secondly, there is a generally high level of conservation consciousness amongst coastal communities: in part a reflection of direct project activities but also a consequence of related activities such as the UNDP/GEF Small Grants

Programme, the work of local and international conservation NGOs and other grants from PACT. However, CZMAI did not engage as effectively with local communities as could have been expected. The fieldwork identified highly organized and motivated communities in the coast, with great social and human capital stocks and a number of local institutions providing the basis for effective interface with external agencies. These potentials were not analyzed or mobilized in the project approach, meaning that the engagement of local stakeholders was far less than could have been the case. Sarteneja was a prime example of a community that had been largely ignored by the project yet had a very large stake in, and impact on, the country's marine resources.

A focus on income generating activities, especially for those displaced by conservation activities, could have provided benefits to local communities and enhanced their support for conserving the reef. The 2002 SMPR noted that comments to the CZMA Board from high-level government officials suggested that the project should have stronger linkages with poverty alleviation, but this was never systematically integrated into the project approach. The project had hoped to alleviate poverty through the development of alternative livelihoods for displaced fishers, funded through receipts from MPA entrance fees. CZMAI's lack of legal mandate to charge fees meant that this output was subsequently dropped. COMPACT and UNDP/GEF Small Grants Programme have to some extent filled the gap with their tourguide and dive training courses, but not to a level that this has had a major impact.

Many local stakeholders interviewed were not generally aware of the CZMAI or the general concept of integrated coastal zone management, which was at the core of the key project outputs aimed at generating the policy and institutional environment for resource conservation. The CZMAI was generally focused on short-term responses to political pressures associated with more intensive developments. In this, it has been successful in a number of cases, but these do not add up to a systematic approach to coastal development, in which the needs and interests of coastal communities are a core concern.

Thirdly, the development of the Coastal Zone Management Authority, including its character as a multi-stakeholder forum for discussion and recommendations, is valued by many as providing a channel through which issues related to specific development pressures and conflicts can be discussed. Examples of where this has functioned were found in the fieldwork, and it is a capacity particularly valued by many stakeholders in the coast. The effective function of CZMAI as a coordinator has occasionally been thwarted by conflicts with line ministries over its role as implementer of activities and its work with MPAs. Stakeholder interviews revealed that there were significant missed opportunities in coordinating with in-country projects and donors, which could have helped achieve locally-focused objectives, such as the development of livelihood alternatives for communities affected by the need to conserve resources in MPAs.

Fourthly, the legal and policy framework developed under the project does have the potential to form the basis for a more effective, transparent and legitimate process of coastal development, but only if off-site pressures, that have direct and material implications for both local people and the conservation of protected areas, are effectively addressed. These include issues such as unregulated tourism growth, sewage disposal and the degradation of mangroves caused by unregulated land use changes. The limited scope of the approach adopted means both that local communities will continue to be affected and that the project's conservation goals will be at risk, unless they are addressed by the further development of the coastal management system. Key policy documents on issues such as dredging, cayes, aquaculture and bioprospecting have not been formalized and many competing interests continue to undermine coastal and marine conservation. The level of political support has not been concomitant with that needed to ensure the ecological integrity of the reef and the long-term options for sustainable use.

Local capacity to participate in the project (mainly through the MPAACs and CACs) has been limited, primarily due to the low number of committees currently operational and the lack of legal status of the CACs. There have been various proposals to address this issue but none have been effectively followed through. This in part reflects the fact that these proposals arose during the later stages of the project, when the focus was primarily on financial sustainability and institutional arrangements. The development of these local institutions, a difficult and time-consuming process which should lie at the heart of the project's approach, was not seen as a priority until late in the project and lacked strong support within the government system.

Despite these reservations, the project has been successful in many of its defined objectives and has set the stage for the development of a sustainable coastal zone management programme in Belize. How this will be financed, whether it will be sustainable, the shape of its construct, the timeline for its implementation and, above all, whether it will effectively remove pressures upon resources through ensuring local communities benefit from sustainable management, remain to be seen.

The Community Co-Managed Park System for Belize Project

Project context and investment overview

As noted in the Introduction, the Government of Belize has historically lacked the resources to place all of its national protected areas under active government

management; it has also frequently sought innovative arrangements to allow local communities to participate more directly in the management of the natural resources that they use. As a result, Belize has explored a number of alternative models involving the delegation of co-management authority to NGOs. This move toward joint stewardship began in 1981 with the Government of Belize's co-management agreement with Belize Audubon Society, which launched Belize's national park system, and was successfully expanded through co-management arrangements with other NGOs, including Programme for Belize, Friends of Nature, TIDE and TASTE. Although the granting of co-management authority was typically not accompanied by any type of financial assistance, these NGOs were able to raise sufficient funds for their tasks; they also had the necessary capacity, particularly in terms of staff, to effectively administer the protected areas. Then, with the success of the Community Baboon Sanctuary, a private reserve created in 1985 and run by community members, another potential pool of partners for co-management emerged: community-based organizations. It was this trend toward co-management agreements, and the more recent model of community-based co-management, on which the Community Co-Managed Park System for Belize project hoped to build.

Another influence in project design was Belize's National Five-Year Plan, which emphasized improving the living standards of the rural poor while simultaneously limiting adverse environmental impacts. As a result, one of the project's stated goals was to diversify the income base of rural communities through the promotion of ecotourism, in turn ensuring their commitment to protecting adjacent park areas, thus creating a 'win-win opportunity.' Local benefits were consequently expected to be one of the main results of this project: indeed, the availability of local benefits was fundamental to the success of the management models that the project was formed to promote.

The short-term strategy for achieving this goal focused on removing barriers to effective community co-management, with a long-term objective of developing community capacity so that the concept of community co-management could be implemented. The project also intended to increase capacity within PACT, so that PACT could continue to provide training and support to protected areas, including not only areas involved in the project but other areas in which communities were undertaking park co-management efforts. Thus, the larger goal of the project was to expand the number of protected areas under community-based co-management agreements.

Project financing involved a cash investment of US$825,000 (US$750,000 from UNDP/GEF and US$75,000 from PACT) and a US$155,000 contribution in kind from PACT; the in-kind contribution was to be primarily the provision of general and financial administrative support from existing PACT staff, with a secondary PACT contribution of resources in project implementation and monitoring. The Executing Agency was PACT, and the Government Implementing Agency was

the Ministry of Economic Development. The project began in May 1999, and ran for three years and four months, ending in June 2002.

Project objectives and global benefits

The Community Co-Managed Park System for Belize Project's expected end of project situation was the establishment of a sustainable community co-management parks system in Belize; it must be noted at the outset that this was quite an ambitious goal for a three-year project. The project aimed 'to strengthen and solidify the co-management structure in existing parks, expand the network of co-managed parks, develop a co-management infrastructure network, and create a model for a new type of protected area for private-public lands.'

The project's original concept focused on four protected areas as pilots, with the intention of expanding the model to additional parks and protected areas before the project's completion. The four areas selected were: Five Blues Lake National Park, Manatee Forest Reserve, Freshwater Creek Forest Reserve and Aguacaliente Wildlife Sanctuary. Two of the areas (Manatee Forest Reserve and Five Blues) were centrally located, while the other two were located in the northern (Freshwater) and southern (Aguacaliente) parts of Belize. The activities planned for the four areas included the development of co-management plans and the creation of local co-management boards, rapid biodiversity assessments and GIS mapping, infrastructure investment and the hiring of three wardens for each site.

The expected global benefits were to be achieved through the conservation of biodiversity as a result of the project's replicability, both within Belize and regionally. The project sought to 'improve the capacity of the Government to implement sustainable human development initiatives in effective support of the natural resources conservation initiatives of the country.' It also expected to develop 'a model for a new type of Protected Area for Private/Public Lands and ensure program sustainability.' In this way, GEF's global goals would be met through the conservation of biodiversity in the medium to long term.

Local benefits analysis

The analysis of local benefits in the Community Co-Managed Park System in Belize is based on a thorough review of all available documentation on the project, field assessments in all four project sites and interviews with a range of key stakeholders involved in the project. The project had finished a year before the analysis took place and a formal end of project evaluation report had been prepared and was accepted by all parties as a fair reflection of the impact of the project.

This evaluation, prepared by a UNDP/GEF consultant, was largely negative, finding that few, if any, of the project goals had been realized even in part and that there was no substantial impact on the management of the protected areas in any of the project sites. The discussions and field visits undertaken in this study largely corroborate these conclusions, with only one of the co-management groups functioning even at a nominal level at the time of the fieldwork and no discernable changes evident in relation to the participation of local communities in the active and sustainable management of the four pilot protected areas.

The reasons for this are manifold, and are set out clearly in the formal project evaluation. There is no need to repeat them in detail here. With regard to understanding the implications of the project's failure for local benefit flows, however, three specific points stand out:

- The basic concepts upon which the project's design was based were flawed. In particular, in relation to local benefits it was assumed that the only substantive benefits that would accrue to the local community from co-management would be through the growth of ecotourism visits to the protected areas, with these visits generating a flow of income that would provide an incentive base for active local involvement in the management of the protected areas. No reference to other benefits from sustainable management (such as sustainable harvesting of plants and animals) were made and the assumptions about tourism proved extremely over-optimistic.

- The process through which the local co-management boards were formed and organized was top-down and flawed in fundamental ways, meaning that there was little, if any, prospect of the groups developing into effective vehicles for local management of the protected areas in question. The MNREI commented that there are examples of where other agencies have used local advisory boards successfully in Belize, showing the potential of this approach where an appropriate model for their development is used.

- The most substantive area of project activity that did take place was in the training of a small group of participants from each locality. There were many aspects of this training that were favourably received, but overall the training provided had little relation to the management of the protected areas and in general did not lead to direct and material improvements to local-level institutional capacities, the management of the protected areas or the generation of livelihood opportunities.

Site findings and analysis of typology of local benefits

These conclusions apply to all four sites, but there were some differences between them; these differences are reflected in the following site reports for each of the four pilot areas.

Manatee Forest Reserve

The Manatee Forest Reserve, located in central Belize, was established in 1959 and comprises 103,878 acres, including savannah, pine and broadleaf forests. Adjacent to the reserve at its eastern end is the Gales Point Wildlife Sanctuary, which consists of over 9,000 acres and includes the surrounding coastal landscape.

The village of Gales Point is a coastal settlement of 500 people. While there are a few tourism enterprises in the village, these are mostly small scale and limited (one restaurant that caters to both tourists and locals, a bed and breakfast, two drum shops, and one small snack shop), plus several people making crafts for sale to tourists. The one larger operation, a hotel located at the tip of the point, is foreign-owned. Boat owners also occasionally engage in tourism, offering trips to visitors, particularly manatee watching excursions in the lagoon, and there are four people in the village who do part-time work as tour guides. Thus, tourism continues to be a marginal source of income in the village, important as a source of supplementary cash income for some people but not a primary livelihood for most families. Although the project aimed to increase **livelihood opportunities, income** and **financial capital** through the promotion of tourism, it appears it brought little increase in the number of visitors to the reserve.

There are three large families in Gales Point that still earn their living primarily from fishing, and there is also evidence of hunting occurring in the area around the village. In terms of **natural capital**, the project resulted in little change in residents' access to the resources found in the protected areas. The sustainability of **resource management** also appears unaffected: there are still issues regarding the use of gillnets in the lagoon, but with no active co-management group and no patrols operating in the area inside the lagoon, this problem is left unaddressed, despite some local support to end the practice. Villagers provided anecdotal information that fishing productivity and stocks are declining (reporting it was taking longer to achieve the desired catch, that they needed to go further to make this catch, etc.). No management plan came out of the project, which might have reversed these trends. In addition, given the limited project impact, it is not surprising that there appears to have been no change in community members' **vulnerability** to natural disasters, environmental degradation and variability, and other potential disruptions, nor any changes in **health** and **food security**.

The village has a women's group currently engaged in a micro-enterprise project in conjunction with the Belize City-based YWCA chapter; this project focuses on harvesting local fruits and producing jams, syrups, and other food products for sale in Belize City by the YWCA office. This effort is actually a side product of the project: the idea was discussed and developed by two of the project's trainees during a training session in Belize City, and one of these two trainees is very active in the women's group. This suggests evidence that there was some

improvement in **social capital, equity** and **institutional capacities** in this community. However, the main objective of the project, to build capacity in the community to co-manage the protected area appears to have failed: the community co-management board formed under the project is no longer active, and only two of the seven members (one of whom is the catalyst for the women's group project) remain in village.

One of the main investments of project funds was in **human capital**; the project document states that US$119,500 was to be allocated to training in Belize City, and an additional grant was received from PACT to undertake further training in the form of an educational exchange trip to the western U.S. However, interviews with two of the trainees in Gales Point who completed the entire year-long course in Belize City highlighted some of the issues surrounding this training. They noted that the training focused on leadership, public speaking, accounting, conflict resolution, and advocacy; while they found these topics interesting and engaging, they didn't feel they were adequate preparation for their co-management responsibilities. Further, they were not provided any training on protected area management, and were not shown the physical boundaries or even maps indicating the reserve. One interviewee noted the group actually asked about the boundaries and requested additional information on co-management topics, but none was provided. Further, one of the trainees who went on the educational trip to the U.S. to learn about park management provided an interesting insight into that exchange, which involved visiting several large American parks that shared very few characteristics with the Manatee Forest Reserve: while the trainee noted that the trip was very enjoyable, she was unable to offer an example of something she learned during the training that was relevant to her work on the co-management board.

Regarding **physical capital**, it does not appear any of the project investment in this area has remained in the village. The computer given to the group did not function properly, was removed for repair, and never replaced. Although the project's 2000 Tri-partite Report refers to a vehicle and a filing cabinet provided to the Field Coordinator in Gales Point, interviewees reported neither was still on site.

Gales Point also illustrates a significant missed opportunity for the project: prior to the project, there was an individual in the village who had taken the initiative to begin a turtle protection project. Although this person applied to join the co-management board, he was not selected; interviewees report he was told he was too old (at approximately 50 years of age) for inclusion. Although the board members chosen, as well as other community members, sought to enlist project support for the turtle effort, none was provided and the individual eventually gave up his work due to lack of financial resources. A former board member characterized this as a case of the project's unresponsiveness to a relevant resource management issue of concern to local stakeholders, and expressed regret that a co-management initiative could not accommodate support for a local

grassroots effort on behalf of a species under pressure. It also reflects the inadequacies in the selection process for board members, which was done by an outside consultant with no attempt to develop representative mechanisms that were in the control of the local community.

Five Blues Lake National Park

Five Blues Lake National Park was established in 1994 and encompasses 4,061 acres of subtropical forest surrounded by limestone hills; the lake itself has an unusual and picturesque bluish-green cast, most likely from the presence of calcium leached from the nearby hills. There is a park office located in St. Margaret's village, but it has no staff and is indefinitely closed, though there are no signs to indicate this fact. Some of the equipment acquired as part of the project (desk, chair, filing cabinet, and printer) is stored in this office, but the project vehicle and computer have been moved to the home of a member of the local management group for safekeeping.

The park itself is located approximately 5 miles from the village; access is via an unpaved dirt road. The entrance to the park is clearly demarcated, and there is a small unmanned Visitor's Centre at the road's terminus; this centre contains educational displays and maps, as well as a locked box for visitors to leave their entrance fees, although the sign indicating the fees has been defaced and the price of entry is no longer legible. The park contains a number of nature trails which are clearly marked and in good condition. A dock at the lake's edge has deteriorated and is no longer usable, but several canoes are still located at the side of the lake, along with a sign giving the cost of rental. Thus, it appears in general that some improvement to **physical capital** occurred during the project's term. However, it does not appear that the project improved access to **natural capital** for nearby residents: while the signs and trails have made the area more accessible for tourism and recreation, it did not change the local community's ability to access the area.

The village of St. Margaret's has approximately 1,000 residents; most are immigrants from Guatemala, Honduras and El Salvador and work in the nearby citrus fields for low wages. There is one community guest house in the village, a bed and breakfast run by a women's group of 12, who rotate in providing meals to guests. However, the director of the group reports that the facility only hosts one scheduled group of students each year; otherwise, it rarely receives visitors. Thus, despite the project's goal of increasing **livelihood opportunities, income** and **financial capital** through its focus on tourism, it has had limited impact: only a few households benefit, and those earn only marginal income from tourism. The project also has raised expectations regarding possible livelihoods without delivering results, leading to a widespread dissatisfaction: in interviews with

villagers, many expressed frustration that little progress had been made in attracting tourists to the area.

In terms of improvements in sustainability of **resource management**, it appears that conservation awareness was raised in the community, and possibly changes in attitude occurred, but this was hard to measure. Also, given the fact that there are many other forested areas around the protected area, it is difficult to determine if there is much pressure on the reserve regardless of community conservation awareness. There is a residual level of organization within the community, suggesting there was a slight improvement in **social capital, equity** and **institutional capacities**: there are three people still active in the community co-management committee. However, this committee is hampered by internal disputes and pessimism over the lack of results of the co-management effort, and PACT is now considering an offer by the University of Belize to lend support to the co- management of the park. This development suggests the project failed to build the capacity needed to co-manage the protected area.

Regarding **human capital**, six people started the year-long leadership training, but only one person completed the course; the individual who finished reported the training was very useful for acquiring leadership skills, but less helpful in building skills for co-management of the park. Another villager, who received tourism training in the project, is working in tourism outside the village, but this individual was working in that field prior to the project and does not feel the training significantly enhanced his employment prospects. As far as reducing **vulnerabilities** and improving **health** and **food security**, there was no evidence during the site visit or through interviews that any change in these areas had occurred,

Aguacaliente Wildlife Sanctuary

The Aguacaliente Wildlife Sanctuary was established in 1998 and comprises 5,492 acres. It is located in the southernmost section of Belize, about 10 miles from Toledo District's capital, Punta Gorda. The Visitor's Centre and main entrance to the park are located in the village of Laguna, which is reached via an unpaved road off the Southern Highway. Laguna, a Q'eqchi' Mayan village, has approximately 310 residents, almost all of whom are engaged in subsistence-level farming as their primary activity. In addition to Laguna, ten other communities were involved in the co-management effort. Eight of these villages are similar to Laguna, consisting of a few hundred people or less and carrying out small-scale farming; these 8 places include both Q'eqchi' and Mopan Mayan villages, as well as one village with a significant East Indian population (Mafredi). However, the remaining two communities, Dump and Big Falls, are larger settlements located directly on the highway; these areas have a broader

economic base, with residents involved in a number of professions and some commuting to employment in Punta Gorda.

The village's access to **natural capital** appears unchanged as a result of the project. The designation of over 5,000 acres surrounding these villages as a protected area in which hunting is prohibited would be expected to worsen local residents' access to natural capital, and the project's objective of patrolling the park and enforcing the hunting ban would heighten this result. However, in practice, the designation has had little impact. Currently, Aguacaliente Wildlife Sanctuary is a 'paper park': there are no community wardens patrolling the area and no Forestry officers making periodic visits, and thus virtually no enforcement of the hunting ban. Further, there is ample forest surrounding the villages that is *not* part of the wildlife sanctuary; interviews with villagers suggest most residents don't make any distinction between protected and non-protected areas, which is unsurprising since there is no clear demarcation of the sanctuary boundaries.

A sign points the way to the now defunct visitor's center in the Aguacaliente Wildlife Sanctuary while two women draw water from one of three operational pumps providing the village with potable water.

Given the focus of the project on tourism development, residents' **livelihood opportunities, income** and **financial capital** could be expected to increase; primary local benefits should have included livelihood diversification and new cash income opportunities seen. However, the project appears to have had no lasting impact on the villages' tourism prospects: there was no increase in visitors and no significant income streams generated by the project activities. Some

efforts have been made to provide infrastructure and to organize – e.g. a TEA guesthouse and a private lodge have been built in Laguna as an initiative separate from the project. However, neither of these ventures has resulted in significant income generation; further, the private lodge was badly damaged in 2001's Hurricane Iris, is no longer useable and has not been repaired.

The villages' **social capital, equity** and **institutional capacities** appear to be unchanged by the project. Residents from Big Falls, Dump, Emery Grove, Laguna, Blue Creek, Jordan, Mafredi, San Marcos, Silver Creek, San Miguel, and San Antonio were identified as stakeholders eligible to serve on the committee to co-manage the sanctuary. Based on interviews, however, it appears this committee was an artificial construct rather than a community-based organization, and it apparently never functioned as envisioned. Not all villages were able to sustain an interest in participating; both the project's Field Coordinator and a member of the local management team noted that some of the villages were simply too distant from the protected area to logically have an interest in the project, and eventually these communities resigned from the board. Some of the villages located close to the area (Laguna, Blue Creek, and Jordan) have continued sporadic contact for discussions about developing the wildlife sanctuary, but the local management team is no longer functioning on a regular basis. Thus, there were no lasting gains in this area.

The project resulted in some gains through limited investments in tourism infrastructure, particularly in signs for demarcation of the sanctuary. However, the vehicle, office furniture, and computer provided to the communities as a result of the project were eventually donated to an NGO operating in Punta Gorda. Thus, only minimal improvements to **physical capital** were realized, and these did not remain with the local management team after the project ended.

Given Aguacaliente's geographic isolation (Belize City is 6 hours away by bus), training was conducted in the district capital of Punta Gorda. One advantage to this arrangement was that trainees did not have to travel every other weekend for a year to attend the course as they did in the other three pilot areas; thus, the dropout rate was negligible. As in the other areas, this training brought some improvements to **human capital**: one trainee is now the head of the Toledo Maya Women's Council, and another went on to a position of responsibility with a Punta Gorda-based advocacy NGO. However, as noted above, it appears that these benefits primarily accrued to individuals and that the training did not result in enhanced natural resource management capabilities. Again, the reason identified for this was the training's failure to address topics appropriate to the task of co-management.

In terms of reducing **vulnerabilities** to such things as natural disasters, environmental degradation and social/political disruptions, it appears the project resulted in no change. The hunting ban could have potentially worsened **food**

security for community members by restricting residents' ability to gather forest foods, but the lack of enforcement has meant little change in this area. Similarly, restricted access to forest products could have hurt villagers' **health security**, while successful income diversification and cash livelihood opportunities could have been expected to improve access to health care, but again the lack of project effect resulted in little change. Finally, there appears to be no change in the sustainability of **resource management** as a result of the community co-management project. However, it must be noted that the protected area's resources do not seem to be under any significant threat, and especially not from local resource users.

Freshwater Creek Forest Reserve

Freshwater Creek Forest Reserve, created in 1997, is a 60,000-acre protected area located near Orange Walk District in northern Belize. Several communities near the reserve were involved in the community co-management project: San Estevan, Santa Marta, Honeycamp Lagoon, and Chunox. Each of the communities are mainly composed of Mestizos, with some immigrants from Mexico and Central America, primarily Guatemala and El Salvador, as well. Most residents work in agriculture, and interviews indicate that most do not use the forest reserve on a regular basis, although a few people do occasionally hunt and fish in the reserve.

Freshwater Creek presents an interesting case study: in this particular area, there was a group of residents who were organized and highly motivated to develop the reserve into a tourism site prior to the project's start (in interviews, board members report they were the ones who provided the impetus for the project itself). Further, the communities have remained committed to this idea, despite the project's completion and the subsequent lack of financial resources. As evidence of this continued commitment, it is worth noting that members of the local management team are now paying rent for the team's office out of their own pockets. Determined to develop the protected area in a sustainable manner and to create alternative employment opportunities, they are actively exploring sources of funding to achieve their goals.

Interviews with community members and members of the local management team established that there was no increase in **livelihood opportunities, income** and **financial capital** as a result of the project. As was the case in the other pilot sites, the project did not result in an increased number of visitors to the reserve, and thus did not deliver any gains in this area for local residents. There was, however, some improvement in **social capital, equity** and **institutional capacities** in local communities. With the exception of one community (San Estevan), the connections among the communities involved in the management board are still intact. However, this continued interaction might be a reflection of

the residents' pre-existing enthusiasm for community-based tourism development, rather than a project result.

In terms of **physical capital**, Freshwater Creek is to be commended for the care they have taken with the tangible assets provided by the project. The local management team still has possession of the project vehicle; its usage is closely controlled and it is regularly maintained. The computer, printer, and office equipment have similarly remained with the group. Finally, the signs provided as part of the project are still in place and in good condition. Thus, the project did result in lasting improvements in physical capital for the Freshwater Creek co-management team.

Regarding the project's investment in **human capital**, the story in Freshwater Creek in similar to those in the other pilot areas. The individuals who attended the leadership training realized personal benefits and have been able to utilize the skills they acquired in new positions. One of the trainees, for example, went on to manage an educational project for an environmental NGO; another is running for the chairman position in his village. Freshwater Creek was also noteworthy in that 7 of its 9 trainees completed the leadership training, which again speaks to the group's initiative and motivation. Confirming the reports by trainees in the other sites, however, the local management team found the training largely irrelevant to the task of co-managing the forest reserve.

As in the other three protected areas, there is no patrolling of the forest reserve and thus no change in community members' access to **natural capital**. Also, as found in the other pilot sites, it does not appear the project resulted in reduction in **vulnerability** to natural disasters, environmental degradation and variability, and other potential disruptions. Finally, there were no measurable changes in **health** and **food security** as a result of project activities.

In terms of improved sustainability of **resource management**, it is difficult to know with any certainty if the project had a substantial impact, given the level of interest and motivation in the community prior to the project. However, the educational programme certainly raised the level of awareness; members of the management team singled out the production of children's books and a video about the protected area as effective, and also noted they were familiarized with boundaries during a flight over the reserve.

In short, the Freshwater Creek case study confirms what was found in the other case studies. With active participation, the local management team was able to maximise local benefits in several types of capital: physical, human, and social/institutional. Due to project design, the group failed to see an impact in other areas, such as access to natural capital, improvements to income and livelihood capital, reduced vulnerability, and improvements in health and food security. Finally, as in the other pilot sites, it appears there was a marginal

improvement in the sustainability of resource management, primarily through the project's educational programs.

Conclusions on typology of local benefits

The overall failure of the project to develop effective community management of the protected areas means that there were inevitably few local benefits despite the explict intention of the project to generate such benefits as the main incentive for local participation in the management of the protected areas. This can be illustrated in more detail by considering the project's impacts on each of the typology of local benefits developed in the methodology for this study:

- *Improved access to **natural capital***: In most sites the condition of the resource base was relatively healthy but showed some signs of decline. The local communities did not have a high level of dependence on resource flows from the protected areas, except for those living in Gales Point, where fishing was traditionally important and has continued to be a significant part of the livelihoods of many families. The failure to develop any sustainable management options and the restrictions on harvesting implicit in protected area status meant that access to natural capital did not improve: indeed, if anything it was likely to decline if any attempts were made to enforce the regulations in these areas. The lack of incentives for local management and the awareness of the restrictive nature of the regulations meant that the designation of the protected areas would act as a perverse incentive to local communities where there was any level of dependence on access to the resources of the protected areas for the operation of their livelihoods.

- *Increased **livelihood opportunities, income** and **financial capital***: Only in one site, Gales Point, was there any tourism development and this has taken place largely independent of the project. Despite attempts to set up tourism infrastructure (allbeit rather modest) in Aguacaliente and Five Blues, in neither case were there any significant number of tourists and the investments made have not only been been wasted but have been a source of some local frustration. As such, the impacts of the project on livelhood opportunities, income and financial capital were marginal to non-existent.

- *Improved **social capital, equity** and **institutional capacities** in local communities*: In all but one case (Freshwater Creek), the community groups formed under the project were never effectively constituted and have largely disappeared. Several people do soldier on in Five Blues, but with little purpose and few benefits; the co-management boards in the other two areas have become completely inactive (and indeed were never completely active). There was one tangible result in terms of increased social capital and gender equity, which is the formation of a women's

group linked to the YWCA in Gales Point as a result of ideas generated and contacts made during project training in Belize City.

- *Improvements to **physical capital***: In Aguacaliente and Five Blues, some investments had been made in setting up tourist facilities, but these were largely unused and brought few if any benefits. The project was also meant to provide vehicles, computers and other equipment in each site, but this equipment is no longer in use at Five Blues and has not remained on-site at Aguacaliente or Gales Point. Only the local management team at Freshwater Creek has retained, and continues to use, the equipment obtained through the project.

- *Improvements to **human capital***: This was the area where the most substantial benefits can be identified (though the relevance of the improvements to the project objectives is not clear). The benefits took the form of training to a small number of selected people from each area (initially 6-9 individuals, but with a high drop-out rate). The training provided was in leadership, public speaking, accounting, conflict resolution and advocacy: all were treated as abstract topics and the curriculum was not related to protected area management. Even when asked, no help was given on options for management of the protected areas. As such, these benefits were at an individual level and did not lead to any substantive changes to the management of the protected areas.

- *Reduced **vulnerability** to, for example, natural disasters, environmental degradation and variability, social/political disruption, market disruption*: There was no measurable change in vulnerability reduction. This is not surprising, because no conscious efforts were made in this area.

- *Improved **health** and **food security***: Again, there appeared to be no change in this area, and it was not intended as a project objective. This was particularly a missed opportunity in Aguacaliente, where nutrition and variability of diet is an important issue. The potential of the protected area as a basis for improving food security amongst the local community was never explored, or even considered to be an issue by the project.

- *Improved sustainability of **resource management***: There was some improved consciousness of the importance of conservation in the communities, but the extent that this was directly attributable to the project was not clear. Further, this consciousness was not translated directly into improved management regimes: a reflection of the project's failure to develop management plans or include training on sustainable resource management in the training programs.

Summary

Given the project's failure to meet its goals, it is not surprising that the overall impact of this project on flows of benefits to local communities from the management of the protected areas was negligible to non-existent. This is in spite of the fact that there was an excellent potential to do so, as the project was designed with local benefits in mind. First and foremost, residents in communities adjacent to the protected areas were to have benefited from an increase in ecotourism to their areas, thus improving their livelihood opportunities. They were also expected to gain skills to assist them in managing their protected areas, and should have benefited from links made with other institutions, communities, and individuals. Thus, the project *concept* was solid, and might have been expected to turn local benefits into global benefits; however, the flawed project *design* – choosing so many sites, incorporating geographically distant and diverse sites, undertaking too many objectives, providing training with limited relevance to the task at hand, above all the failure to understand the relationship of the protected areas to the livelihoods of local residents – resulted in the project's failure. Thus, the story of this project is one of substantial missed opportunities: to develop community capacity to manage their local resources; to create institutional links to facilitate exchanges between communities; to implement a new model of co-management involving direct stakeholders; and to generate new sources of livelihoods for community residents.

In view of the project's limited local impact, quantifying local to global benefits is relatively straightforward: in short, the project did not contribute in any meaningful way to global benefits. Further, a more effective approach to local benefits, in which proper incentives existed for local involvement in the management of the protected areas, would have also been far more likely to realize success in the global biodiversity conservation goals of the project as local communities would have a stake in the conservation of these areas. Again, the project concept incorporated this idea, but the project design failed to deliver on this goal.

However, while the project was unsuccessful in delivering local and global benefits, many of the barriers to community co-management have since been addressed, and some directly as a result of a thorough assessment of the project's failures. A major limitation identified in original project documents was PACT's ceiling on grant sizes (Bz$25,000 prior to the project's implementation); this problem of limited grant size was one barrier the project sought to overcome. However, the ceiling for PACT's grants has since been dramatically raised, with PACT now able to make large grants in excess of BZ$500,000. Another barrier to community co-management, highlighted in the project's final evaluation, was Forestry Department's lack of capacity and resources; recognizing the weaknesses identified, the Forestry Department applied to PACT for a grant of BZ$860,000 for strengthening, a grant which has subsequently been approved. The evaluation also listed additional critical barriers: an 'inadequate policy and

legislative framework' for protected areas, including the problem of 'de-reserving' protected areas by ministerial fiat; insufficient financial resources for community co-managed areas; and the lack of a sound model for co-management agreements with community-based groups. In part due to the identification of these barriers in the project's final evaluation report, the Government of Belize has appointed a Cabinet-level task force to consider these issues. This task force's mandate is to oversee the development of a comprehensive policy and system plan for protected areas management, which will address 'guidelines and criteria for financial sustainability, co-management, and creation and de-reservation of protected areas.' Thus, it is encouraging that, although the project itself was judged unsuccessful and had limited impact, both the Government of Belize and PACT officials are determined to learn from the experience and are actively seeking to remedy the conditions that led to the project's failure to deliver both local and global environmental benefits.

Conclusions: Local Benefits in Conservation Programs in Belize

This section builds on the more detailed discussion of the two projects in Belize presented above. The findings from these two projects are related to the overall issue of local benefits in global environmental programs and generic implications from the Belize findings are discussed. The overall conclusion is that the experiences of the two biodiversity projects in Belize do provide a clear perspective on the issue of local benefits in global environmental programs, both in terms of what can be achieved and, even where projects are successfully implemented, how there are a range of missed opportunities if there is not a more conscious and effective approach to integrating local benefits in the project from the outset. These missed opportunities do not just relate to providing benefits to local communities: they have implications for the sustainable attainment of the global environmental goals that are the basic rationale for the project. This fundamental point is developed through the consideration of a number of generic issues.

The policy and political environment

The development of an effective policy and institutional environment is essential for effective conservation efforts. The contrast between the two projects is stark in this regard, with one being instrumental to the creation of a national policy and institutional structure that has the potential to guide the future development of the coast whilst the other focused exclusively on individual sites and failed to generate options that had the potential for wider application in the co-management of protected areas.

Policies and institutions are important, but the experience in Belize shows that political will and sustained support for conservation goals is of equal significance if policies are to be followed through and institutions are to be effective. Whilst Belize's track record is far better than most countries in this regard, some stakeholders did express concerns that the commitment to conservation is not as strong as it was or could be. Discussions with the Government of Belize by both the study team and earlier project missions made it clear that the government's over-arching priority is poverty reduction and sustainable development, and that other policy areas will receive support contingent upon how effectively they contribute to these priorities. The narrow, conservationist approach taken in the concepts of the two projects meant that the links to the poverty and development agendas were much weaker than they could (or perhaps should) have been.

In general, the international consensus is that environmental conservation and poverty reduction are intimately linked, but this viewpoint is only weakly reflected in the approach taken by these GEF projects. The experience of Belize shows that this is a mistake: political will cannot and should not be assumed and is far more likely to be sustained where conservation efforts are able to demonstrate that they will contribute to the overall national policy priorities, which in most countries are increasingly focused on a poverty reduction and sustainable development agenda. This means in turn that the design of projects should include components to work with and ensure the 'ownership' of the key political institutions that one is trying to influence. This is particularly true where, as in the two Belize projects, significant efforts are put into 'pilot and demonstration' activities on the ground that are intended to test the effectiveness of innovative approaches. Where such innovations are successful, their full implications will only be understood where there are effective advocacy activities to ensure that all key stakeholders are aware of their effectiveness and are willing to take the necessary steps to scale up these innovations to a national level.

One key characteristic of the policy and institutional approach found in Belize was that it almost exclusively focused on the on-site protection and management of resources in designated protected areas. As the experience of places such as Laughing Bird Caye shows, this can be extremely effective in reducing some forms of degradation pressures where resources are provided to fund the process properly. What it does not remove, however, are other key types of pressure that are related to wider development processes. In Belize, these include pressures such as waste water and sewerage disposal, mangrove clearance and dredging. All can and do have a profound impact upon the ability to realize conservation goals, and all will only be effectively addressed where conservation goals are linked to wider development processes. The approach also does not take account of what can be done through sustainable management systems across the whole resource base, including things such as fishing and tourism development outside of the protected areas. As such, the policy and institutional context in Belize, which are based on a very traditional protected areas approach, reflect both the potentials and, ultimately, the

limitations of such an approach where it is not linked to wider development processes.

Project conception and design

Of the two projects examined in Belize, one was a clear and unmitigated failure, whilst the other was largely successful in terms of meeting stated objectives and outputs. The failure of the co-management project lies in part in implementation, but even if it had been more effectively implemented, the basic design was so inherently flawed that it is unlikely that the desired objectives could ever have been reached. Given this, it is hardly surprising that it has generated few if any local benefits. In particular, the project concept was entirely contingent upon a sustained and significant flow of local benefits in the form of a rapid increase in eco-tourism visits and income for local communities. No attempt was made to assess whether this was a realistic assumption nor to take effective actions to catalyse the tourist influxes needed to make co-management a viable enterprise. Similarly, no attempt was made to identify and develop other forms of benefits from the co-management approach: for example, through the sustainable harvesting of forest products.

The coastal project has, as has been said, done what it set out to do with a fair degree of success and quality. It consequently is not surprising that it has generated some levels of local benefits, not least through the development of a higher level of sustainability in the use of the marine resources for the two key livelihood activities in the coast, fishing and tourism. It has also created a far higher level of conservation consciousness amongst coastal communities and has had some success in creating a multi-stakeholder forum through which potential conflicts around coastal development can be debated and compromises identified. These are notable achievements in both conservation and, to a lesser extent, local development terms.

Even in this case, however, where there is a project that has been effectively implemented but that is based on an ‘on-site conservation’ paradigm, then the limitations of this concept have reduced considerably the flows of local benefits that could have accrued from the project. We return to this issue below, under missed opportunities.

What the two Belize projects do show is the importance of basing projects on fundamentally sound concepts that, in turn, reflect the development realities of the specific place and time in which the project is to be implemented. An on-site conservation approach can be effective in reducing some forms of pressure on the resource base, but it will not address others and is unlikely to generate a flow of local benefits that will make local communities an ally in the conservation process. The projects demonstrate that environment and development are intimately linked as part of the same process, not disconnected or, at times, competing objectives.

(In)effective participation

The active participation of local communities is generally seen as a key objective in resource management programs. It was a specific objective of both projects, with local communities intended to be active (in the case of the co-management project, the dominant) actors in the protection of the biodiversity resources that was the underlying goal of the projects. In both cases, success was limited to non-existent, reflecting a fundamental misunderstanding of the types of processes through which participation can be engendered.

The process through which the local groups were formed and organized was top-down and flawed in fundamental ways, meaning that there was little, if any, prospect of the groups developing into effective vehicles for local management of the protected areas in question. This was particularly true of the co-management project but is also characteristic of most of the participatory activities found in the coastal project. The importance of building on existing local institutions (of which there are many and dynamic examples in coastal communities) and reflecting social processes, the need to give real decision-making authority to the institutions developed and the importance of ensuring that the needs and priorities of the local community were reflected in the actions taken were all missing from the participatory approaches in both projects (except perhaps where NGOs were involved in the coastal project).

Good participation is fundamental to ensuring that sustainable and appropriate flows of local benefits accrue. It is also generally seen as an important part of effective approaches to conservation. A more considered approach that reflects the huge amounts of international experience in what does or does not work would have greatly improved the effectiveness of both projects. In particular, participation must be seen as something that is reflected in the fundamental structure and approach of a project, rather than being treated as an 'add on' that can be casually added to a project that is organized along more traditional, centralised modalities.

Providing incentives

The basis for effective participation is to ensure that there are incentives for local communities to participate: like everyone else, the people in the project areas tended to ask "what's in it for me". Moral proselytising on the importance of conservation as an abstract principle will, at best, only have limited effectiveness. People are far more willing to be active agents of conservation where they see direct and material benefits will accrue to them from participating. This is not surprising: an active role in conservation takes time and costs money. This is a luxury only the rich and leisured can afford unless there are incentives in terms of livelihood opportunities and/or other types of benefits.

The approach taken by both projects was premised on the assumption that such benefits would accrue through, in particular, increased flows of tourism income and, in the coastal project, the enhanced sustainability of fishing. But as has been noted, there was no active attempt to assess whether these incentives would indeed materialise and no serious attempt to relate the development of these livelihood opportunities to the overall livelihoods of local people or their ability to enter these new activities.

In addition, the co-management project in particular put little effort into providing local communities with the skills, organizational systems or investments needed to ensure that the incentives (in the shape of tourism income) could actually be realized by local people. The coastal project has been more successful in this regard, supporting activities such as the training of protected areas rangers and coastal advisory committee members, but even these efforts were far less than what could have been done. Overall, the lesson is clear: if the approach adopted is premised on active management by local communities because this will bring sustained and significant flows of benefits then it is essential that the project take clear and active steps to ensure that the incentives for this involvement are there.

Social and institutional dynamics

The study identified a range of important social and institutional issues. These are in part covered under the discussion of participation, above, but further points that are not covered here are:

Whilst the projects did not contain specific **gender** components, the study team did find an encouragingly balanced pattern of gender representation at all levels. This included at the most senior levels within the government institutions (the most senior civil servant in both the Ministry of Natural Resources and the Environment and the Ministry of Economic Development, and the head of the CZMAI were women). Women were similarly well represented in all other institutions, including NGOs, government agencies and community organizations, and from the observations made play a full and active role in these institutions. Similarly, women are active participants in many of the emerging livelihood activities, and in particular many tourist services, that the projects are influencing. Questions were asked on the issue of gender representation in the different project activities and all stakeholders did not see this as a particularly relevant issue. This reflects the social and cultural structure and history of Belize, and is perhaps also a reflection of the dynamism and dedication of many of the individuals involved in conservation issues in Belize.

The role of **NGOs** in different project activities varied, but was often significant. This was particularly true in the coastal zone project where key NGOs were actively involved at both the national level, as members of the advisory body, and in on-the-ground implementation in places such as Laughing Bird Caye. This included both international NGOs and locally based organizations, some of which

have emerged in recent years to reflect widespread social concern over conservation issues in Belize. The emerging strength of the NGO community is an important asset for Belize in future efforts for conservation and sustainable development. There is at present no systematic approach to their inclusion in specific activities or the selection of which organizations should be involved where. The need for this has been recognised and how the involvement of NGOs is structured in the future will be a key issue for the sustainability and effectiveness of conservation efforts and, in particular, for the ways that conservation goals are balanced with meeting the development needs of the people living in and around conservation areas in Belize.

Local government institutions are involved in conservation programs, but perhaps not as fully and effectively as they should be. In Belize, local government is an effective means of representing local communities and, in many cases, there is no need for special efforts to create new local-level institutions as a basis for participation. The potential of local government in Belize is yet to be realized and should be a focal point for future community-based conservation efforts. Not least amongst the benefits of this would be that it would provide a channel to access the in-depth understanding that local communities have of how to balance exploitation and conservation goals in the management of local resources.

From local benefits to global goals

One of the issues that this study, and the wider GEF review, has looked at is whether sustained flows of local benefits will in themselves make the attainment of global environmental goals more likely. The evidence from Belize is clear on this: in a situation where the global goal is to conserve the biodiversity of resources that have high potential values, are already actively managed and are under a range of development pressures, then ensuring local benefits is a pre-requisite for attaining the global goals. Stopping exploitation altogether is not an option except in very limited and specific circumstances and only where it is part of a wider management strategy. This is the approach adopted in the protected areas in Belize, with different areas designated as being suitable for classes of protection and exploitation. The global goals will only be realized on a scale needed to preserve the integrity of large ecosystems such as the Belize reef system where local communities become active agents of conservation. This in turn will only happen where the incentives for them to do so are sufficient and where the community have the assets needed to access the livelihood opportunities concerned. These local-level actions in turn need to be supported by and developed within a suitable policy and institutional environment, including actions to set up and develop sustainable management systems for key conservation areas. As such, there is an integral and symbiotic relationship between global goals and local benefits: a relationship that is reflected in both the successes and the failures of the two projects in Belize.

Missed opportunities

To conclude, the story of the two projects in Belize with regard to local benefits is one of missed opportunities. Of course there are a number of things that have happened: some by design, others by luck or default. This is most apparent in the coastal project, which has been extremely effective in many of the things that it set out to do. Overall, however, the projects in Belize had tremendous scope to develop effective approaches to ensuring sustainable and significant flows of local benefits in ways that did not compromise their underlying global environmental goals. In most cases, such flows would have made it more likely that the projects would have attained these goals.

Opportunities were missed to develop viable livelihood alternatives based on the sustainable management of the resources in and around the protected areas. Opportunities were missed in establishing more sustainable management systems for existing forms of exploitation such as fishing. Opportunities were missed to engage local communities as the active front line of conservation through generating incentives for their engagement. Opportunities were missed to build on the effectiveness and energy of existing local institutions, many of which were already seeking ways to move to more sustainable forms of resource management. Opportunities were missed to generate and secure the level of political support essential for effective conservation by failing to relate the conservation process to wider national priorities for poverty reduction and sustainable development. Opportunities were missed to mitigate the negative impacts of pressures on the resources beyond those found on the immediate site of the protected areas. In these and other ways, the more effective integration of local benefits in the conception, design and implementation of the projects would have both been better for local communities and for the conservation of the resources that were the goals of the projects.

The way forward

The conclusions presented in this report were endorsed by a workshop in Belize City in which all key stakeholders were represented. Indeed, in a number of instances the Government of Belize, in collaboration with other stakeholders, was already taking actions to ensure that the positive processes identified were built upon and the key issues where there were problems with the existing modalities were addressed. That these remedial actions had been identified and were being acted upon reflects the commitment of the GoB to conservation and sustainable development issues. A number of specific actions can be identified that will ensure a more appropriate relationship between environmental conservation and sustainable development prevails in the future:

- The government has established a National Protected Areas Ministerial Task Force to assess and produce recommendations on how to improve

the protected areas policy with, in particular, a mandate to address the issues identified in the final evaluation of the Community Co-Management project.

- The ceiling on PACT grants has been removed, so that larger scale activities that are more likely to have a systematic impact can be funded.

- The capacity of key institutions such as the Forestry Department is being enhanced to ensure that they are more capable of doing the job that is assigned to them.

- A number of changes to the existing policy and legislative framework, in part to be based on the recommendations of the national task force, are being prepared and will be implemented.

- This will include the identification of an appropriate and clear co-management model through which the existing intention to empower local communities in the management of protected areas can be translated into reality.

- The present uncertainties concerning the 'de-reservation' of protected areas will be addressed.

- Actions to develop a sustainable and sound financial model for the coastal zone management system and for protected areas are being taken, though it is recognised that formidable challenges still remain in this critical area.

These actions are highly significant and suggest that Belize will in future be in a strong position with regard to establishing an effective balance between conservation and development, between the needs of local communities and the importance of protecting ecological resources of global significance. The discussions undertaken in preparing this report have taken place within this positive and reformist atmosphere. The implications of this is that the prospects for future programs in Belize that are capable of achieving global environmental benefits in ways that also reach their potential in generating local benefits are extremely good and the case for supporting further efforts in Belize is good.

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Appendices

Appendix 1. List of persons interviewed

Patricia Mendoza, Chief Executive Officer, Ministry of Natural Resources and the Environment, Commerce and Industry

Osmany Salas, Policy Advisor, Ministry of Natural Resources and the Environment, Commerce and Industry

Sharon Lindo, Assistant Development Officer, Ministry of Natural Resources and the Environment, Commerce and Industry

Nancy Namis, Chief Executive Officer, Ministry of Economic Development

Carlos Montero, Senior Economist, Ministry of Economic Development

Beverly Wade, Fisheries Administrator, Fisheries Department, Ministry of Agriculture and Fisheries

James Azueta, Deputy Administrator, Fisheries Department, Ministry of Agriculture and Fisheries

Isaias Mejil, Marine Protected Areas Coordinator, Fisheries Department, Ministry of Agriculture and Fisheries

Shaun Finnetty, Programme Office, United Nations Development Programme

Sonia Warner, Second Secretary Development, British High Commission

Anthony Mahler, Director of Product Development, Belize Tourism Board and member of CZMAI Coastal Advisory Committee

Valerie Woods, Executive Director, Protected Areas Conservation Trust

Jose Perez, Programme Officer, Protected Areas Conservation Trust

Imani Morrison, Executive Director, CZMAI

Janet Gibson, former director of CZMAI
Stewart Cruz, Planner, CZMAI
Gena Young, Planner, CZMAI
Eugene Aeriola, Water Quality Monitoring Coordinator, CZMAI
Valdemar Andrade, Executive Director, Belize Audubon Society
Sharon Ramclam, Marine Protected Areas Coordinator, Belize Audubon Society
Noel Jacobs, Regional Director/Coordinator, Mesoamerican Barrier Reef Project
Melanie McField, Senior Programme Officer, World Wildlife Fund
Faustino Chi, Research and Education Coordinator, Marine Unit, University of Belize
Glen Eiley, Village Chairperson of Placencia and member of Placencia CZMAI CAC
Lindsay Garbutt, Executive Director, Friends of Nature (FoN), and member of Placencia CZMAI CAC
Sydney Lopez Jr., Executive Director, Placencia Fishermen's Co-op
Carlton Young Sr., Fisher and Former ED of Placencia Fisherman's Co-op, Placencia
David Vernon, Director, Clean and Green Committee and Friends of Nature Advisory Board, Placencia
Michael Duncker, Member of CZMAI Advisory Board and Managing Director, Aquamar Shrimp Farm, Big Creek
Linda Thornton, General Manager, Aquamar Shrimp Farm, Big Creek
Dwight Neal, Belize Country Representative, Oak Foundation, Placencia
Janice Leslie, former Chairperson of Placencia and Hotel and Restaurant Owner, Placencia
Corol Bevier, Resort Owner, Rum Point Inn, Placencia
Mary Toy, Tour Operator, Placencia
Julie Berry, Tourguide and Manager of Dive Shop, Placencia
Carlton Young Sr., Fisher, Member of Placencia Fisherman's Cooperative
Daniel Castellanos Sr., Fisher and Research Associate, Monkey River
Daniel Castellanos Jr., Fisher, Fly-fishing Guide and Research Associate, Monkey River and Punta Gorda
Eleanor Sandlin-Garbutt, Chairperson, Monkey River Village Council
Shayne Pech, Researcher, Friends of Nature, Monkey River and Placencia
Will Jones, Independent Consultant, Placencia
Ludwig Palacio, Member of CZMAI Advisory Board and General Manager, Toledo Development Corporation
Scully Garbutt, Fisher and Fly-fishing Guide, Punta Negra and Punta Gorda
Oliver Garbutt, Fisher and Fly-fishing Guide, Punta Negra and Punta Gorda
Mike Cayetano, Guide and Fisher, Punta Negra
Kenneth Martin, Guide and Fisher, Punta Gorda
Placida Requena, President, Toledo Association for Sustainable Tourism and Environment (TASTE)
Jack Nightingale, Project Coordinator, Sapodilla Cayes Marine Reserve Project (TASTE), and member of Punta Gorda CZMAI CAC
Victor Jacobs, Chairman, Rio Grande Fishermen Co-op, Punta Gorda

Will Maheia, Executive Director, Toledo Institute or Development and Environment (TIDE), Punta Gorda
Albert Villanueva, Chairman of Caye Caulker and City Manager of San Pedro
Mito Paz, GreenReef, San Pedro
Miguel Alamilla, Manager, Hol Chan Marine Reserve, San Pedro
Melanie Paz, Tour Operator, Amigos del Mar, San Pedro
Robert Blease, Head of Tourism Association of Caye Caulker and President of FAMRACC, Caye Caulker
Maria Vega, former Secretary of the Belize Tourism Industry Association and Member of FAMRACC
Ellen MacRae, Director, Siwaban Foundation and member of Caye Caulker CZMAI CAC, Caye Caulker
Tony Vega Sr., former Chairman of Caye Caulker Fisherman's Co-op
Lionel 'Chocolate' Heredia, Tour Operator, Caye Caulker
Tony Vega Jr., Tour Operator, Caye Caulker
Annie Seashore, Tour Operator and Hotel Owner, Caye Caulker
Romeldo Catzim, Chairman and Fisher, Sarteneja
Focus Group of 47 Fishers, Sarteneja
Zoe Walker, Wild Tracks, Sarteneja
Lisel Alamilla, Project Coordinator of Community Co-Management Project
Dilci Patt, Member of Local Management Team, Freshwater Creek
Antonio Patt, Member of Local Management Team, Freshwater Creek
Carlos Galindo, Member of Local Management Team, Freshwater Creek
Nicole Andrewin, Member of Local Management Team, Gales Point
Urselle Andrewin, Member of Local Management Team, Gales Point
Raymond Gentle, Tour Operator and Restaurant Owner, Gales Point
Marielena Galdamez, Head of Five Blue Lakes Women's Group Bed and Breakfast
Mario Perez, former Head Warden, Fives Blues Lake
Lily Galdamez, Member of Community Co-Management Project Steering Committee and Member of Local Management Team, Five Blues Lake
Pulcheria Teul, Consultant, Field Coordinator, Community Co-Management Project, Big Falls
Alberto Coc, Member of Aguacaliente Management Team, Blue Creek
Santos Coc, Member of the Toledo Ecotourism Association, Laguna
Chrissy Ferrera, Peace Corps Volunteer, Laguna

Appendix 2. ATTENDEE LIST, LOCAL BENEFITS STUDY STAKEHOLDERS MEETING, BELIZE CITY, 2 APRIL 2004

Pat Mendoza	Ministry of Natural Resources
Osmany Salas	Ministry of Natural Resources
Valdemar Andrade	Ministry of Natural Resources
Sharon Lindo	Ministry of Natural Resources
Nancy Namis	Ministry of National Development
Shaun Finnetty	UNDP Belize
Miguel Usher	UNDP Belize
Angel Chun	UNDP Belize
Imani Fairweather Morrison	CZMAI
Leandra Cho-Ricketts	CZMAI
Stewart Cruz	CZMAI
Lisel Alamilla	Consultant
Ellen McRae	Siwaban Foundation
Norman Slusher	CCTA/FAMRACC
Raymond Gentle	Gales Point
Eleanor Sandlin	Monkey River Village Council
Anthony Mahler	Belize Tourism Board
Alex Arrivillaga	MBRS
Placida Requena	TASTE
Ronaldo Catzim	Sarteneja
Miguel Blanco	Sarteneja
David Vernon	Placencia
Dwight Neal	Oak Foundation
Janet Gibson	Wildlife Conservation Society
Melanie McField	World Wildlife Fund